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# Economic and Social Development

17<sup>th</sup> International Scientific Conference on Economic and Social Development –  
“Managerial Issues in Modern Business”

Editors:

**Miroslaw Przygoda, Mihaela Mikic and Petar Kurecic**

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Warsaw, 20-21 October 2016

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## **Globalization and Challenges of the Modern World**

# THE CRITICAL ROLE OF ORGANIZATIONAL SUPPORT FOR SERVICE RECOVERY PERFORMANCE: THE EVIDENCE FROM HOTEL EMPLOYEES IN POLAND

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## ABSTRACT

*In the times of high global competition exceptional service quality is perceived as one of the main conditions to attract and retain loyal and profitable customers (Karatepe 2006, p. 70). Although service organizations do their best to provide high quality services, a high degree of interactions between employees and hotel guests triggers an inevitable risk of failures (Lewis and McCann, 2004 p. 6). However, successful service recovery may provide hotels with a variety of significant benefits increasing their competitiveness and overall business success. In this process service employees play a critical role, as they are the first ones who interact directly with customers, and their performance in handling customers' complaints may influence the perceived quality (Ling, Hussain, Sambasivan, 2014). Thus this study attempts to answer the key question of how hotel organizations may improve employees' recovery performance. The aim of the paper is to identify the critical role of organizational support in the service recovery context and its impact on selected employees' attitudinal outcomes and behavioral intentions in the hospitality industry. More specifically, this study develops and tests a research model that examines the effect of perceived organizational support in terms of service recovery (OS\_RECOVERY) on employee service recovery performance (SRP). Additionally, the relationships between SRP and employees' satisfaction with hotel guests (SAT\_with\_GUESTS) and with their intention to leave (ItL) were tested. The study was conducted among contact employees of hotels located in the Pomeranian Voivodeship, located in Northern Poland. A survey instrument was used to collect the data. The study findings indicate that perceived organizational support in the service recovery context may increase employees' service recovery performance, which, in turn, enhances their satisfaction with customers and decreases leaving intentions. The research value of this study may results from the fact that it attempts to provide more holistic pictures to the study over potential antecedents and consequences of service recovery performance by using data from hotel employees in Poland. Implications of the results for both the theory and practice are also provided.*

**Keywords:** hospitality; organizational support; service recovery performance; service failures

## 1. INTRODUCTION

Providing excellent and satisfactory service quality seems to be critical to attract and retain customers (Debasish and Dey, 2015, p. 2). However, the truth is that customers today are becoming more demanding and strongly aware of their needs (Debasish and Dey, 2015, p. 1). In many cases they expect near perfection from service organizations and usually start to evaluate their service experience since the first interaction with the service provider (Lin and Mattila, 2010, p. 823). From the customer's perspective, this interaction defines what the service encounter is (Hocutt and Stone, 1998, p. 117) and may hugely affect service quality evaluation. Thus success or failure of guests' experience may depend on how such a “moment of truth” between hotel guests and employees is handled (Ford, Sturman and Heaton, 2012, p. 5). Therefore, competitive service firms strongly rely on their contact employees' ability to ensure proper service delivery (Chebat and Kollias, 2000, p. 67), and will do the their best to achieve zero-defects and reduce failures (Lin and Mattila, 2010, p. 824). However, due to

simultaneous production and consumption, and the involved human component (Jak zapewnić znakomitą obsługę..., 2006, p. 108), something difficult and/or unexpected may happen any time during the delivery process, inducing both negative emotions of hotel guests and increasing employees' frustration (Bortniak, 2007, p. 24).

In truth, service organizations may be unable to prevent all complaints, failures or mistakes (Karatepe, 2006, p. 70); they are just inevitable (see Ling et al., 2014; Karatepe, 2006, p. 70), particularly in a high service encounter industry such as hospitality (Lin, 2007, p. 111). Thus learning how to effectively avoid and/or respond to failures should be of high priority for today's hotel organizations. As Maxham (2001) proposed, “the manner in which a firm recovers from service failure could become a sustainable competitive advantage in the marketplace” (p. 12). Taking into account the above, it is surprising that complaint handling and/or service recovery still seem to be a neglected area of research (Karatepe, 2006, p. 70). Therefore, the purpose of this study is to identify the critical role of organizational support in the service recovery context and its impact on selected employees' attitudinal outcomes (satisfaction with hotel guests) and behavioral intentions (leaving intention), taking the context of the hospitality industry in Poland.

It is believed that these study findings will contribute to the theory and practice through a better understanding of the issue of service recovery performance in the hospitality setting, in the context of both its organizational antecedents and employees' outcomes.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. The role of contact employees in the service recovery process

As noted above, regardless of many precautions and efforts to avoid service failures, it is simply unlikely to eliminate all of them (Maxham, 2001, p. 11). Service failures may be defined as “service-related mishaps or problems (real and/or perceived) that occur during a consumer's experience with a firm” (Maxham, 2001, p. 11). The organization itself and its employees take particular actions in response to a customer complaint following a service failure (Pranic and Roehl, 2012, p. 244). Those attempts to rectify some customer-perceived service failure can be defined as “service recoveries” (Maxham, 2001, p. 11). Service recovery performance, in turn, may refer to “frontline service employees' perception of their own abilities and actions to resolve a service failure to the satisfaction of the customer” (Babakus, Yavas, Karatepe and Avci, 2003, p. 274).

Successful service recovery may bring service organizations many significant benefits (Lewis and McCann, 2004, p. 7). For example, the results of Maxham's research (2001, p. 20) prove that effective service recovery may increase customers' satisfaction, their purchase intention and positive WOM (word-of-mouth) and suggest that firms may retain their customers and maintain their loyalty through effective service recovery. Lewis and McCann (2004, p. 13) showed, in turn, that hotel guests satisfied with service recovery strategies were more likely than the dissatisfied ones to express their intention to return and declared recommending the hotel. Similarly, the findings of Karatepe's study (2006, p. 86) revealed that hotel guests who were satisfied with complaint handling showed increased loyalty to the organization.

As indicated in research by Bitner et al. (1990), “even service delivery system failures can be remembered as highly satisfactory encounters if they are handled properly” (p.80). It clearly shows that the role of contact employees is critical and may not to be underestimated in an effective service recovery process. Contact employees as boundary spanners between the service organization and its customers (Chebat and Kollias, 2000, p. 72; Babakus, et al. 2003, p. 273) spend many hours each day engaged in face-to-face or voice-to-voice interactions with hotel guests (Lee, Ok and Hwang, 2016, p. 140). Thus, unsurprisingly, they are the most visible to guests and are pivotal in both providing excellent service (Mohamed, 2015, p. 13) and

building/maintaining long-term relationships with them (Choi, Kim, Lee and Lee 2014, p. 272; Karatepe and Sokmen, 2006, p. 257). Undoubtedly, service employees can be perceived as a critical determinant of a successful service recovery process (Ling et al., 2014), being even placed “at the heart of recovery efforts” (Babakus, et al. 2003, p. 273) playing an important role in transforming displeased customers into satisfied guests (Chen, Yen and Tsai, 2014, p. 21).

## **2.2 Impact of organizational support on employees' service recovery performance and its outcomes**

The truth is that unexpected service failures may have critical consequences for business and employee effectiveness. Taking recovery efforts, particularly when dealing with unfriendly, disgruntled guests may be emotionally draining and energy depleting for some workers. Unsurprisingly, as proved in previous research, perceived customer unfriendliness may positively relate to employees' emotional exhaustion (Grobelna, 2015b, p.390), lead to distance seeking and role ambiguity experiencing, which, in turn, may negatively influence employees' job satisfaction and hence result in quitting intention (Walsh, 2011, p.72). Based on the above, one may conclude that providing employees with supportive human resource practices to manage service failures effectively should be of top priority in a service setting, especially that through such support an organization may send a clear and powerful signal to their employees that they are valued and respected and that organization cares about them and their well-being in stressful work situations.

*The first* of the support practices that needs discussion is empowerment, perceived as a coping strategy (Choi et al., 2014, p.282) that may help employees to find a quick solution to customers' problems and deal effectively and promptly with guests' complaints. Hocutt and Stone (1998, p. 125) proved that employees who have been given autonomy to manage the service recovery process experience higher job satisfaction in a service recovery attempt than those without it. In the hospitality context, Chow et al. (2006, p. 490) in their study on a full-service Chinese restaurant showed that empowerment has a significant effect on customer orientation and improves employees' performance, whereas in study of Boshoff and Allen (2000, p. 80) empowerment exerts strong positive influence on the service recovery performance of frontline employees.

However, it is empirically proved that in a service recovery attempt, the average satisfaction of empowered employees is higher if they had been additionally trained (Hocutt and Stone, 1998, p. 125). Therefore, *the second* practice that this study focuses on is well-planned and developed employee trainings. Training programs may teach contact staff how to manage successfully customer interactions, how to respond to a variety of customers' requests and needs, how to perceive difficult customers, and, finally, how to increase customer-oriented attitudes and behaviors and hold loyal customers (see Choi et al., 2014, p. 282).

The *third* practice is immediate support from supervisors, which demonstrates the value a supervisor places on a person (Lambert and Hogan, 2009, p. 467). Timely support for problem solving seems to be extremely important, particularly in labor intensive hospitality industry (see Pan, 2015, p. 88). Lack of such support may decrease employees' ability to succeed, cause stress and result in overall negative appraisal of the job (Lambert and Hogan, 2009, p. 467). By contrast, high supervisory support may have a negative effect on job stress (Lambert and Hogan, 2009, p. 474), including a role conflict and ambiguity (Babin and Boles, 1996, p. 69), and a positive one on organizational commitment (Lambert and Hogan, 2009, p. 474), job satisfaction (Karatepe and Kilic, 2007, p. 247; Lambert and Hogan, 2009, p. 474; Babin and Boles, 1996, p. 69; Grobelna, Sidorkiewicz, Tokarz-Kocik, 2016), and employees' self-efficacy (Karatepe and Olugbade, 2009, p. 509). Generally speaking, having strong supervisory support, employees are likely to experience less stress at work and view it in more favorable terms (Lambert and Hogan, 2009, p. 467, 468).

When employees find that their organization cares about them and supports by engaging in a variety of human resource practices, they tend to repay the delivered benefits and opportunities through their effective performance (Karatepe, 2012, p. 736). The explanation of such a relationship can be found in the Social Exchange Theory, which provides theoretical rationale why employees decide to be more or less engaged in their job and organization (Saks, 2006, p. 603) and argues that “obligations are generated through a series of interactions between parties who are in a state of reciprocal interdependence” (Saks, 2006, p. 603). A good reflection for the abovementioned relationship may be J. Willard Marriott’s statement (founder of the Marriott Hotels), who said “Take care of associates and they'll take care of your customers” (<http://www.marriott.com/culture-and-values/j-willard-marriott.mi>), because “what employees experience in their work often is transmitted to customers” (Hocutt and Stone, 1998, p. 129). Therefore, it is believed that, when failure occurs, employees who have great supervisory support are more likely to engage in effective recovery performance and provide guests with satisfactory solutions in contrast to those who receive poor support from the top. Unfortunately, poor service recovery can exacerbate customers’ displeasure (Maxham, 2001, p. 16).

Based on the above theoretical foundation and rationale of empirical findings, the following hypothesis is proposed:

(H1): The higher the organizational support (in the service recovery context), the greater the level of hotel employees’ service recovery performance.

Effective service recovery performance may be important in building and maintaining satisfactory relationships with hotel guests. Given the fact that a focus on guests and constant striving for their outstanding satisfaction is one of the goals of the hospitality industry (Walker 2014, p. 24, 17), it may be assumed that customer-oriented employees may perceive their relationships with guests favorably, particularly when displeased guests have been satisfied, recommend the hotel and repeat their visits thanks to effective recovery performance. This may increase employees’ morale and give them a feeling of accomplishment and self-realization.

There is extensive empirical evidence that supports the positive linkage between job performance and job satisfaction, including the hospitality setting (e.g. Karatepe and Kilic, 2007, s. 247; Babin and Boles 1996, p. 69). Specifically, Karatepe and Sokmen (2006, p. 264) in their research on frontline hotel employees in Turkey showed that service recovery performance is positively associated with job satisfaction. Additionally, Boshoff and Allen (2000, p. 80) proved in their study (in bank setting) that frontline employees performing service recovery effectively report not only higher levels of job satisfaction but are also less likely to resign. This result could also be strongly beneficial for the hospitality industry, as employee turnover and a high level of employees’ labor mobility are still major concerns (Robinson, Kralj, Solnet, Goh, Callan, 2014, p. 101) and generate high costs, particularly the “hidden” ones (Lam, Zhang and Baum, 2001, p. 157; Grobelna 2015a). Therefore, the turnover issue in the hospitality setting needs constant research attention and still calls for future studies.

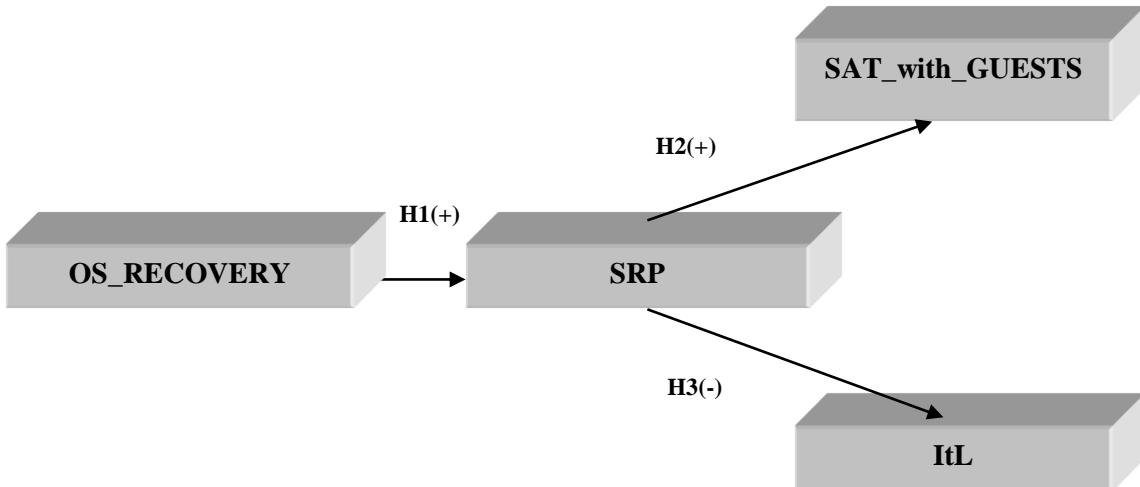
Based on the above discussion and previous empirical results, the following hypotheses are proposed:

(H2): The greater the hotel employees’ recovery performance, the higher their satisfaction with their relationships with hotel guests.

(H3): The greater the hotel employees’ recovery performance, the lower their intention to leave.

### 3. METHODS

This study develops and tests a research model (Fig. 1) that investigates the relationships between organizational support in the service recovery context (OS\_RECOVERY) and employees’ service recovery performance (SRP). Additionally, the relationships between SRP and employees’ satisfaction with hotel guests (SAT\_with\_GUESTS) and with their intention to leave (ItL) were tested.



**Figure 1: Proposed research model**

Note: OS\_RECOVERY (organizational support in the service recovery context); SRP (service recovery performance); SAT\_with\_GUESTS (satisfaction with hotel guests); ItL (intention to leave)

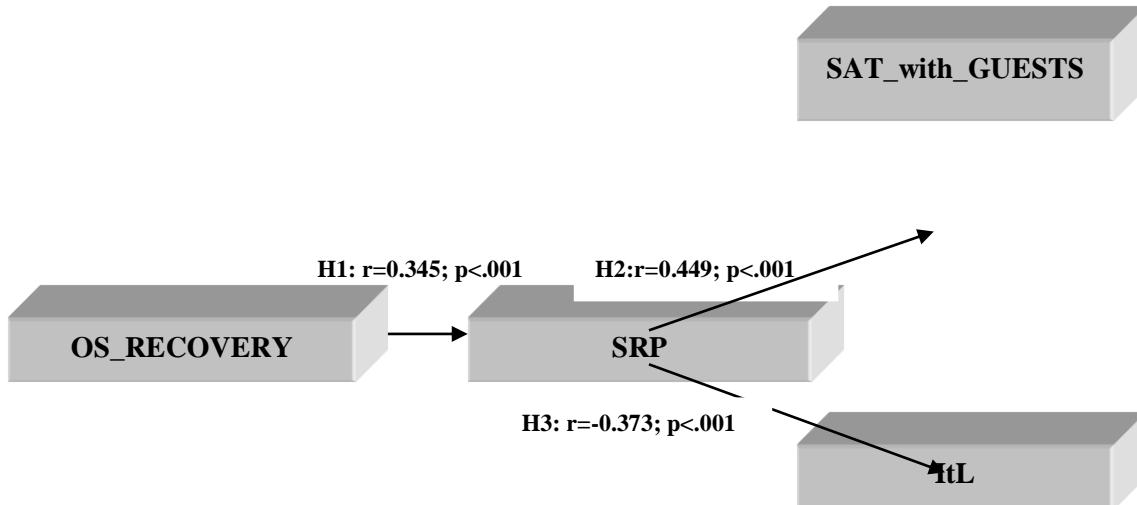
The research was conducted among hotel employees working in contact positions in five hotels that agreed to participate in this study and were located in the Pomeranian Voivodeship (Northern Poland)<sup>1</sup>. Data were collected using a questionnaire survey. Based on the managers' feedback on a total number of hotel employees who had direct contact with customers during the time of study, 168 questionnaires were accordingly distributed to participating hotels in a pack containing a cover letter and return envelopes.

The respondents were assured of confidentiality and their voluntary participation in this research, and requested to fill out the questionnaires in a self-reported manner. Finally 104 retrieved and valid questionnaires were analyzed in this study, yielding the response rate of 61.90%. Organizational support in the context of service recovery (OS\_RECOVERY) was operationalized using three (3) items developed on the basis of extensive literature review and theoretical considerations conducted in this study. Employees were asked to indicate the extent to which they agree that their hotel organization provide them with: (1) empowerment to resolve guests' problems as soon as possible; (2) good and regular trainings in customer service; and (3) immediate support (from the top) when service problems occur. Service recovery performance (SRP) and intention to leave (ItL) were measured using respectively five (5) and (3) items in line with Karatepe and Sokmen (2006), who based on Boshoff and Allen (2000). Satisfaction with hotel guests (SAT\_with\_GUESTS) was measured via one (1) item “I am satisfied with my relationship with the guests of this hotel”. To ensure clear and understandable language and minimize errors arising from translation of the survey instrument, the back-translation method was applied. All scale items were measured on a five-point scale, ranging from “1=strongly disagree” to “5 = strongly agree”. The scale reliability was assessed by Cronbach's alpha, whose values were as follows: 0.687 (OS\_RECOVERY), 0.711 (SRP) 0.884 (ItL). All coefficient's values were above or close to the commonly accepted cut-off point of 0.70. To analyze the respondents' profile descriptive statistics were used. The research hypotheses were tested by Pearson's correlation coefficient.

<sup>1</sup> The research was conducted in the frame of a wider research project on investigation of work characteristics in the hospitality industry and their impact on selected employees' work outcomes. A. Grobelna (2016), *Challenge stressors in the hospitality industry and their impact on employees' performance*, forthcoming article.

#### 4. RESULTS

Analyzing the respondents' profile, the majority of the study respondents were female (76%). 51% of the participants were between the ages of 21–30, and more than one third (36.5%) were between 31–50 years old. The remaining respondents were either older than 50 years (5.8%) or younger than 21 (6.7%). 52.9% of study participants had secondary school education, 36.5% declared higher education, the lowest percentage of respondents (10.6%) indicated the primary or vocational level. The average hospitality work experience was 2.77 years.



**Figure 2: Verified research model**

Note: OS\_RECOVERY (organizational support in the service recovery context); SRP (service recovery performance); SAT\_with\_GUESTS (satisfaction with hotel guests); ItL (intention to leave)

Based on the results shown in Fig. 2, all hypothesized correlations among the study variables were significant and in the predicted directions. More specifically, OS\_RECOVERY was positively and significantly correlated with employees' service recovery performance. This means that, in the case of this study, when high organizational support is given to employees to ensure effective recovery actions, employees' recovery performance is increasing accordingly; therefore, Hypothesis 1 is accepted.

The study results also demonstrate a positive and significant correlation between service recovery performance and employees' satisfaction with guests relations, which provides support for Hypothesis 2.

Finally, effective performing of service recovery relates significantly and negatively to employees' leaving intentions. Thus Hypothesis 3 is also supported by findings of this study.

#### 5. IMPLICATIONS AND CONCLUSION

This study developed and tested a research model that examined the relationships between OS\_RECOVERY and SRP. In addition, service recovery outcomes, such as employees' satisfaction with hotel guests and employees' turnover intention, were analyzed.

The study findings showed that high organizational support in the service recovery context positively relates to effective recovery performance when service failures occur. Theoretical rationale for explaining such a relationship can be found in the Social Exchange Theory. When employees perceive that their hotel organization facilitates the complaint handling process and cares about their members when inevitable service failures take place, it may motivate frontline staff to increase their efforts and to reciprocate with a greater engagement in effective service recovery actions, leading to a high level of guests' satisfaction, despite their previous

disappointment. It was also revealed that employees who achieve a higher level of recovery performance are more likely to establish good rapport with hotel guests and have a lower leaving intention. High performing and customer-oriented employees may feel personal accomplishment and high satisfaction when dealing effectively with service failures, which in turn may enhance their positive relationships with hotel guests following service failures and strengthen their bond with the organization, reducing their quitting intention.

Based on the above, this study contributes to the management literature by extending the body of knowledge about organizational factors that may relate to employees' recovery performance and its selected outcomes (satisfaction with hotel guests; turnover intention) taking the research context of the hospitality industry.

The study findings also provide a number of useful recommendations for managerial attention. *First.* It is underlined that by adopting effective service recovery strategies it is possible to retain customers and their loyalty (Maxham, 2001, p. 20). Therefore, a clear system, a policy and recovery procedures need special managerial attention and engagement.

*Second.* It is important to remember that hotel guests may have their own expectations towards recovery strategies (Jak zapewnić znakomitą obsługę..., 2006, p. 113). Therefore, this adoption of service recovery strategies needs guests' participation to be effective. Interestingly, in many hospitality situations guests who are familiar with the hospitality experience or those who have well-defined expectations may enthusiastically provide supervision and even train employees should they fail to perform as expected (Ford and Heaton, 2001, p. 47). Such feedback is extremely valuable, as it is given by the final arbiter of the quality of service interaction (Ford and Heaton, 2001, p. 47).

*Third.* Training and empowering employees is strongly recommended to make them able to respond effectively and quickly to service failures. Moreover, supervisors should be open to their subordinates, understand and encourage them when failures occur. Through such immediate actions employees may feel to be respected and valued, which may result in more confidence while facing difficult situations. Employees should also feel appreciation for their recovery efforts. Therefore, to induce motivation and enhance high performance development, a good reward system is recommended (see more Ling et al., 2014).

*Fourth.* As customer-orientation and employees' predispositions to fulfill guests' needs/requests seem to be crucial for effective service recovery performance (Choi et al., 2014, p. 237), the recruitment, selection and training process should focus on that issue, especially that customers' satisfaction following a service failure will be maximized when employees empathy/courtesy and responsiveness occurs (Hocutt and Stone, 1998, p. 128).

As with most research, the findings of this study also have some limitations. Self-report measurement may limit the results of this study; therefore, in future studies data from multiple sources should be collected or/and with a time lag. One service setting, a small size and a convenient nature of the sample also raise concern about generalization. Thus replication studies with a larger samples and in different service settings is proposed.

Summing up, a satisfactory solution of customers' complaints seems to be a challenging task for many service organizations (Pranic and Roehl, 2012, p. 242), particularly those operating in the highly competitive hospitality industry. However, hotel contact employees with the organizational support in recovery efforts are likely to repay for that through a high quality of service recovery performance. This, in turn, may have a significant impact on establishing good relationships with hotel guests and decreasing employees' quitting intention. All these outcomes may influence hotel revenues, reduces costs, and lead to sustainable organization's growth and profit.

Thus there is no doubt that effective service recovery performance should be perceived as a strategic weapon in today's hospitality marketplace, whose power of influence depends on organizational support given to their contact employees.

## LITERATURE

1. Babakus, E., Yavas, U., Karatepe, O.M., Avci, T. (2003). The Effect of Management Commitment to Service Quality on Employees' Affective and Performance Outcomes, *Journal of The Academy of Marketing Science* 31(3), 272-286.
2. Babin, B.J., Boles, J. (1996). The effects of perceived co-worker involvement and supervisor support on service provider role stress, performance and job satisfaction, *Journal of Retailing* 72(1), 57-75.
3. Bitner, M.J., Booms, B.H., Tetreault, M.S. (1990). The service encounter: diagnosing favorable and unfavorable incidents, *Journal of Marketing* 54 (1), 71-84.
4. Bortniak S. (2007). Front Desk – profesjonalisci gościnności, *Hotelarz* 2, 24-25.
5. Boshoff, Ch., Allen, J. (2000). The influence of selected antecedents on frontline staff's perceptions of service recovery performance, *International Journal of Service Industry Management*, 11(1), 63-90.
6. Chebat, J-Ch., Kollias, P.(2000). The impact of empowerment on customer contact employees' roles in service organization, *Journal of Service Research* 3(1), 66-81.
7. Chen Ch-Y., Yen Ch-H., Tsai F.C. (2014). Job crafting and job engagement: The mediating role of person-job fit, *International Journal of Hospitality Management* 37, 21-28.
8. Choi Ch. H., Kim T(T)., Lee G., Lee S.K. (2014). Testing the stressor-strain-outcome model of customer-related social stressors in predicting emotional exhaustion, customer orientation and service recovery performance, *International Journal of Hospitality Management* 36, 272-285.
9. Chow I. H-s., Lo T. W-ch., Sha Z., Hong J. (2006). The impact of developmental experience, empowerment, and organizational support on catering service staff performance, *International Journal of Hospitality Management* 25(3), 478–495.
10. Debasish S. S., Dey S. (2015). Customer Perceptions of Service Quality Towards Luxury Hotels in Odisha Using Servqual Model, *International Journal of Research in Business Studies and Management* 2(9), 1-9. Retrieved 06.09.2016 from <http://www.ijrbsm.org/pdf/v2-i9/1.pdf>.
11. Ford R.C., Heaton Ch. P. (2001). Managing your guest as a quasi-employee, *The Cornell Hotel and Restaurant Administration Quarterly* 42(2), 46-55.
12. Ford R.C., Sturman M.C., Heaton Ch. P. (2012). *Managing quality service in hospitality: how organizations achieve excellence in the guest experience*. Clifton Park, N.Y. : Delmar, Cengage Learning.
13. Grobelna A. (2015a), Współczesne problemy zarządzania zasobami ludzkimi w hotelarstwie. Fluktuacja kadr. *Logistyka* 3, 1638-1651.
14. Grobelna A. (2015b), Zachowania klientów a wyczerpanie emocjonalne pracowników branży hotelarskiej. Konsekwencje dla procesu obsługi , Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu 379, Gospodarka turystyczna w regionie Przedsiębiorstwo. Samorząd. Współpraca, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu Wrocław, 383- 395.
15. Grobelna A (2016). Challenge stressors in the hospitality industry and their impact on employees' performance ,*forthcoming article*
16. Grobelna A., Sidorkiewicz M., Tokarz-Kocik A. (2016). Job satisfaction among hotel employees: analyzing selected antecedents and job outcomes. Case study from Poland, *forthcoming article*.
17. Hocutt M.A., Stone T.H. (1998). The impact of employee empowerment on the quality of a service recovery effort, *Journal of Quality Management* 3(1), 117-132.
18. <http://www.marriott.com/culture-and-values/j-willard-marriott.mi> Retrieved 07.09.2016.

19. Jak zapewnić znakomitą obsługę klientów (2006). Performance Research Associates, Kraków: Oficyna Ekonomiczna, Wolters Kluwer Polska.
20. Karatepe O.M. (2006). Customer complaints and organizational responses: the effects of complainants' perceptions of justice on satisfaction and loyalty, *International Journal of Hospitality Management* 25 (1), 69–90.
21. Karatepe O.M. (2012). Perceived organizational support, career satisfaction, and performance outcomes, *International Journal of Contemporary Hospitality Management* 24(5), 735 – 752.
22. Karatepe, O. M., Kilic, H. (2007). Relationships of supervisor support and conflicts in the work–family interface with the selected job outcomes of frontline employees, *Tourism Management* 28 (1), 238–252.
23. Karatepe, O. M., Olugbade, O. A. (2009). The effects of job and personal resources on hotel employees' work engagement, *International Journal of Hospitality Management* 28 (4), 504-512.
24. Karatepe, O. M., Sokmen, A. (2006). The effects of work role and family role variables on psychological and behavioral outcomes of frontline employees, *Tourism Management* 27 (2), 255-268.
25. Lam, T., Zhang, H., Baum, T. (2001). An investigation of employees' job satisfaction: the case of hotels in Hong Kong, *Tourism Management* 22(2), 157-165.
26. Lambert, E., Hogan, N. (2009). Creating a positive workplace experience: the issue of support from supervisors and management in shaping job stress, job satisfaction, and organizational commitment of private correctional staff, *Journal of Applied Security Research* 4(4), 462-482.
27. Lee JH(J.), Ok Ch.M., Hwang J. (2016). An emotional labor perspective on the relationship between customer orientation and job satisfaction, *International Journal of Hospitality Management* 54, 139–150.
28. Lewis, B.R., McCann, P. (2004). Service failure and recovery: evidence from the hotel industry, *International Journal of Contemporary Hospitality Management* 16 (1), 6 – 17.
29. Lin W-B. (2007). The exploration of customer satisfaction model from a comprehensive perspective, *Expert Systems with Applications* 33, 110-121.
30. Lin, I.Y., Mattila, A.S. (2010). Restaurant servicescape, service encounter, and perceived congruency on customers' emotions and satisfactions, *Journal of Hospitality Marketing and Management* 19, 819-841.
31. Ling T.A., Hussain K., Sambasivan M. (2014). Antecedents affecting employee service recovery performance in five star hotel, *Proceedings of the Australian Academy of Business and Social Sciences Conference (in partnership with The Journal of Developing Areas)*. Retrieved 05.09.2016 from <https://www.aabss.org.au/research-papers/antecedents-affecting-employee-service-recovery-performance-five-star-hotel>.
32. Maxham III J.G., (2001). Service recovery's influence on consumer satisfaction, positive word-of-mouth, and purchase intentions, *Journal of Business Research* 54(1), 11–24.
33. Mohamed L.M. (2015). An exploratory study on the perceived work stress by individual characteristics: The case of Egyptian hotels, *Journal of Hospitality and Tourism Management* 25, 11–18.
34. Pan, F.C. (2015). Practical application of importance – performance analysis in determining critical job satisfaction factors of a tourist hotel, *Tourism Management* 46, 84-91.
35. Pranic L., Roehl W.S. (2012). Rethinking service recovery: a customer empowerment (CE) perspective, *Journal of Business Economics and Management* 13(2), 242-260.

36. Robinson R. N. S., Kralj A., Solnet D.J., Goh E., Callan V. (2014). Thinking job embeddedness not turnover: Towards a better understanding of frontline hotel worker retention, *International Journal of Hospitality Management* 36, 101-109.
37. Saks A.M. (2006). Antecedents and consequences of employee engagement, *Journal of Managerial Psychology* 21(7), 600 – 619.
38. Walker J.R. (2014). *Introducing hospitality*, Pearson New International Edition, Pearson Education Limited.
39. Walsh, G. (2011). Unfriendly customers as a social stressor – An indirect antecedent of service employees' quitting intention, *European Management Journal*, 29 (1), 67-78.

## FREE MOVEMENT OF GOODS (PHARMACEUTICALS) IN THE EUROPEAN UNION VERSUS PROTECTION OF HEALTH OF POPULATION

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### **ABSTRACT**

The topic of the paper belongs into the area of management, however, it also offers overlaps into the area of constitutional and administrative law and it directs to the multidisciplinary research of problematics of reexport of chosen products, mainly pharmaceuticals. The concept and legal regulation of reexport remains to a large extent unfinished, after years of professional discussions (not only) in the slovak legal environment. The restriction of reexport of chosen products and the protection of consumer against the inappropriate impacts of this performance should represent the main aim of legal regulation in this area of law. The essential legal enactments except the Constitution of the Slovak Republic are mainly law no. 362/2011 of Journal of Laws on pharmaceuticals and medical aids and on the change and completion of some laws subsequently amended (herein after referred to as „Law on pharmaceuticals) and law no. 363/2011 of Journal of Laws about the range and conditions of payment of pharmaceuticals, medical aids and dietetic groceries on the basis of public health insurance and on the change and completion of some laws subsequently amended. The aim of this paper is to analyze this issue whose legislative solution is necessary for the protection of life and health of population in near future.

**Keywords:** freedom of trade, management, movement of goods, protection of life and health, reexport

### **1. INTRODUCTION**

The reexport of pharmaceuticals is the unusual name of increasingly conventional condition in the Slovak Republic. Companies that deal with the distribution of pharmaceuticals, they do not place them to the slovak pharmacies and hospitals after importing them, but they export them again abroad. The reason? Profit. Therefore more pharmaceuticals have been sent abroad this year than a year before, when it was more than a million packages. It results from the data of the State institution for the control of pharmaceuticals (SICP), to whom the planned export has to be announced. As it follows from the data available of SICP, 589 pharmaceuticals were exported in 2015 from the Slovak Republic, in the amount almost 1.4 million packages, that is almost 400,000 more than in 2014. These pharmaceuticals go most frequently to the countries of Western Europe, where is its price uncomparably higher. Czech Republic fights with the same problem, too. (Nováčková, Milošovičová, 2011, pp. 88-99) State institution for the control of pharmaceuticals has legal competence to ban export of pharmaceutical, but only in case of the threat of its unavailability on the domestic market. This happened 182 times in 2014. As SICP states, on the basis of information about export, consumption and planned export,

SICP identified in 2014, 27 pharmaceuticals, whose export would have threatened availability of the pharmaceutical and provision of healthcare. 182 decisions have been made for those pharmaceuticals, that represent 57,446 packages. The problems that cause unavailability of pharmaceuticals consist in, according to Ministry of Health, mainly in the bad logistics between pharmacy and distributor, in the problems in production of pharmaceuticals or production chain and also when are pharmaceuticals imported to the Slovak Republic the subject of reexport. Mainly pharmaceuticals for the treatment of serious diseases, for example epilepsy, schizophrenia, Parkinson's disease or many pharmaceuticals determined for the treatment of oncological diseases head abroad. The reexport is according to Ministry of Health the reason for unavailability of some pharmaceuticals in the Slovak Republic. Slovak pharmaceutical society calls attention for a long time to the unavailability of some pharmaceuticals. It claims that significantly lower prices in comparison to other member states of EU, the possibility of pharmacies to deliver pharmaceuticals to other subjects, not only to patients and the possibility of distributors to export pharmaceuticals abroad is the basis for the developed export of pharmaceuticals, that then slovak patients miss. As Association of innovative pharmaceutical industry (AIPI) states, this situation is caused by the fact that in the Slovak Republic, there are the one of the lowest prices of pharmaceuticals and therefore the slovak market is becoming attractive for distribution companies. The member companies of AIPI do not participate in reexports and they always import enough pharmaceuticals to the Slovak Republic, according to the statistic estimation of morbidity. The Slovak Republic as one of the member states of EU has adopted in legislation the possibility of the ban of export of pharmaceuticals and therefore its export has been monitored since 2013. However, according to the opinion of European Commission is this legislative measure inconsistent with the legal order of EU, whose consequence was the beginning of action about the infringement of legal rules against the Slovak Republic. In march 2015, European Commission requested the Slovak Republic by the letter, to provide the answer where the Slovak Republic can give reasons for its statement and show accordance of the slovak legislative with the law of EU, where it mainly deals with the rules about the free movement of goods.

## 2. THE PROPOSAL OF THE LEGISLATIVE MEASURE

Despite the EU objection, Ministry of Health of the Slovak Republic made the proposal of the bill amending the law from the area of administrative law, that:

- changes and amends Law no. 362/2011 of Journal of Laws on pharmaceuticals and healthcare devices and about the amendment of some acts subsequently amended and
- changes Law no.363/2011 of Journal of Laws on the range and conditions of payment of pharmaceuticals, healthcare devices and dietetic groceries on the basis of public health insurance and about the amendment some acts subsequently amended.

The aim of this proposal is to prevent reexport of pharmaceuticals and to remove the reservations of European Commission expressed in the legitimate statement – Infringement no.2014/4141 C(2016) 3065 final from 26.05.2016 and to synchronize slovak legal enactments regarding humane pharmaceuticals with The Treaty on the Functioning of the European Union. The content of the prepared Amendment is to amend law on pharmaceuticals with the expression „medical prescription in anonymised form“. It deals with the copy of the issued medical prescription where the person that is the holder of the permission for the provision of pharmaceutical care in public pharmacy or hospital pharmacy or the person authorized by the holder of the permission for the provision of medical care in public pharmacy or hospital pharmacy anonymises personal data about patient. Pharmacy should enclose this copy of medical prescription to the order addressed to the holder of the registration by means of information system for the arrangement of the automatic electronic placing, accepting and confirming orders for humane pharmaceuticals placed in the list of categorized pharmaceuticals

created and run by the holder of the registration.(Capandová, 2015, pp 1-8) The Amendment proposed tightens penalties, where after repeated infringements of the obligations imposed by this law, the issued permission will be withdrawn from the holder of the permission for the wholesale distribution of humane pharmaceuticals and the holder of the permission for the provision of pharmaceutical care in public pharmacy or hospital pharmacy. Then, the expression as „exporter of pharmaceutical“ will be withdrawn from the law, because the applicant for the certificate about the fact that the producer of the pharmaceutical is the holder of the permission for the production of pharmaceutical and about the fact that the holder of the permission for the pharmaceuticals‘ production meets the valid provisions of The World Health Organization regarding the production of pharmaceuticals determined for the export to third states and can only be the holder of the permission for pharmaceuticals‘ production. It is put more precisely, by which subject the holder for wholesale distribution of humane pharmaceuticals can deliver humane pharmaceuticals placed in the list of categorized pharmaceuticals. The obligation imposed to the holder of the permission for the wholesale distribution of humane pharmaceuticals to deliver to pharmacy pharmaceutical within 24 hours is deleted. This obligation is imposed only to the holder of the registration of the ordered pharmaceutical. The new obligations are imposed to the holder of the permission for the wholesale distribution of humane pharmaceuticals. The holder of the permission for the wholesale distribution of humane pharmaceuticals will be as well as the holder of the registration of the pharmaceutical obliged to deliver the categorized pharmaceutical only to the holder of the permission for the provision of pharmaceutical care in public or hospital pharmacy or other holder of the permission for the wholesale distribution of humane pharmaceuticals. The holder of the permission for the wholesale distribution of humane pharmaceuticals is authorized within the frame of resale to return redundant categorized pharmaceuticals to the holder of its registration, what will be the only exception when these pharmaceuticals will be able to head somewhere else than to pharmacy or to other wholesale distributor. The holder of the permission for the wholesale distribution of humane pharmaceuticals will be obliged to submit upon the request to Ministry of Health of the Slovak Republic the records about the revenues of humane pharmaceuticals placed in the list of categorized pharmaceuticals and its deliveries:

- to holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy
- to other holders of the permission for the wholesale distribution of humane pharmaceuticals and
- to the holders of the registrations of these pharmaceuticals in case of its resale

or data from these records in electronic version enabling automatic processing. The holder of the permission for the wholesale distribution of humane pharmaceuticals should then be obliged to administer and store documents about the authorized subjects whom he delivered categorized pharmaceuticals and he will also be obliged to submit this documents or requested data from it to Ministry of Health upon request. These new obligations imposed to the holder of the permission for the wholesale distribution of humane pharmaceuticals regarding categorized pharmaceuticals should according to the amendment avoid the export of these pharmaceuticals. These obligations have the character of the obligation imposed in the public interest according to the Article 81 of the EU Directive and the Council no.2001/83/ES, that establishes Code of Law of Society on humane pharmaceuticals. This enactment does not oppose the application of stricter requirements established by the member states in relation to wholesale distribution of:

- narcotic drugs or psychotropic substances on its area
- drugs made from blood
- immunological drugs
- radioactive drugs

The criticised enactment by European Commission of §19a of the law on pharmaceuticals that amends the question about the export of human pharmaceutical is replaced by new statutory text from which the enactments are omitted, which were most criticized by European Commission. According to the new proposed statutory text, the range of pharmaceuticals whose export is regulated, is narrowed down only to categorized pharmaceuticals. The export of categorized pharmaceuticals can be allowed on to the holder of the registration of pharmaceutical, whose planned export will be announced to SICP till 7 days from the day of its realization. The submitter at the same time proposes to cancel the authorization of SICP to ban the export of the pharmaceutical that is in short supply in the Slovak Republic.

The performance of resale of pharmaceuticals, which is nowadays performed by pharmacies as one of the performances in common should be released from pharmaceutical care from any holder of the permission for the wholesale distribution of humane pharmaceuticals whom was the pharmaceutical bought from by any pharmacy. (Stoličná, 2012, p. 14)

The change of humane pharmaceuticals from the list of categorized pharmaceuticals will be in case of passing the bill enabled between the holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy, but only for the purpose of its dispense in public or hospital pharmacy. These measures restricting the range of performances performed in public or hospital pharmacy are aimed to prevent the export of categorized pharmaceuticals, whose holder of the registration delivered to market in the Slovak Republic for the purpose of its dispensing to patient in the given pharmacies. Nowadays, many holders of permissions for the wholesale distribution of humane pharmaceuticals buy out categorized pharmaceuticals from the holders of the permission for the provision of pharmaceutical care in public or hospital pharmacies and then they export them. The new obligations are imposed to the holder of permission for the provision of pharmaceutical care in public or hospital pharmacy. The most important new intended obligation will be to dispense categorized pharmaceutical to patient. At the same time, it is expected the enabling of:

- the resale of these pharmaceuticals to the holder of the permission for the wholesale distribution of humane pharmaceuticals, who delivered them to the holder of permission for the provision of pharmaceutical care in public or hospital pharmacy
- the changes of humane pharmaceuticals in the list of categorized pharmaceuticals between the holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy for the purpose of its dispensation in public or hospital pharmacy

The next obligation imposed to the holder of the permission for the provision of pharmaceutical care in public or hospital pharmacy is the obligation to order humane pharmaceuticals placed in the list categorized pharmaceuticals from the holder of its registration by means of information system for the provision of automatic electronic entry, receiving and confirming orders of humane pharmaceuticals placed in the list of categorized pharmaceuticals, if he requires from the holder of the registration of humane pharmaceutical, the delivery of this pharmaceutical placed in the the list of categorized pharmaceutical till 24 hours after the order has been accepted. The obligation is to enclose the anonymized medical prescription to the order. (Masár, 2013, p. 20) There will be more obligations of the holder of the registration in the amendmend, as for example creation and operation of information system for ordering pharmaceuticals, whose he has the registration for. The database will enable to the holder of the registration of humane pharmaceuticals to have a survey about the holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy to whom he delivered till 24 hours pharmaceuticals placed in the list of categorized pharmaceuticals on the basis of submitting anonymized medical prescription. This information system will be obliged to keep itself in the state of operation and in case of its failure, it will accept and confirm orders of humane pharmaceuticals from the list of categorized pharmaceuticals also by different way, to provide the delivery of pharmaceutical to pharmacy till 24 hours. Then, he is obliged to deliver

within 24 hours humane pharmaceuticals from the list of categorized pharmaceuticals to the holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy on the basis of the order by means of information system with the enclosed anonymized medical prescription. This obligation must not relate to the holder of the registration of humane pharmaceutical who has against the holder of the permission for the provision of pharmaceutical care in public or hospital pharmacy claims for the delivered pharmaceuticals from the list of categorized pharmaceuticals after the expiry of the twice of contractually agreed repayment term. The holder of the registration will be obliged to provide and announce to Ministry of Health of the Slovak Republic responsible person for the delivery of humane pharmaceuticals in the list of categorized pharmaceuticals with the domicile or residence in the Slovak Republic, if the holder of the registration of humane pharmaceuticals does not have the domicile or residence in the Slovak Republic. The holder of the registration will be obliged to keep the register of the holders of the permission for the wholesale distribution of humane pharmaceuticals and holders of the permission for the provision of pharmaceutical care in public or hospital pharmacy, whom he delivered pharmaceuticals from the list of categorized pharmaceuticals. He has to keep this register for 10 years and to submit it or to provide its data on-demand to Ministry of Health of the Slovak Republic in electronic version enabling automatized data processing. The holder of the registration will be obliged to deliver humane pharmaceutical placed in the list of categorized pharmaceuticals to the holder of the permission for the wholesale distribution of humane pharmaceuticals exclusively for the final delivery to the holder of the permission for the provision of pharmaceutical care in public or hospital pharmacy. The submitted proposal of the legislative change plans to impose to Ministry of Health the new rights to publish on its website name, surname and domicile of the person responsible for the delivery of pharmaceuticals within 24 hours, if it is a natural person or the name or business name and residence of a legal person and its contact information consisting of e-mail address and mobile telephone number. At the end, the applicant of the Bill proposes to amend the law with other administrative offences for the infringements of the new obligations imposed to the holder of the registration in the provision of §60 of the law on pharmaceuticals but at the same time he proposes to delete the provision on the other administrative offences in connection with the new wording of the provision of §19a, in which it is proposed to delete the notification of export 30 days before the meant export of pharmaceutical. Other administrative offences are amended for the infringements of new obligations imposed to the holder of the permission for the provision of pharmaceutical care in public or hospital pharmacy involved in the provision of §23 of the law on pharmaceuticals. Following the new obligations imposed to the holder of the permission for the wholesale distribution of humane pharmaceuticals, the rights of Ministry of Health of the Slovak Republic to impose penalties for other administrative offences are modified, as well. An amendment to the law no.363/2011 of Journal of Laws on the range and conditions of payment of pharmaceuticals, healthcare devices and dietetic groceries is proposed, on the basis of public health insurance and on the amendment to some text of the law no.460/2012 of Journal of Laws and the law no.265/2015 of Journal of Laws. The aim is to harmonise penalties according to this law with other administrative offences according to the law on pharmaceuticals. As the last thing, the provision is proposed, which expects the date of entry into force of the law from 1st of january 2017.

### **3. THE POSSIBLE CONFLICT BETWEEN AMENDMENT LAW WITH THE EUROPEAN UNION LAW**

As defined by the clause of compatibility , the proposed amendment law is according to the Ministry of Health of the Slovak Republic, compatible with the European Union law, according to which is the free movement of goods i.e. also pharmaceuticals the first of the four basic

freedoms of the internal market. This freedom has its legal basis in the provisions of the articles 26, 28 till 37 of the Treaty on the Functioning of the European Union. It is secured mainly by the abolition of custom duties and quantitative restrictions as well as by means of prohibition of measures with the same effect. For the support of the completion of internal market, the principles of mutual recognition, the abolition of physical and technical barriers and the support standardisation were amended the adoption of the new legislative frame in 2008, significantly reinforced the launching products on the market, free movement of goods, the system of supervision of the European Union market. The right to free movement of goods coming from the member states of EU and the third countries, which in the free circulation in member states is one of the basic rules of the Treaty. (Milošovičová, Nováčková, 2014, p. 75) Originally, the free movement of goods was regarded as the part of the Customs Union between the member states, that involved the abolition of customs duties, quantitative restrictions of the trade and measures with the equivalent effect and creation of the common external rate of duty of the Community. Later, the attention was paid to the abolition of all remaining barriers of free movement with the aim to create the internal market – the area without the internal borders, where goods would move freely in the same way as on the national market.

#### 4. CONCLUSION

In relation to objection of the infringement of the European Union law by the prepared amendment law, the European Commission uses more arguments. The freedom to do business should not be understood as an absolute right without any possible restriction. This freedom has also its own content, that can be from the point of view of Community law concerned by the intervention from state which does not have to be necessarily unlawful or discriminatory. From the point of view of exporters of pharmaceuticals it is clear that this intervention of legislature is understood as the mere rejecting of the freedom to do business, when it is banned to export pharmaceuticals from the Slovak Republic or other EU member state. However, this intervention is possible to justify only by the legitimate regard to the general interest of the society as a whole. The right to do business in the area of import and export is not banned in general, it is only restricted in some situations, as the Slovak Republic under Article 40, first sentence of the Constitution of the Slovak Republic guarantees to every person the right to protection of health. This right is not just for the citizens of the Slovak Republic, but also for the foreigners regardless of their citizenship. This basic human right must always take precedence over the right to do business and to make a profit regardless of its possible consequence.

#### LITERATURE:

1. Masár, D. (2013) *Problémy marketingu vo verejném sektore*, Sládkovičovo : Vysoká škola v Sládkovičove
2. Milošovičová, P., Nováčková D., (2014) *Uplatňovanie práva EÚ na Slovensku*, Plzeň: Aleš Čeněk
3. Nováčková D., Milošovičová P., (2011) *Medzinárodné ekonomické právo*, Bratislava: Eurounion
4. Capandová P., (2015) *Selected Issues of Legislation with regard to Operating Pharmacies in the Slovak Republic*, In : Acta Facultatis Pharmaceuticae Universitatis Comenianae, Bratislava: Univerzita Komenského v Bratislave
5. Stoličná Z., (2012) *Vývoj hospodárskej politiky SR od transformačného obdobia roku 1989 až po súčasnosť*, Bratislava: Kartprint

## **ENERGY R&D INVESTMENT DIRECTION FOR NATIONAL GREEN GROWTH ECONOMY IN KOREA**

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### **ABSTRACT**

*Climate change due to global warming is a global issue and a top priority in the international community. Recently, we try to find new growth engine to overcome the continuous decline of Korea's economic growth rate and world's top Korean-exporting items. In order to respond proactively to the global issue of climate change and find national growth engine, the Korean government continues to pursue strengthening the national economy by green growth. In this paper, we introduce the change of energy technology policy which is the core of green growth and new growth engine, and the investment direction of national R&D. In 2014, approximately 1.6 billion USD has been invested in energy-related R&D in the order of renewable energy (36.8%), nuclear energy (26.3%), and electric power(14.1%). Following the shift of energy policy paradigm from supply-side to demand-side management, the government plans to focused support on innovative technology such as ICT-based distributed power & energy-demand management, to secure tech-competitiveness of future energy. Green growth and creative economy, which is the national vision of the current government in Korea, both aims for national economic growth. Therefore, in order to continue green growth through creative economy and lead global green growth, currently stagnant energy R&D need to be increased continuously. Especially, to improve investment efficiency with limited resources, strategic selection and concentration is required in greenhouse gas reduction and industrialization technologies*

**Keywords:** energy, green economy, green growth, R&D

### **1. INTRODUCTION**

Climate change due to global warming is worsening as time goes by. And it is a global issue and a top priority. On December 2015, COP21(United Nations Climate Change Conference) was held in Paris, France. The conference negotiated the Paris Agreement, a global agreement on the reduction of climate change (shutter, 2015). Due to that, differing liabilities on greenhouse gas reduction is charged to corresponding all countries. On April 2016, 174 countries signed the agreement in New York., and began adopting it within their own legal systems through ratification, acceptance, approval, or accession (Falk, 2016).

Korea entered into a state of low growth. The economic growth rate has been gradually dropping since the '90s. And the world's top Korean-exporting items also have been gradually decreasing (No. of top rank items: ('09) 73 → ('10) 71→ ...→ ('14) 64) (*UN Comtrade Database*, 2016). So increasing attention to the reduction of growth potential and environmental problems leads us to pursue new economic development model (Green Growth) for the

coexistence of the environment and economy. Therefore, in order to continue green growth through creative economy and lead global green growth, currently stagnant energy R&D need to be increased continuously. In this paper, we analyzed the investment direction & priorities, and also suggest the desirable strategic direction of government R&D in Korea.

## 2. CURRENT STATUS OF GREEN GROWTH IN KOREA

The concept of Green Growth is harmonious and balanced growth between the economy and environment. Considering environmental conservation and economic growth simultaneously, development of green technology will be the core of national competitiveness in Korea (fig. 1).

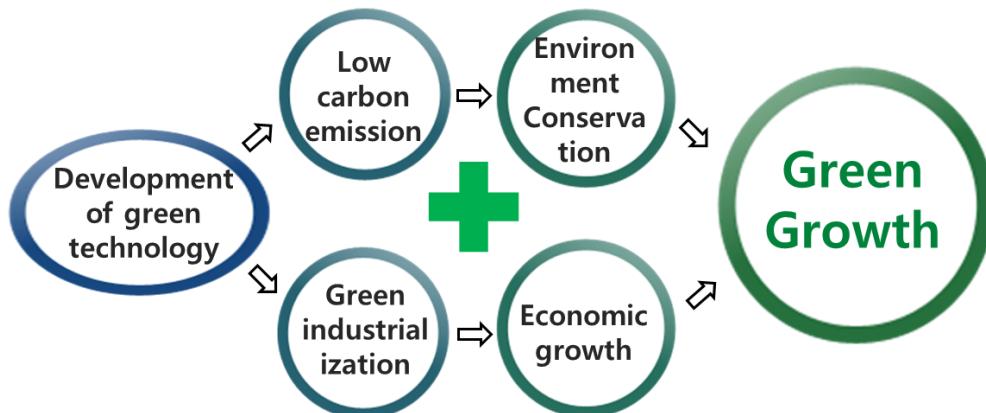


Figure 1: The Concept of Green Growth (Green Growth: Concept, 2009, modified)

The Korean government prepared and attracted various organizations to support the government's strong commitment for Green growth (fig. 2) (*Brief history, 2016*). In February 2009, the Presidential Committee on Green Growth was launched to coordinate and evaluate the Green Growth policies. In June 2010, the Global Green Growth Institute, GGGI was launched to support a global spread of the Green Growth Model. In March 2012, the Green Technology Center, GTC was launched to support green technology policy planning. In December 2013, Headquarters of the GCF (Green Climate Fund Operation) was opened in Songdo, Korea. Its role is for green climate fund operation. And KISTEP support the national R&D budget coordination including green technology, such as energy resources, environment, and so on.



Figure 2: The history of National Green Growth Promotion

The progress of Green Growth is the same as follows (*Brief history, 2016*). The starting point of Green Growth policy in Korea is the declaration of Korea's Green Growth Vision in August 2008. In January 2009, the Presidential Committee on Green Growth was launched. In July 2009, the National Green Growth Strategy and Five-year Plan were set. In January 2010, the Comprehensive Framework Act and enforcement Decree were established to drive Green Growth efficiently and systematically. The brief history of National Green Growth Policy in Korea is shown in Table 1.

Key milestone	Date
Declaration of Korea's Green Growth Vision	Aug. 2008
The Presidential Committee on Green Growth which supervises and coordinates Green Growth policies was launched	Jan. 2009
Establishment of 1st 5 year plan for Green Growth	July. 2009
The Comprehensive Framework Act and Enforcement Decree were established to drive Green Growth efficiently and systematically	Jan. 2010
Global Green Growth Institute (GGGI) was launched	Jun. 2010
Korea's Greenhouse Gas Mitigation Target was announced ※ 30% Reduction in 2020 against BAU	Jul. 2011
Green Technology Center(GTC) was launched	Mar. 2013
Opening the GCF's headquarters in Songdo	Dec. 2013
Establishment of the 2nd 5 year plan for Green Growth	Jun. 2014
National Emission Allocation Program was passed	Sep. 2014
Korea's Greenhouse Gas Mitigation Target was updated and re-announced ※ 37% Reduction in 2030 against BAU(851 Mton)	Jun. 2015
Reformation Plan of Climate Change Response System was prepared for the effective implementation of the Paris Agreement	Feb. 2016

*Table 1: brief history of National Green Growth Policy in Korea (Brief history, 2016)*

Major accomplishments of the 1<sup>st</sup> green growth 5 year plan in Korea are the same as follows(*2nd 5 year plan for Green Growth, 2014, p. 7-8*). First, Green Growth was adopted as a national development agenda. Declaration of ‘Low-Carbon Green Growth’ where climate change is upgraded from an environmental agenda to the Korea's new national development vision(Aug. 2008). Second, an institutional foundation was established for the green growth promotion system on a national level such as formation of the Presidential Committee on Green Growth('09), enactment of the Enforcement Decree and the Framework Act on Low Carbon Green Growth('10). Third, Greenhouse Gas Mitigation Target, 30% Reduction in 2020 against BAU(Jul. 2011, Cabinet Meeting), and its System was proactively setup. Fourth, R&D investment has been increased to strengthening the future growth engine through green technology development. Green technology R&D investment(proportion out of total government R&D investment) is increased from 1.3 billion USD(13.3%) to 2.5 billion USD(17.1%) from 2008 to 2012. Fifth, government attracted & established international organizations, such as GCF and GGGI, to upgrade Green Growth as a global agenda.

The fig.3 shows the comparison the first and second green growth 5 year plan (*The 2nd 5 year plan for Green Growth, 2014, p. 27*). The 1<sup>st</sup> plan focused on the establishment of an institutional foundation. On the contrary, the 2<sup>nd</sup> plan focused on the substantial achievement to settle the green growth system in Korea.

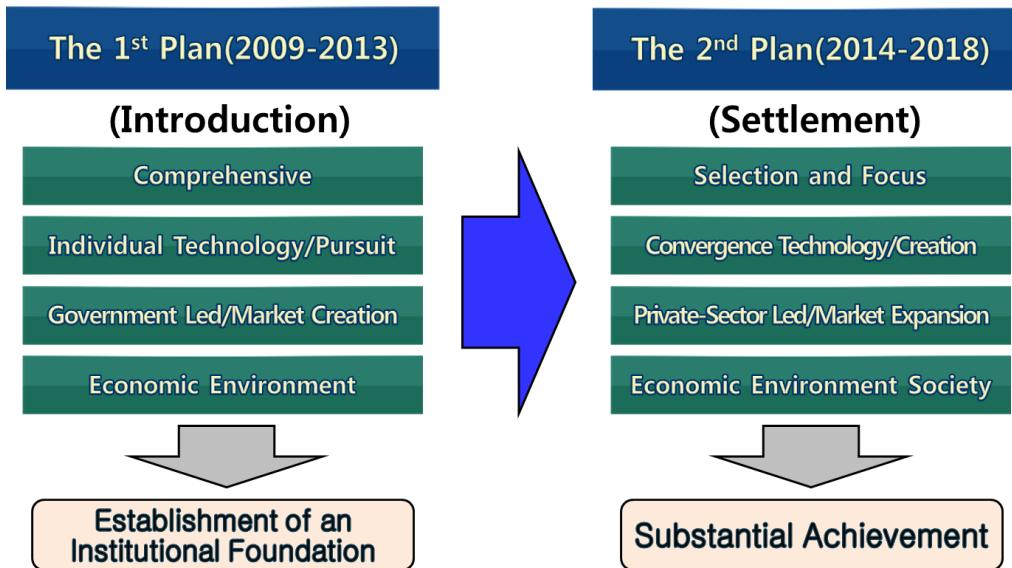


Figure 3: comparison the first and second green growth 5 year plan

The fig.4 shows the detail of 2<sup>nd</sup> Green Growth 5 Year Plan (*2nd 5 year plan for Green Growth, 2014, p. 28*). It contains 5 policy directions and 20 priorities. The 5 policy directions include effective reduction of greenhouse gas, establishing a sustainable energy system, building an ecosystem of green creative industries, implementing a sustainable green community, and reinforcing global green cooperation. To pursue these 5 policy directions effectively, detailed priorities were set as follows.



Figure 4: policy directions and priorities 2nd Green Growth 5 Year Plan

The green technology area was classified into 5 types (Fig. 5) (*Byun, Sun-Chun, 2009, p. 3*). Most green technologies belong to energy and environment technology area. Especially energy-related technologies are dominant, such as prediction and adaption, energy source, high efficiency technology. So, discussion is focused on the energy-related technology.

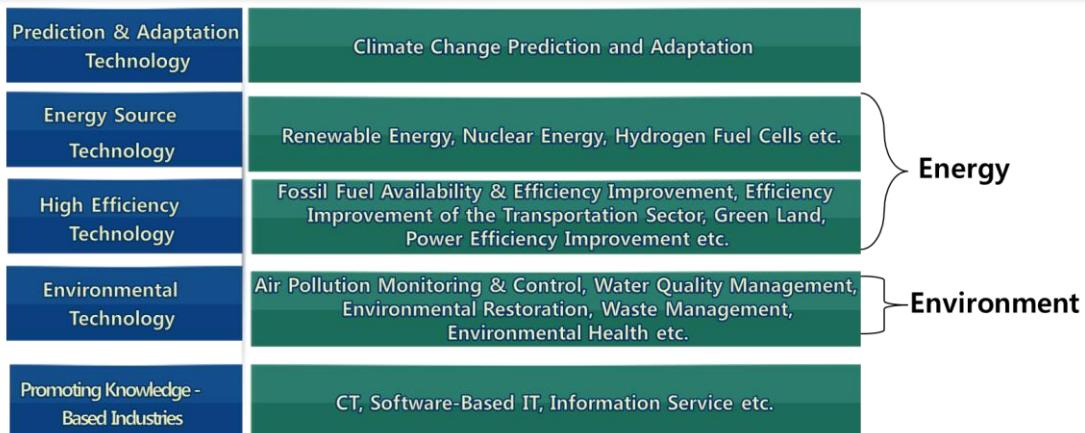


Figure 5: Green Technology Area

### 3. ENERGY R&D INVESTMENT DIRECTION

The key circumstantial change is increased demand of energy innovation technology development for the future, such as demand-side management and distributed power generation (Fig. 6) (*2nd 5 year plan for Green Growth, 2014, p. 61-85, modified*).

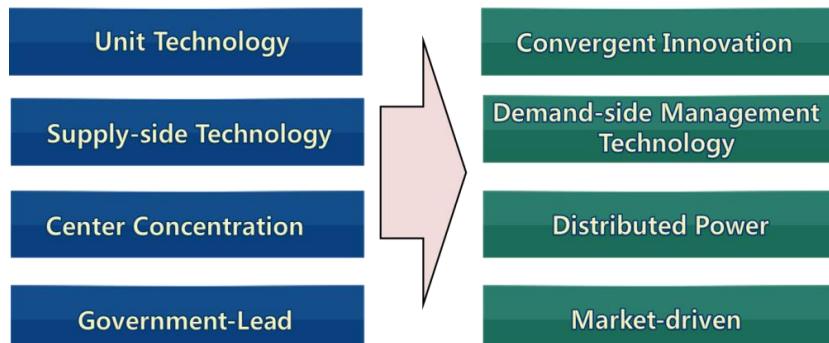


Figure 6: Energy-related Circumstantial Change

#### 3.1. Investment Status

Government R&D investment in the field of energy and resources technology increased continuously from 1.44 billion dollars to 1.61 billion dollars from 2010 to 2014 (*Survey of Research and Development Report, 2011-2015, Database*). Fig. 7 shows the government R&D investment for each technology sector. Investment is mostly in the power sector such as renewable energy and nuclear power.

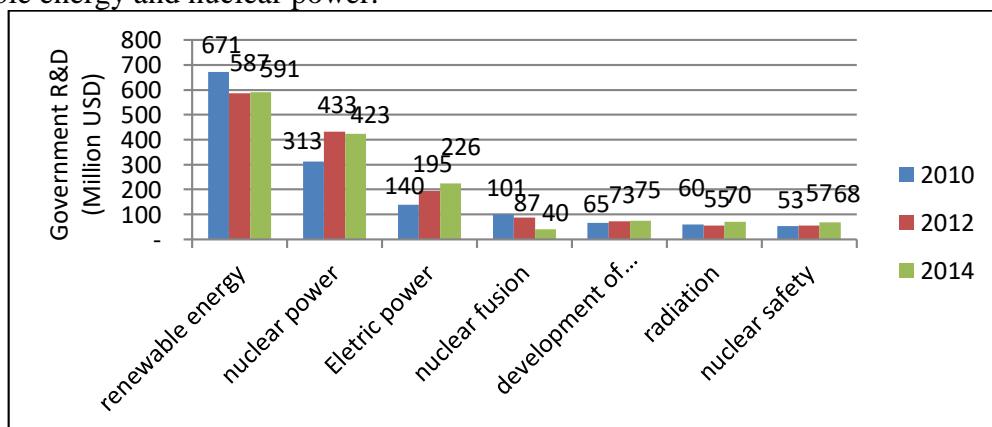


Figure 7: Government R&D investment in the field of energy/resources

### **3.2. Outcome and Evaluation of R&D Investment**

The main outcome is that contribution in reducing the technology gap with developed countries and creating new growth engine through continuous increase of government R&D investment. It is reported that technology gap between Korea and the leading country was continuously decreased from 6.6yrs('08) to 4.7yrs('12) (*Choi, 2013, p. ii*).

Some improvement direction is same as follows. Some key technologies of the energy industry have been secured, but commercialization & new tech for the safety of nuclear power plants (fully passive safety design etc.) is still needed. For example, 3MW offshore wind energy system development & acquisition of international certification, localization of dependent nuclear technologies. However, efforts to change to future energy systems are still required. Especially, practical application in energy networks and distribution is essential for the transition to cutting-edge energy technologies such as smart grid, ESS, CCS etc.

### **3.3. Investment Direction in FY 2017**

Government R&D investment direction is focusing on following three key areas. (*Government R&D Investment Direction and Criteria FY 2017, 2016, p. 54-56*).

The renewable energy sector will invest in core technologies that can overcome performance limitations of existing technologies and be linked to commercialization for the improvement of climate change response and new market opportunities in energy sector. Above all, the investment of next-generation technologies focusing on key technology of climate change response for new market will be strategically and efficiently strengthened, especially for a major clean energy sector mainly focusing on renewable energy. In addition, the sector of hydrogen energy and marine energy will continue to invest in infrastructure to promote the dissemination and commercialization.

Greenhouse gas sector will invest integrated demonstration technology development of CO<sub>2</sub> capture and storage in order to respond to competition of market preemption, and a marketable sector will be induced for expansion of private sector. In particular, the investment will be strengthened with CO<sub>2</sub> capture technology focusing on a low cost and high efficiency technology and CO<sub>2</sub> storage technologies focusing on large-scale demonstration.

Nuclear power sector is strengthening investment in decommissioning of Nuclear Power Plant (NPP) and future nuclear plant technologies for the sustainable usage of nuclear power, and commercial nuclear power plant focusing on new type NPP mainly for export will be efficiently invested. Specifically, the investment of the nuclear decommissioning wastes process and spent fuel transport and storage technologies is strengthened, and the investment of Sodium-cooled Fast Reactor and pyro-processing technologies for the timely demonstration continues. In addition, commercial NPP construction and performance improvement technologies will enhance investment efficiency based on support of SMEs sector and demonstration of the next generation NPP including small and medium-sized reactors, new nuclear power plants.

## **4. CONSLUSION**

Since the announcement of the Green Growth as National Vision in 2008, domestic and international organizations were established, and national plans for green growth were developed and implemented to secure balanced and harmonious growth in environment and economy. The continuous increase in investment in energy R&D is needed to lead national green growth and contribute to a creative economy, which is the national vision of the current government in Korea. Especially, to improve investment efficiency with limited resources, strategic selection and concentration is required in greenhouse gas reduction and industrialization technologies. Moreover, investment should be focused on energy innovation

technology for the future and environmental quality improvement technology. And, discovering and enhancing the green technology cooperation agenda, such as Yellow dust, fine dust, northeast-asian climate prediction, nuclear plant accidents etc., is required to secure our environmental communities in Korea and other countries.

## LITERATURE:

1. *Brief history.* (2016). The Presidential Committee on Green Growth. Retrieved 10.08.2016 from [http://www.greengrowth.go.kr/menu004/sub003/GRG\\_004\\_301.do](http://www.greengrowth.go.kr/menu004/sub003/GRG_004_301.do).
2. Byun, Sun-Chun. (2009). *Establishment of Strategic Roadmap of Green Technology and Industry* (Research Paper, S&T evaluation and coordination 2010-01). Seoul: The Ministry of Education, Science and Technology/KISTEP.
3. Choi, Han-Lim. (2013). *Technology Level Evaluation in 2012* (Research Paper, S&T evaluation and coordination 2013-029). Seoul: The Ministry of Education, Science and Technology/KISTEP.
4. Falk, Pamela. (2016). *U.S. joins 174 nations to sign hard-won climate pact.* CBS NEWS. Retrieved 10.08.2016 from <http://www.cbsnews.com/news/us-climate-pact-un-signing-ceremony-paris-agreement-cop21/>.
5. Government R&D Investment Direction and Criteria FY 2017. (2016). National Science and Technology Commission/ The Ministry of Education, Science and Technology/KISTEP.
6. *Green Growth: Concept.* (2009). The Presidential Committee on Green Growth. Retrieved 10.08.2016 from [http://www.greengrowth.go.kr/menu001/sub001/GRG\\_001\\_101.do](http://www.greengrowth.go.kr/menu001/sub001/GRG_001_101.do).
7. Survey of Research and Development Report. (2011, 2012, 2013, 2014, 2015). *Using the Origin Database*, Ministry of Science, ICT & Future Planning, Retrieved 01.04.2016 from <http://www.ntis.go.kr/en/GpIndex.do>.
8. Sutter, John D. (2015). *Obama: Climate agreement 'best chance we have' to save the planet.* CNN. Retrieved 10.08.2016 from <http://edition.cnn.com/2015/12/12/world/global-climate-change-conference-vote/>.
9. The 2nd 5 year plan for Green Growth. (2014). *2nd 5 year plan for Green Growth.* Related ministries/ The Presidential Committee on Green Growth.
10. *UN Comtrade Database.* (2016). UN. Retrieved 10.08.2016 from <http://comtrade.un.org/>.

## IDENTIFICATION OF ESSENTIAL EMPLOYEES BY SOCIAL NETWORK ANALYSIS

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### **ABSTRACT**

*Aim of this article is to show how social network analysis could help companies overcome process or organizational changes, splitting or merging of companies. Creation and use of sociogram before an organizational change and evaluation of possible or probable effects of planned changes could ease and reduce its costs. During the organizational change one should consider how and when should be sub clusters within the network connected. Goal of this mapping is to provide all employees of the company information sources and connections which they need to work, making decisions or act efficiently.*

**Keywords:** change, employee, organization, process, social network analysis, structure

### **1. INTRODUCTION**

In current turbulent and globalized world any company is under pressure by its competitors, emerging challengers and also inner problems connected with growth, efficiency and risks. These crises pose threats to the sustainability of an organization's operations, and the organization's survival depends upon their readiness and supporting tools in the face of these threats. European economy is still in quite good condition (A World Bank Group Flagship Report, 2016), but problems could be seen on the horizon (*Spring 2016 Economic Forecast*, 2016). In the upcoming years we can expect decline of the global gross domestic product, raising inflation and other symptoms of recession. Companies must be ready to this inevitable development. Getting to know own employees, their value and importance for the company is one way how to improve quality of decisions made about these employees.

We propose set of processes which could support evaluation of employees by social network analysis.

### **2. SOCIAL NETWORK ANALYSIS**

Social Network Analysis (SNA) goals are to reveal, describe and evaluate the relations among e.g. individuals or organizations. Different tools (e.g. sociogram, matrix and metric) can be used to represent social network structure e.g. the nodes and connections between them.

Jacob Levy Moreno laid foundation of Social Network Analysis in 1930s of previous century when he observed the interactions within small social groups and he has developed a system of communication and interaction records which were published in his work in 1934. He is also one of the first researchers who has used a graphical representation of social networks and who has created a sociogram (Moreno, 1934).

Siegfried Frederick Nadel described the theory of social structures (Nadel, 1957). His theory is fundamental for mathematical analysis of the networks. The idea how to use the theory of social networks in practice has arisen as relationship sociology in the 1980s and could be used until present days.

For every node (a person or an organization) and whole network can be observed or calculated a number of parameters, e.g. closeness centrality, clustering coefficient, degree, durability,

eigenvector and betweenness centrality, intensity, etc. (Scott, 2013). For example, people (in next text we mark them like nodes) with high value of betweenness centrality are in general important to spread information or could be good source of new information from the rest of the network. Removing this node from the network without any replacement could and probably would harm flow of information and could end up in losses or unnecessary additional costs. These metrics could be used to describe individual relationships between nodes and to draw conclusions.

Survey (Yang & Tang, 2004) has stated that:

- "Group cohesion was positively related to overall performance."
- Group characteristics, e.g., cohesion and conflict, fluctuated in different phases, but in later stages, much less cohesion occurred and the advice network seemed to be very important.
- Group structures seemed to be a critical factor for good performance."

In the work of Leenders et al. are presented results supporting the idea of the importance of social network analysis for mapping and explaining efficiency of some teams compared to other, less effective teams (Leenders, Kratzer & van Engelen, 2007). It seems that the key factor for effective work and innovation is a presence of some alternative communication paths and good links to well-connected knowledgeable others.

In time of structural changes of the company teams and departments are often divided, moved or dispersed. As a result of these action connection between teams, department and overall connections within company could be reduced (Lau, Tashiro & Kajikawa, 2014). Result of this reduction can be observed as drop in average degree (number of connections which an employee has), his or her centrality and closeness mainly because short paths through the social network were damaged/disconnected. The same result could be lost of important connections to important people outside of the company. This could harm future development of the connection, access to important knowledge and information to avoid serious consequences.

Problem of knowledge discovery and decision making processes within organizations discuss (Windhager, Zenk & Federico, 2011). They stated that visualization of processes and also SNA could ease over watching processes, enterprise dynamics and the interconnected actors in changing organizational network.

SNA tools could be developed by a researcher or it could be used prepared tools like Gephy, NodeXL and Pajek. We used Gephy and NodeXL to record and analyze social networks and to prepare sociograms.

The work of Kazienko et al. lists main data sources (Kazienko, Michalski & Palus, 2011). There are several cheap and fast sources of information about structure of the social network within the company. Mainly e-mail communication, instant messaging records, information about meetings and phone calls could be used to get brief image about how the social network of the company could looks like. Additional tools could be used to get more accurate picture of actual social network structure. Questioners for employees about their contacts and frequency of the contact could be also used. Connections like meeting at lunch, smoking room or out of work activities could be discovered when we use a questionnaire.

Also there is newer statistical approach how to reconstruct the network (Corallo et al., 2015) when e.g. detailed information (e.g. exact time) is not available in the log files of the tracked events. Some files might not include time range when a given user participated to a given activity. We can use set of matrix and heuristic manipulation to reason probable result.

### **3. PROPOSAL OF SNA SUPPORT OF ORGANIZATIONAL CHANGE WITHIN A COMPANY**

In this chapter we will introduce set of processes to map social network, identify essential employees and also tables with attributes to evaluate.

### 3.1. Social network data source identification and creation of social network map

Figure 1 shows process social network map creation. The process starts with information sources description and evaluation of their quality. Selected sources are mined to receive information about who is communicating with whom, how often and if it is possible what is the topic of the communication (e.g. subject of the e-mail). Based on these records, we can create social network model. To evaluate if the model is covering real structure of the network we can ask a sample of employees if recognized connections are all they have within the company or we missed some of them. If the sample of employees say, that we didn't miss any or just small part of their connection we can conclude that structure of the map is sufficient. After that we can validate the model of the network by interviews with different sample of employees. If we discover that our model missed more than small amount of connections (depends on structure of the company, number of employees etc.), there should be a meeting with responsible project team and they should search for the reasons why the model is not sufficient. Most common reasons are company culture and unofficial meetings which are not covered by electronic devices (e.g. smoking room). Decision if it is possible to effectively improve the model and if so, which data sources should we use.

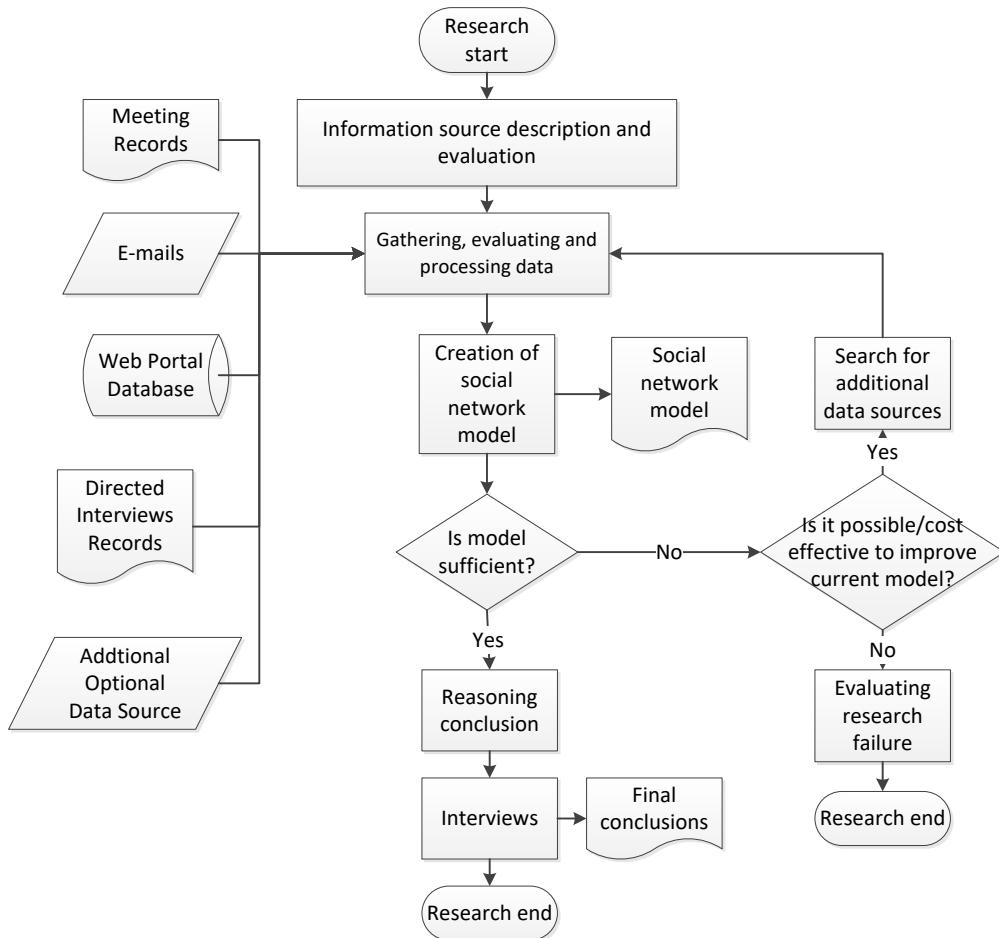


Figure 1: Social network data source identification and creation of social network map

### 3.2. Tables of attributes to evaluate

The presented list in this sub chapter is just an example of possible parameters which could be evaluated. Every performed analysis has to select own applicable attributes according to available data, budget and conditions within the company.

Table 1 shows example of attributes to evaluate when we focus on employees of a company and the network as a whole.

*Table 1: Example of attributes to evaluate focusing on employees from social network analysis point of view*

Attribute	Employee 1	Employee 2	Employee N
Betweenness Centrality			
Closeness Centrality			
Clustering Coefficient			
Eigenvector Centrality			
In Degree			
Out Degree			
...			

Table 2 shows example of attributes to be evaluated when we focus on formal position of an employee within a company. This table sum up selected attributes of evaluated employees and as a result we should be able to make conclusions about their overall performance, background and possible attitude towards planned changes. In case we find an important employee with possible hostile opinion (based on e.g. interview) we should take action to change his or her mind, explain core idea of the change again and try to convince him or her about necessity of the change.

*Table 2: Example of attributes to evaluate focusing on employees from personal point of view*

Attribute	Employee 1	Employee 2	Employee N
Age			
Education			
Current work position			
Years of experience at current position			
Current work position description			
Past work position			
Years of experience at past position			
Past work position description			
Results of last five 360° evaluations			
Work attitude			
Loyalty to the company			
...			

Table 3 shows example of attributes (e. g. clustering coefficient, number of vertices, density) to evaluate when we focus on formal position of an employee within a company social network. We can fill in values and use it as a lead to evaluate or compare one or several companies, departments, etc.

*Table 3: Example of attributes to evaluate focusing on social network*

Attribute	Whole network	Depart. 1	Team 1	...
Betweenness Centrality (average, etc.)				
Closeness Centrality (average, etc.)				
Clustering Coefficient (average, etc.)				
Edges With Duplicates				
Graph Density				
Maximum Geodesic Distance				
Reciprocated Edge Ratio				
Reciprocated Vertex Pair Ratio				
Single-Vertex Connected Components				
Total Edges				
Unique Edges				
Vertices				
...				

### **3.3. General evaluation of social network**

Based on Table 3 we can describe metrics of the network and also easily every group of employees (team, departments, members of middle management, etc.). Precise social network metrics values and their meanings could be found at (Scott, 2013). This will help us with concluding which employees are connected well and if the commission of the analysis included this, what nature has the relationship (if they are friends, enemies, just colleagues, etc.). Another result of the general evaluation of the network is information if there are clusters with only one gateway person. It is important to stress that good position within the network (high Eigen vector etc.) is not the only criteria, there could be important employee with most important skill/knowledge with low level of degree.

### **3.4. Identification of essential employees within studied company and their equivalent at a merging company**

During evaluation of social network and the company as a whole we can use previously presented tables with filled in values (or text information, attached documents) to identify best rated, well connected employees. If we remove gateway person during planned reorganization (somebody who is connecting one cluster or group to the rest of the company) who form the network, there must be sufficient replacement to keep information flowing. From our experience during transformation of the company, often are some parts of the company in fact cut off from the rest of the company, despite there is official replacement of the gateway person.

### **3.5. Creation of recommendations**

Study of Lau et al. had showed that during the organizational restructuring, the employee's closeness decreased, but the degree and the betweenness recovered over time (Lau, Tashiro & Kajikawa, 2014). We can map the network, identify crucial employees who provide communication flows through the company and help them to regain connections during and after new structure of the organization is established. With this plan they can easily reach full performance and also network within the company will recover faster. Also continuity of knowledge transfer will be assured by linking employees as soon as possible to help each other during often difficult and stressful transformation time. Organizational culture and will to cooperate could be one of the factors which divides successful project from a failure (Mesicek & Petrus, 2016).

#### 4. DISCUSSION

Presented approach showed that social network analysis could be used as additional supporting tool during organizational change. As previous research showed, employees or teams and their connections greatly affect they overall performance.

However, there are risks to be mentioned. First risk of this approach could be seen as false estimate that our map is accurate and values used to evaluate employees are right. We can almost certainly say, that every model of a big company will be affected by some error, even though we use additional sources of information (questioners, etc.). That's the reason why this approach is more suitable for SME's than for large companies.

Second risk of this approach is that we make mistake and evaluate an employee as essential or not essential. It is necessary to use as much information sources about how the company operates as possible to get full image of the company.

Third risk is connected with knowledge transfers and linked prejudices in general. In the work of Duric and Ivanovic they mentioned several prejudice connected with knowledge flow management and also partial solutions of this problems (Duric & Ivanovic, 2014).

In case of merging two companies, we need to perform social network analysis and evaluation of nodes in both companies. Also connection of employees at same position should be preserved and in case of transformation of department, disconnected employees should be connected as soon as the merge ends.

#### 5. CONCLUSION

Period of any change or transformation is stressful for every company and its employees. This article showed a proposal of sets of processes and criteria to identify position of an employee within the network (social network metrics and also attributes of an employee) and evaluate his or her importance to the communication flows within a company and also to help him or her to find and establish new connection with important colleagues. This will facilitate smoother transformation and help to overcome occurring problems. Before any major transformation the company management should consider running this social network mapping to improve and limit impacts of the change on processes performance, employees and their performance.

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#### LITERATURE:

1. A World Bank Group Flagship Report (2016). Global Economic Prospects: Divergences and Risks. Retrieved: 10.09.2016 from <http://pubdocs.worldbank.org/en/842861463605615468/Global-Economic-Prospects-June-2016-Divergences-and-risks.pdf>
2. Corallo, A., Bisconti, C., Fortunato, L., Gentile, A.A. and Pelle, P. (2015). *An approach from statistical mechanics for collaborative business social network reconstruction*. 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, 25-28 August, Paris.
3. Duric, A-M. and Ivanovic, I. (2014). *Knowledge Management – Chance to develop competitive advantage in dynamic environment*, 5<sup>th</sup> International Scientific Conference Economic and Social Development, 10-11 April, Belgrade.

4. Kazienko, P., Michalski, R. and Palus, S. (2011). *Social network analysis as a tool for improving enterprise architecture*. 5<sup>th</sup> KES International Conference, KES-AMSTA 2011, 29 June – 1 July, Manchester.
5. Lau, A., Tashiro, H. and Kajikawa, Y. (2014). *An exploratory study on the intra-organizational network during restructuring: an email network analysis*, 2014 Portland international conference on Management of Engineering & Technology (PICMET), 27-31 July, Showa-Machi Kanazawa.
6. Leenders, R.Th.A.J., Kratzer, J., and van Engelen, J.M.L. (2007). Innovation team networks: the centrality of innovativeness and efficiency, *International Journal of Networking and Virtual Organisations* (459-478).
7. Moreno, J.L. (1934). *Who Shall Survive?*. New York: Beacon Press.
8. Měsíček, L. and Petrus, P. (2016). *How to Promote Knowledge Management Systems to Achieve Better Performance*, IDIMT – 2016 the 24<sup>th</sup> Interdisciplinary Information Management Talks, 7-9 September, Podebrady.
9. Nadel, S.F. (1957). *The Theory of Social Structure*. London: Cohen and West.
10. Scott, J. (2013). *Social network analysis*. London: SAGE.
11. *Spring 2016 Economic Forecast: Staying the course amid high risks*. (2016). Retrieved 10.09.2016 from [http://ec.europa.eu/economy\\_finance/eu/forecasts/2016\\_spring\\_forecast\\_en.htm](http://ec.europa.eu/economy_finance/eu/forecasts/2016_spring_forecast_en.htm)
12. Windhager, F., Zenk, L. and Federico, P. (2011). Visual enterprise network analytics - visualizing organizational change, *Procedia - Social and Behavioral Sciences* (59 – 68).
13. Yang, H., Tang, J. (2004). Team structure and team performance in IS development: a social network perspective. *Information & Management* (335-349).

## A LOOK AT THE IMPLICATIONS OF REGULATORY REFORMS FOR OTC DERIVATIVES MARKETS

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### **ABSTRACT**

*In September 2009, the G20 leaders made a commitment to regulate the OTC (over-the-counter) derivatives market to enhance transparency and reduce risk. Within the European Union, these objectives have been implemented through the European Market Infrastructure Regulation (EMIR) and the revised Markets in Financial Instruments Directive (MiFID II). EMIR entered into force on 16 August 2012. Although EMIR is already in force, some of the definitions in EMIR cross refer to definitions under MiFID so the ongoing changes in MiFID II have a significant impact on derivatives. Most of the provisions in MiFID II were intended to become effective on 3 January, 2017. However, the European Commission has proposed that MiFID II should be delayed by up to a year (that is, until 3 January, 2018). Reforms in the U.S. were being carried out under the Dodd-Frank Wall Street Reforms and Consumer Protection Act (Dodd-Frank Act) and on July 21, 2010, the Dodd-Frank Act was signed into law by President Obama. Regulatory reforms have already had an impact on OTC derivatives market structures and volumes. In this paper we take a look at the current state of the OTC derivatives market reforms and analyse their potential impact. In particular, we focus on the trends in market volumes -gross market value of OTC derivatives contracts - before and after regulatory reforms were introduced and also on their correlations with GDP growth rates, EUR/USD exchange rates and trade compression.*

**Keywords:** Hypothesis testing, OTC derivatives, OTC market changes, regulatory reforms

### **1. INTRODUCTION**

In the wake of the financial crisis 2007-2009, derivatives markets have been amongst those markets receiving heightened regulatory attention in spite of the fact that derivatives markets per se were not amongst the causes of the financial crisis. More specifically, regulators and policy makers have criticised the alleged opaqueness and complexity of over-the-counter (OTC) derivatives markets as being potential sources of heightened volatility and systemic risks. This clearly stands in contrast to the view, that derivatives are useful to manage risks in the financial system and in the real economy alike.

There was a lack of transparency about the size of bilateral positions in OTC derivatives contracts. The combination of opacity and concerns over the adequacy of collateral, and counterparty risk management arrangements more generally, created an environment in which confidence could be lost very quickly. Arguably of most concern at, and since, the time of the financial crisis has been the interlinkages between the major counterparties participating in the OTC derivatives market (Ruffini and Steigerwald, 2014). As the major counterparties are

international financial institutions, there is therefore the risk that should one counterparty default on its obligations in the OTC derivatives market, then this will have a domino effect. This ultimately contributed to significant market disruption in the aftermath of the collapse of Lehman Brothers and the near-collapse of American Insurance Group in September 2008, both of whom were major participants in OTC derivatives markets.

In response to the financial crisis (Morgan, 2012), regulators worldwide initiated various OTC derivatives reforms (Deutsche Bank, 2013) and a number of rules and detailed implementation standards have been formulated under different national regulations. The Dodd-Frank Act (DFA) in the U.S., the European Market Infrastructure Regulation (EMIR) in the European Union, and similar regulations in other G20 jurisdictions (Hamunen, 2015) aim to bring about greater transparency and enhanced risk management measures in the OTC derivatives markets. These regulations focus on the implementation of centralized clearing services, collection and dissemination of trade data, trade execution through organized platforms and stipulate for prudent business standards and risk management practices for OTC market participants (Jones Day, 2013). Though the overall impact of the DFA and EMIR is wide ranged (OECD, 2011), for this paper, we have limited the scope to deal with the impact they could have on the volumes of the OTC derivatives markets and on the correlation with some of the most important economic factors.

## 2. METHODOLOGY

In this paper, we formulate the problem – consequences of the new regulatory landscape on OTC derivatives trading - in a hypothesis testing framework using IBM SPSS Statistics which is a software for managing data and calculating a wide variety of statistics by means of ad-hoc analysis, hypothesis testing, and predictive analytics. The intent of hypothesis testing is formally examining two opposing conjectures (hypotheses). These two hypotheses are mutually exclusive and exhaustive so that one is true to the exclusion of the other. We accumulate evidence – collect and analyze sample information – for the purpose of determining which of the two hypotheses is true and which of the two hypotheses is false.

A crucial feature of hypothesis testing is that the two competing hypotheses are not treated in the same way: one is given the benefit of the doubt, the other has the burden of proof. The one that gets the benefit of the doubt is called the null hypothesis and is denoted  $H_0$ . The other is called the alternative hypothesis and is denoted  $H_1$ . By definition, the default is the null  $H_0$ . When we carry out a test, we are asking whether the available data is significant evidence in favor of the alternative  $H_1$ . We are not testing whether  $H_1$  is true; rather, we are testing whether the evidence supporting  $H_1$  is statistically significant.

The conclusion of a hypothesis test is that we either reject the null hypothesis (and accept the alternative) or we fail to reject the null hypothesis. Failing to reject the null hypothesis does not quite mean that the evidence supports  $H_0$ ; rather, it means that the evidence does not strongly favor the alternative  $H_1$ . Again,  $H_0$  gets the benefit of the doubt.

SPSS calculates the t-statistic and its p-value (confidence value) under the assumption that the sample comes from an approximately normal distribution. If the p-value associated with the t-test is small (0.05 is often used as the threshold), there is evidence that the mean is different from the hypothesized value. If the p-value associated with the t-test is not small ( $p > 0.05$ ), then the null hypothesis is not rejected.

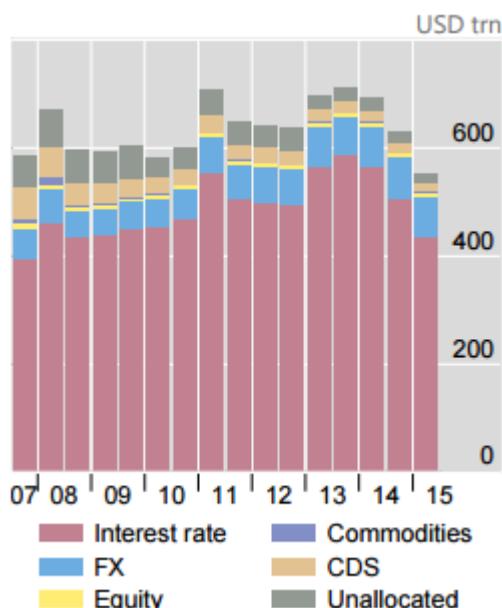
An independent one-sample Levene's t-test (it is an inferential statistic used to assess the equality of variances for a variable calculated for two or more groups) was used to test whether the growth rate of gross market value of OTC derivatives contracts (the cost of replacing all

outstanding contracts at current market prices) is different or not before and after the regulatory reforms (hypothesis 1). The research question and problem do not have to consist of one hypothesis only, because this growth rate could be, of cause, affected by different additional factors, like, e.g., GDP growth rate, EUR/USD exchange rate and portfolio compression.

Therefore, the next logical step was to verify whether the growth rate of gross market value of OTC derivatives contracts is positively correlated with the growth rate of notional amounts outstanding of OTC derivatives contracts (hypothesis 2). Next, also the correlation between the growth rate of gross market value of OTC derivatives contracts and the GDP growth rate (hypothesis 3) and the correlation between the growth rate of gross market value of OTC derivatives contracts with the EUR/USD exchange rate (hypothesis 4) was tested. Also of interest was the question, whether the growth rate of gross market value of OTC derivatives contracts is correlated with the portfolio compression (hypothesis 5). As statistical data sources we have used databases and reports of Bank for International Settlements (BIS), European Central Bank (ECB), International Swaps and Derivatives Association (ISDA), as well as some published studies (ISDA, 2016) relevant for our research.

### **3. MAIN RESULTS**

Activity in global OTC derivatives markets fell in the first half of 2015. The notional amount of outstanding contracts declined from USD 629 trillion at end-December 2014 to USD 553 trillion at end-June 2015. Even after adjustment for the effect of exchange rate movements on positions denominated in currencies other than the USD, notional amounts were still down by about 10%. Trade compression to eliminate redundant contracts was the major driver of the decline.



*Figure 1: Notional principal (BIS)*

The gross market value of outstanding derivatives contracts – which provides a more meaningful measure of amounts at risk than notional amounts – declined even more sharply in the first half of 2015. Market values decreased from USD 20.9 trillion to USD 15.5 trillion between end-December 2014 and end-June 2015. The fall is likely to have been driven by the reduction in notional amounts outstanding as well as increases in long-term interest rates, which took yields back closer to those on outstanding swaps.

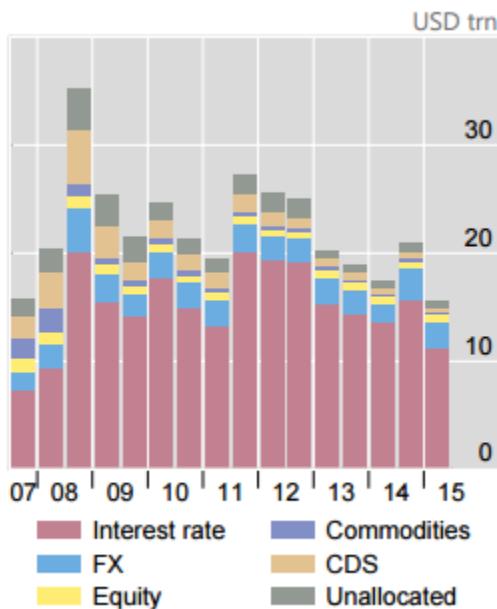


Figure 2: Gross market value (BIS)

In this paper, we use a statistical hypothesis testing procedure using the IBM SPSS statistical package. SPSS Statistics can take data from almost any type of file and use them to generate tabulated reports, charts, and plots of distribution and trends, descriptive statistics, and complex statistical analyses.

**Hypothesis H1:** The growth rate of gross market value of OTC derivatives contracts is different before and after regulatory reforms.

**Hypothesis H1<sub>0</sub>:** The growth rate of gross market value of OTC derivatives contracts is not different before and after regulatory reforms.

Table 1: T- test hypothesis H1 (time interval 1H 1998 – 1H 2009 vs. 2H 2010 – 1H 2015)

(own calculations)

**Group Statistics**

Regulation		N	Mean	Std. Deviation	Std. Error Mean
GCE growth	0	22	6,7304%	17,54507%	3,74062%
	1	10	-1,0936%	16,12473%	5,09909%

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
GCE growth	Equal variances assumed	.420	.522	1,197	30	.240	7,82399%	6,53364% -5,51948% 21,16745%
				1,237	18,942	.231	7,82399%	6,32400% -5,41503% 21,06300%

The H1<sub>0</sub> is not rejected because the p-value, listed in the column called “Sig. (2-tailed)”, is greater ( $p = 0.240$ ) than the critical p-value of 0.05. Hence, we conclude that the growth rate of gross market value of OTC derivatives contracts is not different before and after regulatory reforms.

**Hypothesis H2:** The growth rate of gross market value of OTC derivatives contracts is positively correlated with the growth rate of notional amounts outstanding of OTC derivatives contracts.

**Hypothesis H2<sub>0</sub>:** The growth rate of gross market value of OTC derivatives contracts is not positively correlated with the growth rate of notional amounts outstanding of OTC derivatives contracts.

*Table 2: Correlation matrix - hypothesis H2 (own calculations)*

		GCE growth	Nominal Value
GCE growth	Pearson Correlation	1	,204
	Sig. (2-tailed)		,247
	N	34	34
Nominal Value	Pearson Correlation	,204	1
	Sig. (2-tailed)	,247	
	N	34	34

Correlation matrix (Table 2) tells us that the correlation coefficient between the gross market value of OTC derivatives contracts and the growth rate of notional amounts outstanding of OTC derivatives contracts is positive ( $r = 0.204$ ), but not statistically significant; therefore, the hypothesis H2<sub>0</sub> is valid.

**Hypothesis H3:** The growth rate of gross market value of OTC derivatives contracts is positively correlated with the GDP growth rate.

**Hypothesis H3<sub>0</sub>:** The growth rate of gross market value of OTC derivatives contracts is not positively correlated with the GDP growth rate.

From the first column of the correlation matrix (Table 3), that shows the correlation coefficients between the growth rate of gross market value of OTC derivatives contracts and the GDP growth rates of the U.S., EU countries, G20 and OECD countries, one can conclude, that these correlations are not statistically significant; therefore we fail to reject the null hypothesis H3<sub>0</sub>.

*Table 3: Correlation matrix – hypothesis H3 (own calculations)*

		GCE growth	United States	Euro area (19 countries)	European Union (28 countries)	G20	OECD - Total
GCE growth	Pearson Correlation	1	-,111	,091	,095	,059	,001
	Sig. (2-tailed)		,534	,611	,593	,744	,996
	N	34	34	34	34	33	34
United States	Pearson Correlation	-,111	1	,775 **	,813 **	,830 **	,929 **
	Sig. (2-tailed)	,534		,000	,000	,000	,000
	N	34	35	35	35	33	35
Euro area (19 countries)	Pearson Correlation	,091	,775 **	1	,992 **	,849 **	,918 **
	Sig. (2-tailed)	,611	,000		,000	,000	,000
	N	34	35	35	35	33	35
European Union (28 countries)	Pearson Correlation	,095	,813 **	,992 **	1	,871 **	,945 **
	Sig. (2-tailed)	,593	,000	,000		,000	,000
	N	34	35	35	35	33	35
G20	Pearson Correlation	,059	,830 **	,849 **	,871 **	1	,934 **
	Sig. (2-tailed)	,744	,000	,000	,000		,000
	N	33	33	33	33	33	33
OECD - Total	Pearson Correlation	,001	,929 **	,918 **	,945 **	,934 **	1
	Sig. (2-tailed)	,996	,000	,000	,000	,000	
	N	34	35	35	35	33	35

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Hypothesis H4:** The growth rate of gross market value of OTC derivatives contracts is correlated with EUR/USD exchange rate.

**Hypothesis H4<sub>0</sub>:** The growth rate of gross market value of OTC derivatives contracts is not correlated with EUR/USD exchange rate.

*Table 4: Correlation matrix – hypothesis H4 (own calculations)*

		EUR/USD growth	Gross credit exposure
EUR/USD growth	Pearson Correlation	1	,152
	Sig. (2-tailed)		,392
	N	34	34
Gross credit exposure	Pearson Correlation	,152	1
	Sig. (2-tailed)	,392	
	N	34	35

As shown in the table (Table 4) above, the Pearson correlation coefficient indicating a positive ( $r = 0.152$ ) but statistically not significant correlation; therefore we fail to reject the hypothesis H4<sub>0</sub>.

In the next step we studied the correlation between the growth rate of gross market value of OTC derivatives contracts and the growth rate of trade (portfolio) compression. Trade (portfolio) compression is a technique to reduce the number of transactions while ensuring that the value of the portfolio and risk remains the same, or that at least changes within acceptable levels. Financial institutions and commodity players have entered into compressions since the early 2000s primarily to reduce the cost of capital under regulations but more lately to address EMIR and DFA requirements. In essence, compressing portfolios is useful to reduce or transfer counterparty (credit) risk. Portfolio compression may also provide a more accurate expression of overall market size and composition.

**Hypothesis H5:** The growth rate of gross market value of OTC derivatives contracts is correlated with the growth rate of trade (portfolio) compression.

**Hypothesis H5<sub>0</sub>:** The growth rate of gross market value of OTC derivatives contracts is not correlated with the growth rate of trade (portfolio) compression.

*Table 5: Correlation matrix – hypothesis H5 (own calculations)*

		GCE growth	ACNO growth
GCE growth	Pearson Correlation	1	-,090
	Sig. (2-tailed)		,848
	N	34	7
ACNO growth	Pearson Correlation	-,090	1
	Sig. (2-tailed)	,848	
	N	7	7

The conclusion of H5 test is that we fail to reject the null hypothesis ( $r = -0.090$ ).

#### 4. CONCLUSION

It is too early to conduct a comprehensive assessment of the impacts (EY, 2014) of the regulatory reforms. The benefits and costs (Cognizant, 2016) of these reforms will largely depend on how these will interact with derivatives portfolios and affect the structure of the derivatives market more broadly. We hope that our findings may have some consequences for OTC market participants (J.P. Morgan, 2012).

#### 5. SUMMARY

Following the G20 commitment to implement measures to increase transparency and reduce counterparty credit risk and operational risk in the OTC derivatives markets, the European Commission introduced a new EU Regulation on OTC, central counterparties (CCPs) and trade repositories, also known as European Market Infrastructure Regulation (EMIR). Simultaneously, in the U.S., the Dodd-Frank Wall Street Reform and Consumer Protection Act (DFA) seeks to deal with similar risk issues in relation to OTC markets (Jackson and Miller, 2013). A number of papers (FSB, 2015) have attempted to quantify various aspects of the OTC derivatives regulative reforms. Trends in OTC derivatives markets can be identified by tracking in parallel upward/downward movements (Oudéa, 2015) in the gross notional value of outstanding contracts and the gross market value. Over the past ten years, both, the notional amount outstanding and the gross market value have been altered by the increasing uptake of central clearing and the growing use of portfolio compression services or other risk-mitigation procedures. The analysis and hypotheses presented in this paper draw on five hypotheses (Zajačeková, 2016). The first hypothesis we test is whether the growth rate of gross market value of OTC derivatives contracts is different before and after regulatory reforms were introduced. Using data from the Bank for International Settlements (BIS), European Central Bank (ECB) and International Swaps and Derivatives Association (ISDA), we find that this difference was not statistically significant. The second hypothesis we examine is the correlation between the growth rate of notional amount outstanding of OTC derivatives contracts and the growth rate of gross market value of OTC derivatives contracts. Our conclusion is that this correlation is positive but also statistically not significant. Next, we extend our investigation to examine whether the growth rate of gross market value of OTC derivatives contracts is correlated with the GDP growth rate (hypothesis 3). Correlation matrix (Table 3) tells us that the correlation between the growth rate of gross market value of OTC derivatives contracts and the GDP growth rate is not statistically significant. Our regression results show that the growth rate of gross market value of OTC derivatives contracts is not correlated with EUR/USD exchange rate (hypothesis 4) and that the growth rate of gross market value of OTC derivatives contracts is not correlated with trade (portfolio) compression (hypothesis 5).

#### LITERATURE:

1. Cognizant. (2016). *Cost of Trading and Clearing OTC Derivatives in the Wake of Margining and Other New Regulations*. Retrieved 19.07.2016 from <https://www.cognizant.com/whitepapers/Cost-of-Trading-and-Clearing-OTC-Derivatives-in-the-Wake-of-Margining-and-Other-New-Regulations-codex1529.pdf>.
2. Deutsche Bank. (2013). *Reforming OTC derivatives markets*. Retrieved 19.07.2016 from [https://www.dbresearch.com/PROD/DBR\\_INTERNET\\_EN-PROD/PROD0000000000318054/Reforming+OTC+derivatives+markets%3A+Observable+changes+and+open+issues.pdf](https://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000318054/Reforming+OTC+derivatives+markets%3A+Observable+changes+and+open+issues.pdf).
3. EY. (2014). *The Impact of EMIR*. Retrieved 21.07.2016 from

- [http://www.ey.com/Publication/vwLUAssets/EY\\_The\\_impact\\_of\\_EMIR/\\$FILE/EY-the-impact-of-EMIR.pdf.](http://www.ey.com/Publication/vwLUAssets/EY_The_impact_of_EMIR/$FILE/EY-the-impact-of-EMIR.pdf)
4. FSB. (2015). *Implementation and effects of the G20 financial regulatory reforms*. Retrieved 20.07.2016 from <http://www.fsb.org/wp-content/uploads/Report-on-implementation-and-effects-of-reforms-final.pdf>.
  5. Hamunen, M. (2015). *European Market Infrastructure Regulation: Starting Point for OTC Derivatives Union?* Retrieved 22.07.2016 from <https://blogs.cfainstitute.org/marketintegrity/2015/10/07/european-market-infrastructure-regulation-starting-point-for-otc-derivatives-union-2/>.
  6. ISDA. (2016). *Derivatives Market Analysis: Interest Rate Derivatives*. Retrieved 18.07.2016 from <https://www2.isda.org/attachment/ODU2NA==/OTC%20Derivatives%20Market%20Analysis%20-%20July%202016-V3.pdf>.
  7. Jackson, J. K. and Miller, R.S. (2013). *Comparing G-20 Reform of the Over-the Counter Derivatives Markets*. Retrieved 27.07.2016 from <https://www.fas.org/sgp/crs/misc/R42961.pdf>.
  8. Jones Day. (2013). *The European Market Infrastructure Regulation and Transparency in the OTC Derivatives Market*. Retrieved 21.07.2016 from <http://www.jonesday.com/files/upload/EMIR%20and%20Transparency.pdf>.
  9. J.P. Morgan. (2012). *The Impact on Major Participants in the OTC Derivatives Markets*. Retrieved 21.07.2016 from [https://www.jpmorgan.com/cm/BlobServer/Thought\\_Global\\_Interests\\_Winter\\_2012.pdf?blobkey=id&blobwhere=1320534777404&blobheader=application/pdf&blobheadername1=Cache-Control&blobheadervalue1=private&blobcol=urldata&blobtable=MungoBlobs](https://www.jpmorgan.com/cm/BlobServer/Thought_Global_Interests_Winter_2012.pdf?blobkey=id&blobwhere=1320534777404&blobheader=application/pdf&blobheadername1=Cache-Control&blobheadervalue1=private&blobcol=urldata&blobtable=MungoBlobs).
  10. Morgan, G. (2012). *Constructing Financial Markets: Reforming Over-the-Counter Derivatives Markets in the Aftermath of the Financial Crisis*. Retrieved 22.07.2016 from <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199641987.001.0001/acprof-9780199641987-chapter-5>.
  11. OECD. (2011). *Regulatory Reform of OTC Derivatives and Its Implications for Sovereign Debt Management Practices*. Retrieved July 21.07.2016 from <http://www.oecd.org/finance/public-debt/49931920.pdf>.
  12. Oudéa, F. (2013). Consequences of the new regulatory landscape on OTC derivatives trading. *Financial Stability Review*, 2013(no. 17), 227 - 231.
  13. Ruffini, I. and Steigerwald, R. S. (2014). *OTC derivatives: A primer on market infrastructure and regulatory policy*. Retrieved 25.07.2016 from <https://www.chicagofed.org/~media/publications/economic-perspectives/2014/3q2014-part2-ruffini-steigerwald-pdf.pdf>.
  14. Zajačeková, A. (2016). *Reform of OTC derivatives* (Dissertation thesis). Bratislava: [A. Zajačeková].

## EMPLOYEE MOTIVATION IN PUBLIC ADMINISTRATION

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### **ABSTRACT**

*Employee motivation is an important factor affecting employee performance and thus one of the major concerns of today's management. It is imperative that a person in charge of motivating employees considers motivation from the point of view of the individual that needs to be motivated rather than from his or her own perspective. Motivational factors, i.e. the needs, desires and goals of employees must be identified and satisfied to motivate top performance. The paper seeks to identify and examine the motivational factors and give an overview of significant content and process theories of motivation for the purpose of exploring the motivation of civil servants. The paper starts with the theoretical background which is followed by the empirical section exploring the motivation of civil servants in the Customs Administration. The research results relating to the proposed hypotheses are intended to increase awareness of the importance of motivation and to inform of motivation techniques for the attainment of organisational goals in an effective and efficient manner.*

**Keywords:** public administration, motivation, theories of motivation, motivators

### **1. INTRODUCTION**

Motivation plays a vital role in our life by directing our energy towards attaining our goals. Being such an important factor in the life of an individual, motivation has been the subject of many studies. The results and theories developed from these studies are of particular interest to managers because they help identify and develop motivational strategies aimed at improving employee performance. It is a well-known fact that motivated employees work more and perform better than those who are not motivated. The paper seeks to identify, explore and present the factors affecting employee motivation, in particular the motivation of civil servants. The result of the research are intended to increase awareness of the importance of employee motivation and inform of motivation techniques aimed at achieving organisational goals in a more effective and efficient manner. The paper starts with the theoretical background, which is followed by the empirical section exploring the motivation of civil servants in the Customs Administration. The paper concludes with the analysis of research results and the confirmation or rejection of the proposed hypotheses.

### **2. MOTIVATION**

Motivation is a theoretical concept that explains why people choose to behave in a certain manner under certain circumstances. Motivation includes all internal factors that consolidate the intellectual and physical energy, initiate and organize individual actions, direct behaviour, and determine its direction, intensity and duration (Hunjet, Kozina, 2014, p.72). According to Robert C. Beck defining motivation presents the greatest challenge to motivational theorists.

He maintains there are two main approaches to motivation: regulatory and purposeful. The former is associated with biological adaptation which includes the following: internal needs → drive → activity → goal → satisfaction (Bobera, Hunjet, Kozina, 2015, p.78).

The regulatory approach focuses on the need or drive and the underlying physiological processes. The purposeful approach is rooted in philosophical notions about goals and behaviours as a choice between positive and negative. This approach explores the possible future outcomes of different behaviours of an individual seeking to attain goals that have the greatest value for him/her (Beck, 2003, p. 26).

## **2.1. Motivational factors**

Motivation as an inner force that affects the behaviour of people is driven by a series of factors, i.e. motivators which may come from within a person or from his/her environment. The importance of these motivators for a person changes over time, depending on the circumstances such as a person's character traits, workplace characteristics, as well as the characteristics of an organisation in which a person works. Motivators increase employee performance and enthusiasm and generally have a positive effect. In contrast, demotivators (hygiene factors) do not have a significant effect on employee performance and motivation; however, when unsatisfactory, they reduce employee performance and enthusiasm. Demotivators significantly weaken or destroy motivation, depending on one's personality traits. Removing demotivators alone is not sufficient for ensuring long-term employee satisfaction or motivation (Hunjet, Kozina, 2014, p. 73).

### **2.1.1. Most common factors affecting employee motivation**

Since motivation depends on whether certain physiological, material and social needs of an individual have been met and directly affects one's performance, an organisation must seek to satisfy these needs. Employees usually change jobs because of low salary, poor interpersonal relations, lack of challenging work, poor relations with superiors, etc. If an organization wants to improve employee satisfaction and performance, it has to remove factors which reduce motivation. Organizations should reassess the following motivators:

- salary,
- job security (Zupan, 2001, p. 51),
- praise, recognition and rewards,
- work organization and planning,
- growth opportunities,
- advancement opportunities,
- interpersonal relations,
- challenging and creative work,
- involvement and participation of employees,
- working hours.

## **3. THEORIES OF MOTIVATION**

Theories are developed to explain and analyze past observations and predict future ones. In order to find answers to specific questions we have to be familiar with some general psychological principles applicable to specific cases, and know how to include them into theory. Most of the theories of motivation are named after the persons who developed them and differ mainly in their assumptions about human needs. Research into motivation of an individual can be divided into research focusing on “what” motivates or causes individual actions and that which focuses on “how to” motivate individuals, i.e. how individuals are motivated to action.

The first are referred to in the literature as content theories, and the latter are referred to as process theories of motivation. Content theories of motivation include:

1. Maslow's hierarchy of needs
2. Theory of three-level hierarchy
3. Theory of achievement motivation
4. Two-factor theory of motivation
5. Role motivation theory
6. McGregor's Theory X and Theory Y (Bahtijarević – Šiber, 1999, pp. 559-560).

### **3.1. Abraham Maslow's hierarchy of needs**

Abraham H. Maslow (1943) developed a theory of motivation that has undoubtedly had the greatest impact on research into organisational behaviour. This is still the most famous as well as the most popular theory despite engendering considerable controversy ever since it was developed and the fact that there is no clear empirical evidence of its assumptions. Research has shown that nearly every modern manager is familiar with this theory but considers it outdated. The theory posits that human needs are arranged in a hierarchy from basic physiological needs to more complex ones associated with social status of an individual and his self-actualization or self-realization. This theory seems quite straightforward and easy to understand which is why many managers seek to apply it in practice. According to this theory, there are five levels of needs that are arranged into a hierarchy. Higher level needs cannot be satisfied if lower level needs have not been gratified first. The need that is not satisfied influences behaviour and the lower it is in the pyramid of needs, the more dominant it will become in influencing behaviour.

In his later articles and reviews Maslow concludes that a person can advance to the next level of the pyramid only once the lower-level needs have been fully satisfied. He maintains that a person functions best when he/she seeks to achieve something, misses something or uses his/her abilities to achieve a certain goal (Bahtijarević – Šiber, 1999, p. 563).

Following Maslow's model, employees of an organization which is dedicated to employee motivation will satisfy their needs as follows:

- regular and fair salary will satisfy physiological needs;
- employment security, health and safety at work, and additional benefits will satisfy safety needs;
- teamwork with colleagues and superiors and working with clients will satisfy social needs;
- recognition of accomplishment, appointment to higher authority positions in the organization, and increased responsibility will satisfy esteem needs;
- advancement and growth opportunities as well as creative work will satisfy self-actualization needs (Hunjet, Kozina, 2014, p. 75).

## **4. STATE (PUBLIC) ADMINISTRATION - BUREAUCRACY**

The term “bureaucracy” was first coined in 1764 by a physiocrat V. de Gourney. Over the course of the 19<sup>th</sup> century various authors (J. S. Mill, G. Mosca and others) defined the term differently, giving it mainly one of the following meanings:

1. bureaucracy is a hierarchically structured system of offices (administration);
2. bureaucracy is an abuse of power by civil servants; and

3. bureaucracy is a new type of governing by civil servants, i.e. professional administrators.

Early theories and definitions did not emphasize the difference between bureaucracy as an abuse of power and as a form of governing. Seeking to improve on the analysis of his predecessors Max Weber, a German sociologist, gave his contribution to the social study of bureaucracy and bureaucratic organizations which is considered by many to be more significant than the collective contribution of all authors before him. Weber points out that civil service is a profession in itself, for which civil servants have received education. As a result, the position of civil servants has become highly respected in the society, especially where there is a need for educated civil servants, where social differences are strong and where civil servants come from the higher social classes (Marčetić, 2007, p. 43).

#### **4.1. Motivation in a bureaucratic organization**

Public administration is a typical example of a bureaucratic organization, the opposite of which is a flexible private organization. Organizations that do not have a rigid hierarchical structure are oriented towards customers, teamwork, employee autonomy, creativity and accountability. Such organizations can motivate their employees in different ways. The bodies and organizations within the state administration are models oriented towards efficiency, obedience, prescribed procedures and rules, and performing routine tasks. Given that procedures are prescribed, the influence of an individual on work is minimal and creativity is almost unnecessary. This is welcomed by some employees because it gives them a sense of security. Others do not consider this sense of security to be as important as creative work which enables them to demonstrate their innovative skills, or the development of the organization, and as a result they are not motivated for working in bureaucratic organizations (Robbins & Judge P. A., 2009, p. 206). Today, public administrations everywhere in the world are faced with the pressure to increase efficiency. Global competition and the pressure by financial organizations have forced many countries to redefine the role of government and public administration. This is reflected in the criticism levelled at the existing concept of the public administration for being obsolete, too expensive, excessively bureaucratic and insufficiently flexible to meet the needs of a modern society (Marčetić, 2007, p. 43).

### **5. RESEARCH METHODOLOGY AND RESULTS**

An organizational unit of the Ministry of Finance Customs Administration, Customs Office Varaždin was selected for the purpose of research into the motivation in the civil service.

A survey was conducted using a questionnaire in which respondents were asked to express their opinions by choosing one among several response options (Petak, 2015, p. 38). The survey was developed using the Google Form tool. It was anonymous and the respondents accessed it through the web site whose address was sent to them via e-mail. A total of 40 employees (20 female and 20 male) were notified about the survey by e-mail, of which 26 completed the questionnaire and sent it back. A limitation of the current study is the small and biased sample which does not allow generalizability of conclusions. In other words, the conclusions cannot be applied to the entire Customs Administration or the civil service in general. Survey questions pertained to the motivators, i.e. factors affecting the motivation and job satisfaction of civil servants. The survey entitled “Employee motivation” comprised 18 questions (Petak, 2015, p. 45-46).

#### **5.1. Research results**

1. Is going to work a pleasure for you? (taking pleasure in going to work)



*Figure 1: Taking pleasure in going to work*

Source: developed by authors

For more than half of the respondents, i.e. 57.7%, going to work is a pleasure. 26.9% say going to work is not a pleasure, while 15.4% are not sure.

## 2. Do you feel motivated in your current workplace?



*Figure 2: Motivation for work*

Source: developed by authors

Of the total number of respondents, 50% feel motivated in their current workplace, while the remaining 50% feel either not motivated or are not sure.

## 3. Were you assigned to your current workplace because of your preference?

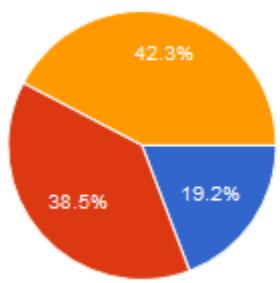


*Figure 3: Assignment to your preferred workplace*

Source: developed by authors

57.7% of civil servants were not assigned to their current workplace as a result of their own preference, while only 38.5% of them were.

4. Would a transfer to your preferred workplace within the organization increase your motivation for work?



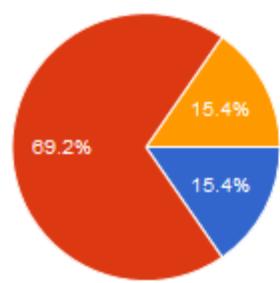
Yes	<b>5</b>	19.2%
No	<b>10</b>	38.5%
Not sure	<b>11</b>	42.3%

Figure 4: Motivation for work after a transfer to the preferred workplace

Source: developed by authors

As few as 19.2% of respondents would feel more motivated for work if transferred to the preferred workplace. 38.5% say they would not feel more motivated, while 42.3% are not sure.

5. Does your employer make efforts to motivate employees?



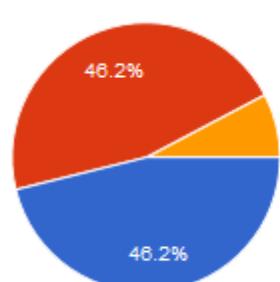
Yes	<b>4</b>	15.4%
No	<b>18</b>	69.2%
Not sure	<b>4</b>	15.4%

Figure 5: Employer's concern with motivation

Source: developed by authors

As many as 69.2% of civil servants surveyed cite that their employer does not make any efforts to motivate employees, while only 15.4% feel that their employer does make efforts to motivate them. 15.4% are not sure.

6. Does your immediate supervisor make efforts to motivate his/her subordinates?



Yes	<b>12</b>	46.2%
No	<b>12</b>	46.2%
Not sure	<b>2</b>	7.7%

Figure 6: Effort by immediate supervisor to motivate subordinates

Source: developed by authors

46.2% of survey respondents are of the opinion that their immediate supervisor does make efforts to motivate them. The same percentage of respondents think that their supervisors do not make any efforts to motivate them. 7.7% of them are not sure.

7. Do you think that you can improve your motivation or that of your co-workers?



Figure 7: Contribution to improved motivation of oneself and one's co-workers

Source: developed by authors

61.5% of civil servants surveyed believe that they can contribute to improving their own motivation as well as that of their co-workers. 26.9% are not sure, while 11.5% think they cannot.

8. Do you consider the motivation of employees to be important for achieving organisational goals?



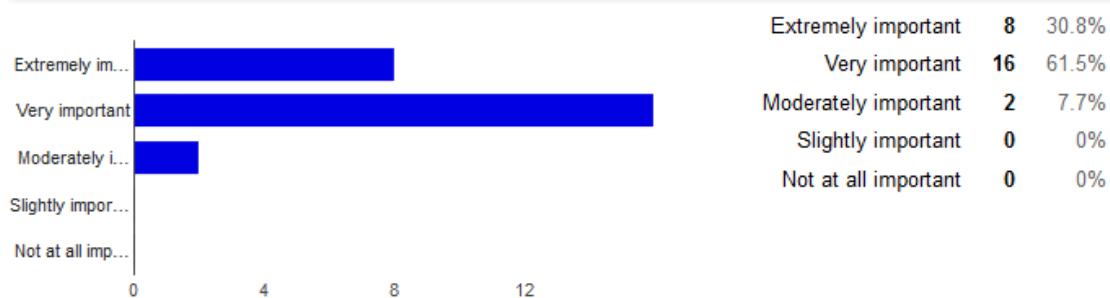
Figure 8: The importance of motivation for achieving organisational goals

Source: developed by authors

As many as 96.2% of respondents agree that employee motivation is important for achieving the goals set by the customs service. Only 3.8% find that employee motivation is not important in this respect.

9. In your opinion, how important are the following motivators in GENERAL?

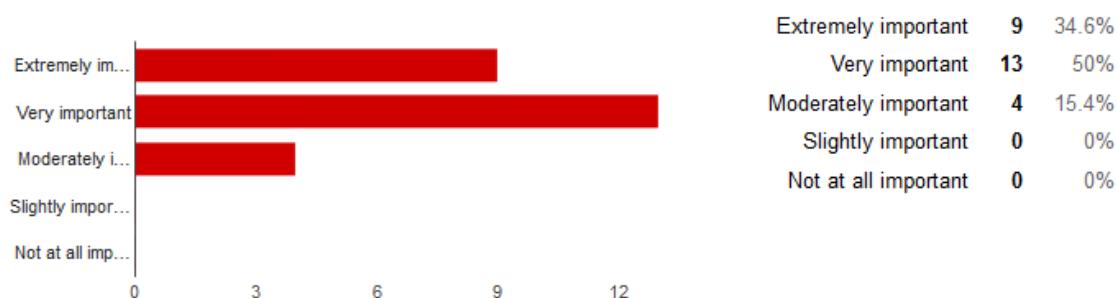
9.1. Challenging and creative work



*Figure 9: The Importance of challenging and creative work as a motivator  
Source: developed by authors*

61.5% of respondents cite that challenging and creative work is a very important motivator, while 30.8% find it extremely important.

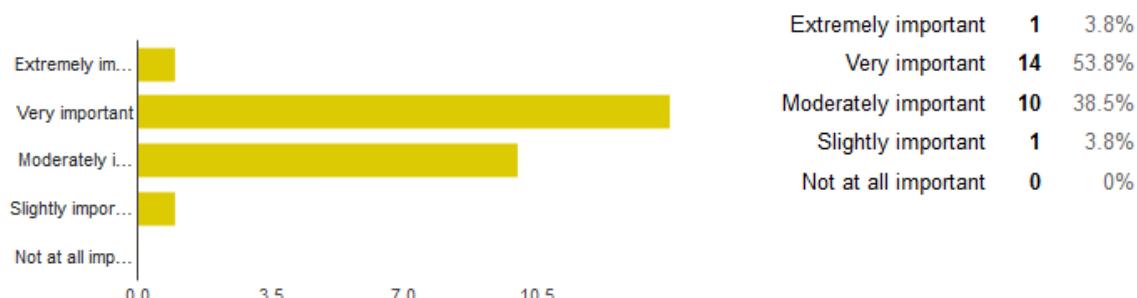
## 9.2. Job security



*Figure 10: The importance of job security as a motivator  
Source: developed by authors*

A total of 84.6% of respondents consider job security to be very important or extremely important, while only 15.4% of respondents find it only moderately important.

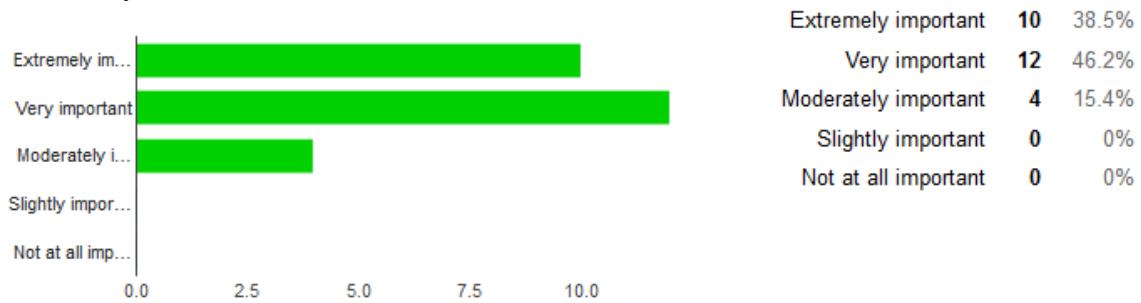
## 9.3 Opportunity to participate in decision-making



*Figure 11: The importance of opportunity to participate in decision-making as a motivator  
Source: developed by authors*

Opportunity to participate in decision-making is considered to be very important by more than half of those surveyed, i.e. 53.8%, while 38.5% find it moderately important. Only 3.8% cite it is slightly important.

#### 9.4. Salary

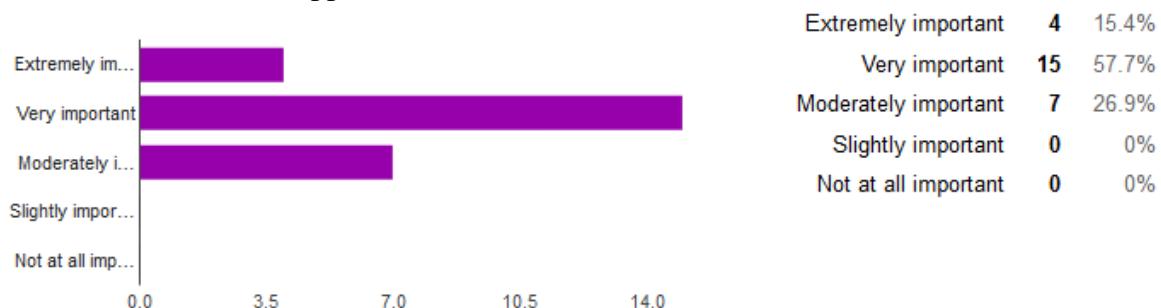


*Figure 12: The importance of salary as a motivator*

Source: developed by authors

Salary is considered to be extremely important by 38.5% of respondents, very important by 46.2% and moderately important by 15.4% of them.

#### 9.5 Advancement opportunities

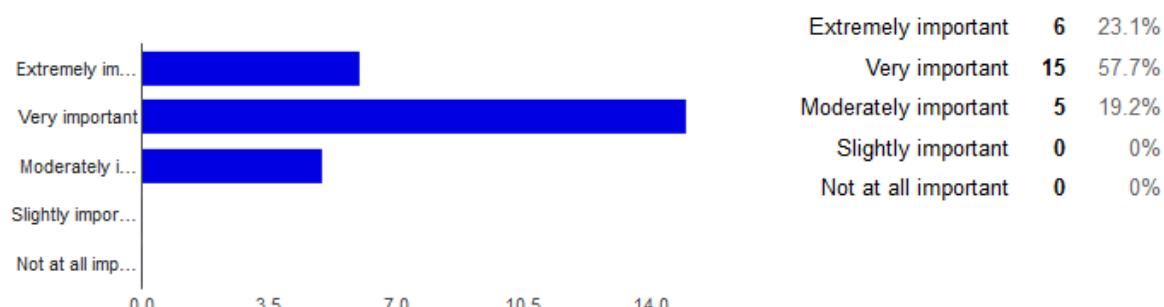


*Figure 13: The importance of advancement opportunities as a motivator*

Source: developed by authors

Advancement opportunities within the organization are found to be an extremely important motivator by 15.4% of respondents. 57.7% consider them to be very important, while 26.9% believe they are moderately important.

#### 9.6. Growth opportunities

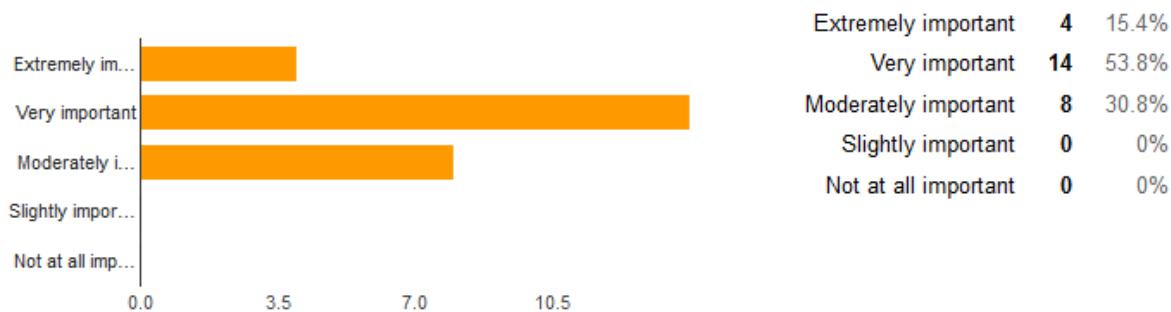


*Figure 14: The importance of growth opportunities as a motivator*

Source: developed by authors

Growth opportunities are considered to be very important or extremely important by a total of 80.8% of the respondents, while 19.2% consider it to be moderately important.

#### 9.7 Respect for employee opinion

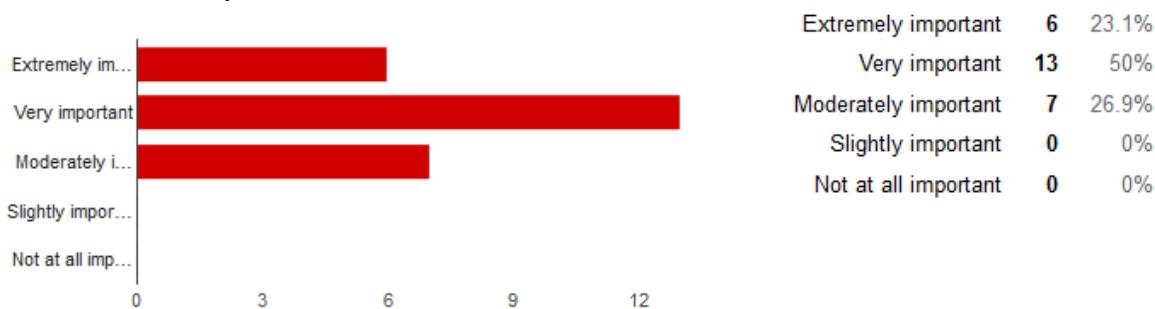


*Figure 15: The importance of respect for employee opinion*

Source: developed by authors

53.8% of civil servants surveyed consider respect for their opinions to be a very important motivator; 15.4% of employees find it extremely important, while only 30.8% think it is moderately important.

#### 9.8 Autonomy

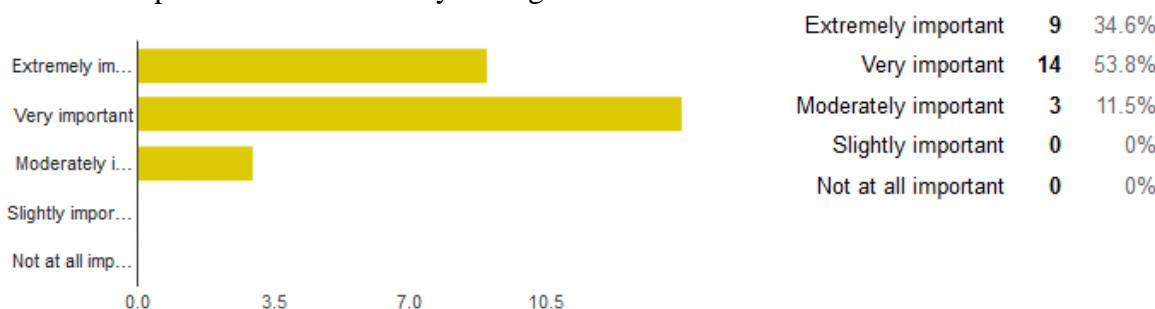


*Figure 16: The importance of autonomy*

Source: developed by authors

A total 73.1% of respondents believe that autonomy is an extremely important or a very important motivator, whereas only 26.9% consider it to be moderately important.

#### 9.9 Fair performance review by managers

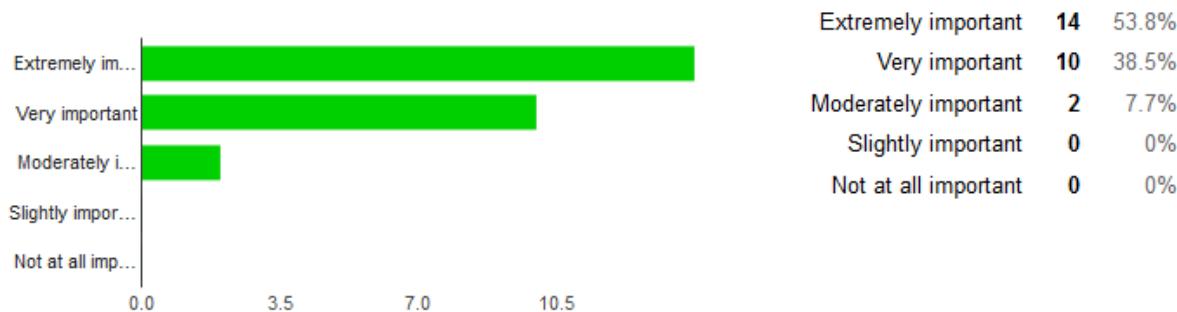


*Figure 17: The importance of fair performance review by managers*

Source: developed by authors

Fair performance review by managers is considered to be an extremely important motivator by 34.6% of the respondents; very important by 53.8% and moderately important by 11.5% of them.

#### 9.10. Good relations with co-workers

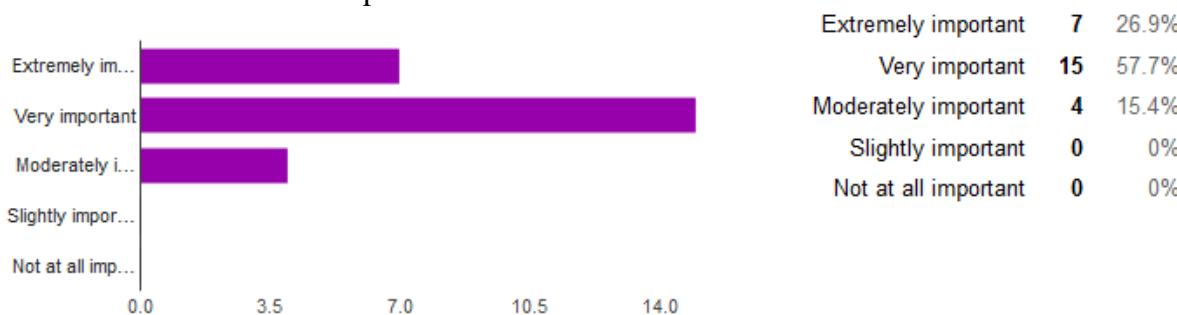


*Figure 18: The importance of good relations with co-workers*

Source: developed by authors

Good relations with co-workers are cited as an extremely important motivator by 53.8% of respondents, while 38.5% find them very important, which means that a total of 92.3% of those surveyed consider them to be one of the most important motivators.

#### 9.11. Good relations with superiors

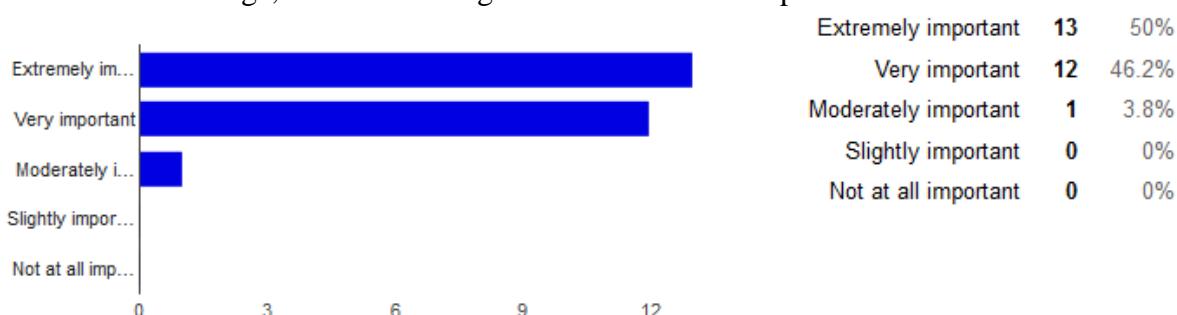


*Figure 19: The importance of good relations with superiors as a motivator*

Source: developed by authors

Good relations with superiors are considered to be very important by 57.7% of respondents, extremely important by 26.9% and moderately important by 15.4% of them.

#### 9.12. The knowledge, abilities and organizational skills of superiors

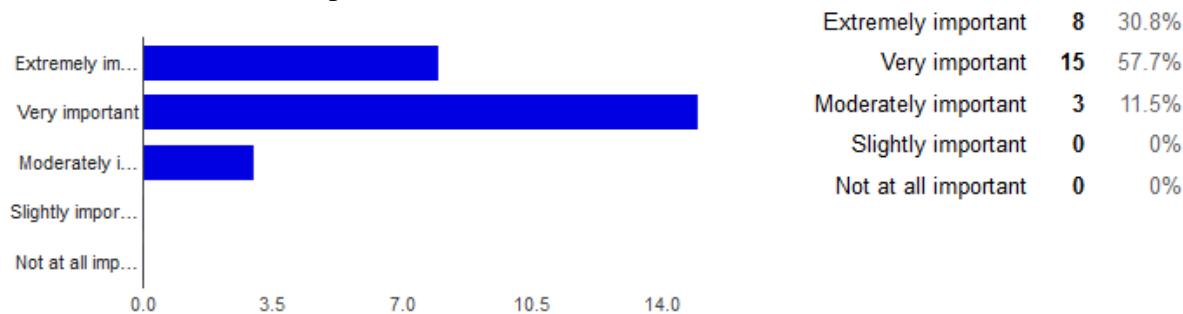


*Figure 20: The importance of the knowledge, abilities and organizational skills of superiors*

Source: developed by authors

As many as 96.2% of respondents cite that they are motivated by the competencies of their superiors. Only 3.8% of employees consider this factor to be moderately important.

### 9.13 Praise/rewards or punishment



*Figure 21: The importance of praise/rewards or punishment*

Source: developed by authors

Praise and rewards and punishment are cited as very important motivators by 57.7% of civil servants surveyed, while 30.8% of them find that these factors are extremely important.

## 5.2 Analysis of the research results

HYPOTHESIS 1: Civil servants are not sufficiently motivated for work – REJECTED. Most civil servants surveyed say that coming to work is a pleasure and that they feel motivated in their current workplace although most of them were not assigned to it as a result of their preference.

A majority of the respondents, i.e. 61.5% find that challenging and creative work is an extremely important motivator and the same percentage of the respondents find that the work they currently perform is challenging and creative. Moreover, challenging and creative work would be a very important if not an extremely important motivator were they to consider a change of job.

HYPOTHESIS 2: Salary is an important motivating factor – CONFIRMED. Civil servants surveyed consider salary to be a very important or an extremely important motivator. Only a small number of employees are satisfied with their salary at the customs service. Were they to consider a change of job, salary would be the most important factor to think about.

Although salary is a very important motivator, it is difficult to satisfy the wishes of the Customs Administration employees and motivate them with a better salary because the remuneration system of civil servants, as well as allowances, benefits and bonuses, are clearly defined in the regulations.

HYPOTHESIS 3: Job security is an important motivating factor – CONFIRMED. The hypothesis that job security afforded by the civil service sector is a good motivator is often discussed in contemporary theories of motivation as well as by the public. The research has shown that job security is a very important motivator. However, a large percentage of the respondents surveyed were not satisfied with job security at the Customs Administration. Job security is one of the main conditions they would seek to satisfy were they to look for another job.

HYPOTHESIS 4: Superiors do not make sufficient efforts to motivate their subordinates – CONFIRMED. Nearly all respondents agree that employee motivation is important for achieving organisational goals, but think that the Customs Administration does not make sufficient efforts to motivate their employees. Only half of the respondents believe that their superior makes efforts to motivate his/her subordinates. The survey has shown that the

respondents find good relations with co-workers to be much more important than good relations with superiors. Respondents are not really satisfied with the knowledge, abilities and organizational skills of their superiors and cite this factor as the greatest demotivator.

HYPOTHESIS 5: Low motivation is caused by poor advancement opportunities – CONFIRMED. Advancement opportunities are cited as a very important motivator. However, survey respondents are dissatisfied with advancement opportunities at the Customs Administration because they are clearly defined in the relevant regulations which allows for the possibility of advancement only in terms of one's formal qualifications and provided that there is a need within the customs service. Furthermore, for the majority of survey respondents autonomy is a very important, but not an extremely important motivator. They are mostly satisfied with autonomy afforded to them in their current workplace. The results indicate that the majority of respondents surveyed want to be “led” by their superiors, i.e. do not want accountability.

## 6. CONCLUSION

Job satisfaction is the most powerful motivational factor. Having said that, providing job security and a fair and regular salary alone is not enough to improve civil servant satisfaction with their workplace. It is important to provide some other basic motivational factors such as good relations with co-workers and superiors, career advancement opportunities, regular feedback from superiors with clear guidelines for future actions, as well as to clearly explain praise for a job well-done and punishment for undesirable behaviour.

Since Croatia is undergoing a period of transition in terms of the transposition and implementation of EU legislation to national legislation, civil service employees are required to perform much more work in a very short period of time. The possibilities for motivating civil servants are limited by laws and regulations and reduced to a minimum, whereas in the private sector there is a much larger range of rewards and incentives that can be used to motivate employees. Consequently, managers are faced with a great challenge and carry the responsibility for motivating their employees under existing circumstances using all of their creativity and knowledge of psychology to improve employee performance and provide job satisfaction at the same time. Therefore, managers have to stay attuned to the different needs of their employees by regularly checking in with them, rather than distancing themselves, and by fostering good communication. To ensure the attainment of organisational goals motivators need to be well-coordinated. For this reason, it is necessary to make radical changes to the human resources policy in the civil service sector, as well as to the system for rewarding civil servants according to their competencies, performance and the amount of effort and enthusiasm for their job.

## LITERATURE:

1. Bahtijarević – Šiber, F. (1999) Management ljudskih potencijala. Golden marketing, Zagreb.
2. Beck C. R. (2003) Motivacija: teorija i načela. Naklada Slap, Jastrebarsko.
3. Bobera, D., Hunjet, A., Kozina, G. (2015) *Poduzetništvo*. Sveučilište Sjever, Koprivnica/Varaždin.
4. Hunjet, A., Kozina, G. (2014) *Osnove poduzetništva*, Sveučilište Sjever, Varaždin.
5. Marčetić, G. (2007) *Upravljanje ljudskim potencijalima u javnoj upravi*. Društveno veleučilište u Zagrebu, Zagreb.
6. Petak, D. (2015) *Diplomski rad*, Sveučilište Sjever, Sveučilišni centar Varaždin.
7. Robbins, S.P., Judge, T.A. (2009) Organizacijsko ponašanje. Mate d.o.o., Zagreb.
8. Župan, N. (2001) *Nagradite uspešne*, Ljubljana, Gospodarski vestnik.

# FAIR VALUE OF THE BANKING SECTOR COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2007-2016 AND THEIR FINANCIAL ANALYSIS

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## ABSTRACT

*This paper examines share price of the companies listed on the WIG-BANKI and their fair value between 2007-2016. Data from 2007 to 2016 were collected from the Stooq.pl (Polish portal of shares). Two hypotheses are tested: (1) value of the shares based on the market price; (2) value of the shares as the fair value of shares. Moreover, the financial condition of several companies with respect to the sector was examined with the selected financial ratios. In addition, the author expressed his view on the opportunities of the property companies' market's WIG-BANKI in 2016-2017.*

**Keywords:** bank, company, market value of shares, profit

## 1. INTRODUCTION

The valuation of shares is the most complex process on the financial market because the value of shares does not only depends on the demand and supply on the market but it is also reliant on many factors, which shape its exchange rate from the valuation of the company, with the use of various methods in time, until presentation of the mechanisms changing the value of shares in a way which increases or lowers its value.

In the paper, the banking sector's companies, quoted on the Warsaw Stock Exchange in Poland, were subject to analysis, and the fair value of shares was calculated objectively and on the basis of values as well as economic and financial indicators of each studied company.

The value of the banking sector's companies, quoted on this stock index, was studied on the basis of estimating their fair value because currently their values are presented as the decreased in relation to the market value, therefore, they are not fair values.

The studies were conducted on 14 companies of the banking sector in 2007 – 2016 using the indicator and comparative method, in order to prove that the theory on the fair value is appropriate.

## 2. FAIR VALUE OF LISTED COMPANIES

Share price of the companies listed on the Stock Exchange should reflect also their fair value. The fair value can be defined in several ways. In view of the foregoing, the fair value is a value used repeatedly in accounting, and thus in Article 28 (6) of the Accounting Act of 29.09.1994 as "the amount for which a given asset component could be exchanged, and the liability could be paid on market transaction terms between interested and well-informed, unrelated parties.

In view of whether the price of shares that are quoted on the stock exchange corresponds to their fair value, should be found in the value alone, since, after all, the values may be diverse, like the value of a similar company, producing similar goods and operating in the same industry, will also be diverse for various reasons.

The subject of trade covers minority shares, and the main market participants are retail investors or minority institutional investors, thus the price of shares should reflect the fair value characterizing the liquid minority interest.

The value presented in this way seems righteous, which is confirmed by the premium paid by the investors who announce calls for subscription for shares and plan in this way the purchase of the controlling interest. Then the premium reflects the difference between the level of liquid minority interest and the level of controlling interest. Sometimes the level takes into account benefits resulting from synergy. An investor purchasing the controlling interest in this way receives premiums that appear after taking over control of a company, in the form of funds, business management and making a number of strategic decisions.

The fair value of the share price should be determined in accordance with the idea of capital market, namely the market participants should have equal access to data, information and all messages concerning a given company [8, 11, 12]. However, the investors are divided into three groups:

- a) People with access to the most closely guarded information that affects the price and the business value, namely those can the company's management board or shareholders,
- b) Institutional investors with blocks of shares with simultaneous access to the company's management board,
- c) Individual investors who have access to public information.

At this point, there should be no differences in particular groups, at least officially, however, it happens that a group that is closest to the company has information which can obviously change its value overnight or distort its value artificially, e.g. other data or informal data, and even fictitious data.

Worldwide we can also appreciate companies that treat individual investors seriously, namely provide them data concerning a company and treat them as equal and as strategic investors, with a large impact on a company in the present and in the future.

Transactions that are concluded on the Warsaw Stock Exchange relate to transactions between interested parties, namely a purchase or sale order should be submitted. Sometimes there are cases of wrongly submitted orders, but these are marginal orders that do not have a large impact on the transactions conducted on the Warsaw Stock Exchange [9].

Share liquidity is understood as a percentage quantity of shares in a company that are in the possession of minority shareholders. This is, at the same time, free float and the face value of such shares and the value of average daily trade in shares in a given company.

Thus, we may presume that if during a day a large trade in shares takes place and a greater part of shares remains in the hands of minor shareholders, the share price reflects their fair value. We cannot agree with the fact that at small or minimum trade the value of shares is reduced to its daily minimum and it would be its fair value. Then it is only a change in the share price to a lower one and it does not indicate its fair value, as the trade alone suggests that this is only a pure coincidence. Such an impact can be exerted by large shareholders, as they can, by using one block, decrease the share value, preventing smaller players from raising the price for one reason: the capital of smaller shareholders does not enable them to raise the share price.

There is one premise more to determine the fair value of share price. The investors are fond of investing in shares, namely they buy them as in the past they managed to earn on them and they feel that presently the share price is ideal and reflects their fair value and will enable them to

obtain fair dividend in the future. Such a purchase or sale of shares can largely overestimate or underestimate the share value of a quoted company. Here the IT industry may serve as an example, namely shares in technological companies at the beginning of the new millennium, when shares in these companies were being purchased without any analysis in technical terms, but looking at their name and value, which was increasing overnight. In view of the foregoing, this led to excessively high business value above its fair value. The share price should thus reflect the fair value of a company listed on the Warsaw Stock Exchange. For the value of these companies to be fair, the market must make available to all investors information regarding companies listed on the Warsaw Stock Exchange [11]. The shareholders should be treated equally; therefore we cannot distinguish majority shareholders as those who should have information unavailable for minority shareholders. First of all, shares should be liquid securities, therefore they should be in free float and have real-time transferability, namely at any moment and at any time during the office hours of the Warsaw Stock Exchange on a business day.

The WIG-BANKI index, presented in Figure 1, shows that from 2009 to the first quarter of 2014, the WIG-BANKI sector's companies in Poland showed an upward trend in their values.



Figure 1: WIG-BANKI in the period from 01.2006 to 09.2016 [10] (source: stooq.pl).

However, from the second quarter of 2014, a significant downward trend can be noticed and consolidation at the level of 6078.24 points on the index take place. The values reported on 15.09.2016 reflect the lateral trend and confirm it. However, the market values do not reflect their fair value.

### **3. ANALYSIS AND VALUATION OF THE WIG-BANKI SECTOR COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE (WSE) IN POLAND**

In the WIG-BANKI sector, three companies, the values of which approach to their maximum prices on 15.09.2016, and they are INGBSK and BZWBK. However, one company does not show its maximum or even fair value, though it can show the net profit and good financial condition, and this is MBANK, PEKAO and PKOBP. Some companies were overvalued by even 95%.

These companies are GETINOBLE, and UNICREDIT. The flagship companies, such as ALIOR, HANDLOWY, IDEABANK, MILLENNIUM, PEKAO, PKOBP and SANTANDER, stay ahead with the best results, as shown in Table 1-2.

***TABLE 1: THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 15.09.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	Average rating	rating
ALIOR	3.5/5.0	B
BOS	4.0/5.0	B-
BZWBK	4.0/5.0	B+
GETIN	4.0/5.0	B+
GETINOBLE	4.0/5.0	B-
HANDLOWY	2.5/5.0	B
IDEABANK	5.0/5.0	No data
INGBSK	4.0/5.0	B
MBANK	3.5/5.0	B
MILLENNIUM	3.5/5.0	B
PEKAO	3.5/5.0	B+
PKOBP	3.5/5.0	B
SANTANDER	4.0/5.0	AAA
UNICREDIT	4.0/5.0	B-

In the WIG-BANKI sector, it can be seen that GETINOBLE has a overestimated value in relation to the maximum value by more than 95%, but the MBANK, PEKAO and the PKOBP are presented as companies of a high value in the sector.

*Table following on the next page*

***TABLE 2: THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 15.09.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

<b>Name</b>	<b>Current price PLN</b>	<b>Maximum price PLN from the beginning of the stock exchange quotation</b>
ALIOR	46.30	79.15
BOS	9.81	115.00
BZWBK	310.50	389.20
GETIN	1.16	6.71
GETINOBLE	0.47	6.47
HANDLOWY	75.95	115.70
IDEABANK	23.60	28.00
INGBSK	142.00	151.00
MBANK	345.95	538.40
MILLENNIUM	5.60	12.50
PEKAO	126.85	195.10
PKOBP	26.92	43.31
SANTANDER	17.60	32.35
UNICREDIT	8.60	119.50

It is obviously a very good recommendation for future investors. These companies prosper properly and are quoted on the Warsaw Stock Exchange [1, 3, 4, 5, 6, 7]. In tables are nominal prices in PLN.

In table 3-4, the most important ratios presenting the financial condition of the WIG-BANKI sector's companies were presented. The profit per share was generated in 14 examined companies. It shows that WIG-BANKI invest a lot, what determines their value and the generated profit per share [2].

The price to the operating earnings shows the losses of the company, and this state of affairs was reported in the examined stock exchange quoted companies (BOS and GETINOBLE). The ALIOR, BOS, HANDLOWY, INGBSK, PEKAO, PKOBP achieved a very high ratio, and the BZWBK – an average one.

Generally, the value of the index P/OE is a useful tool for determining an absolute share value referred to the operating profits. Using the operating profit instead of a net profit (the P/E index) allows for rejecting single events. Moreover, a net profit is easier to handle. Fewer companies incur losses at the level of an operating profit rather than a net value, which allows for a broader use of P/OE [2, 3, 4, 5, 12].

***TABLE 3: TECHNICAL EVALUATION OF THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 15.09.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	P/OE (price/ operating earnings)	P/BV (price/ book value)	P/PF (price/ profit)
ALIOR	15.63	1.03	1.76
BOS	-8.39	0.43	0.75
BZWBK	10.34	1.52	3.77
GETIN	2.47	0.28	0.41
GETINOBLE	-7.82	0.24	0.38
HANDLOWY	12.86	1.51	5.12
IDEABANK	0.00	0.00	0.00
INGBSK	12.22	1.71	3.88
MBANK	8.05	1.14	2.79
MILLENNIUM	7.28	1.01	2.29
PEKAO	13.74	1.50	4.31
PKOBP	9.82	1.07	2.54
SANTANDER	2.56	0.60	1.87
UNICREDIT	1.00	0.20	0.52

The P/BV index informs how the company's own capital is valued by the market at a given moment. A general interpretation of the index consists in the fact that the P/BV indices below 1 mean a low price of a company, whereas a value over 3 that a company is overrated [2, 6, 7, 13].

The value of the P/PF index is expressed in the way that when the value of the index is lower, then the price for the purchased company's shares is theoretically lower too, which means that the enterprise is more attractive. It is used in order to demonstrate cyclic profits and losses of the analyzed companies (the income is much more stable than the company's profit) [2].

In contrast, analysing P/BV and P/PF, it should be noted that both the price to the book value and the price to profit demonstrate that ten companies exemplary operate on the market and have a value of more than 1.0, and these are ALIOR, BZWBK, GETIN, HANDLOWY, INGBSK, MBANK, MILLENNIUM, PEKAO, PKOBP SANTANDER and UNICREDIT.

Other companies do not significantly differ from the average values. Only BOS and GETINOBLE is significantly below the thresholds.

***TABLE 4: TECHNICAL EVALUATION OF THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 30.06.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	Net profit (net loss) in thousands PLN	Depreciation in thousands PLN
ALIOR	81661	23161
BOS	1170	11377
BZWBK	723492	68847
GETIN	168004	11209
GETINOBLE	1130	20770
HANDLOWY	221978	0
IDEABANK	276598	7315
INGBSK	406900	45600
MBANK	388504	75166
MILLENNIUM	293764	14878
PEKAO	690513	85677
PKOBP	873549	203513
SANTANDER	1646000	0
UNICREDIT	920000	0

Table 4-5 presents the studies concerning, among others, the net profit, depreciation, EBITDA and assets of the WIG-BANKI sector's companies.

*Table following on the next page*

***TABLE 5: TECHNICAL EVALUATION OF THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 30.06.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	EBITDA in thousands PLN	Assets in thousands PLN
ALIOR	No data	47041752
BOS	No data	21146877
BZWBK	No data	142248818
GETIN	No data	23604298
GETINOBLE	No data	70091500
HANDLOWY	No data	44183297
IDEABANK	No data	19528449
INGBSK	No data	115639700
MBANK	No data	128733485
MILLENNIUM	No data	66695968
PEKAO	No data	166012283
PKOBP	No data	272442089
SANTANDER	No data	1342906000
UNICREDIT	No data	891477000

According to the obtained values, it is clear that only BANK BPH showed a small profit, which was confirmed by the previous ratios included in Table 3.

*Table following on the next page*

***TABLE 6: TECHNICAL EVALUATION OF THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 30.06.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	Profit per share	Book Value per Share
ALIOR	0.632	44.874
BOS	0.051	63.102
BZWBK	7.291	193.660
GETIN	0.230	2.737
GETINOBLE	0.000	1.975
HANDLOWY	1.699	50.197
IDEABANK	3.528	30.172
INGBSK	3.128	83.091
MBANK	9.198	302.138
MILLENNIUM	0.242	5.542
PEKAO	2.631	84.527
PKOBP	0.699	25.288
SANTANDER	0.128	6.901
UNICREDIT	0.149	8.110

According to the book value per share and profit per share, it is possible to deduce that some companies are overvalued, and they are ALIOR, BOS, BZWBK, HANDLOWY, INGBSK, MBANK, PEKAO and PKOBP, and in the case of the GETIN, SANTANDER, UNICREDIT company, they are undervalued. However, it is important not to follow this opinion because the values are only the book values [2], and the calculation of them is purely mathematical and financial. In the case of using the economic attitude and interpretation, it would occur that the companies do not have the fair value (table 6).

The profitability of the equity, as well as the profitability of assets is shown by HANDLOWY and GETIN does not have it. Therefore, according to the presented study, it is possible to observe that the flagship banks have the profitability and they are not threatened by any disturbance of the financial liquidity (table 7). Return on equity (ROE) measures the rate of return for ownership interest (shareholders' equity) of common stock owners. It measures the efficiency of a firm at generating profits from each unit of shareholder equity, also known as net assets or assets minus liabilities. ROE shows how well a company uses investments to generate earnings growth.

***TABLE 7: TECHNICAL EVALUATION OF THE PROPERTY WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 30.06.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).***

Name	ROE	ROA
ALIOR	No data	No data
BOS	No data	No data
BZWBK	No data	No data
GETIN	-0.94	-0.89
GETINOBLE	No data	No data
HANDLOWY	0.15	0.02
IDEABANK	No data	No data
INGBSK	0.17	0.01
MBANK	0.21	0.01
MILLENNIUM	0.20	0.01
PEKAO	0.14	0.02
PKOBP	0.23	0.03
SANTANDER	No data	No data
UNICREDIT	No data	No data

The return on assets (ROA) shows the percentage of how profitable a company's assets are in generating revenue.

*Table following on the next page*

**TABLE 8. THE WIG-BANKI SECTOR'S COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND AS OF 15.09.2016 (prepared by the author on the basis of the financial data of the WIG-BANKI companies).**

Name	Fair value	Deviation from the fair value in PLN
ALIOR	70.00	23.70
BOS	85.00	75.19
BZWBK	312.00	1.50
GETIN	6.21	5.05
GETINOBLE	5.00	4.53
HANDLOWY	101.65	25.70
IDEABANK	28.00	4.40
INGBSK	142.54	0.54
MBANK	421.69	75.74
MILLENNIUM	10.83	5.23
PEKAO	180.00	53.15
PKOBP	40.32	13.40
SANTANDER	30.85	21.25
UNICREDIT	78.00	69.40

Deviation from the fair value in PLN = DevFV

DevFV = Fair value - current value.

Other companies have shown a substantial profit which was generated in 06.2016, and they were 10 companies. Currently, the value of companies significantly deviates from the maximum value achieved a few years ago. The only exceptions are IDEABANK and INGBSK, which achieved almost the maximum value in its history. Other companies have the value less than 95% of the maximum one (Table 8).

However, the fair value which should be reflected by the share prices of the examined companies significantly differs from the calculated value, which was presented in Table 8. In some cases, it is even 95% of the current value. The fair value is considerably higher than the current value of the examined companies.

#### **4. CONCLUSION**

The share price of selected companies of the bank sector's companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world. The flagship companies of the WIG-BANKI sector achieve enormous profits, which was proved in the examination of ratios in last years and a net profit in 2016. SANTANDER, MBANK, PEKAO and UNICREDIT are an example of it. The share price of the property WIG-BANKI sector's companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world [8, 11, 13]. The fair value of the

WIG-BANKI sector's companies quoted on the Warsaw Stock Exchange in Poland should be reached within two years, that is up to 2017 because it is the right estimation of further fast development of the Polish WIG-BANKI sector. The share price of the banking sector's companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world, and even by the speculation of individual capital groups, which circulate around the World and exist thanks to the speculation, producing only a surplus for the purchase and sale of shares and transferring the capital to another place. The value of the banking sector' companies should be appreciated since banks hold the majority of assets expressed in money and legal tenders. At the same time, it is important to emphasise that the banks reveal quite a profit, therefore they are the companies, which do not have much risk as the manufacturing companies, which are exposed to failure in the form of lack of the potential customers markets or turning the customers' back on the companies. Banks earn money because they mostly focus not only on the credits, from which they have interest, but also on the provisions and fees, from which they derive large profits. Moreover, banks still create new financial products, which must be attractive to the clients, due to the fact that the money derived from the depositors is cheaper than the acquired on the interbank market. The fair value of the banking sector's companies quoted on the Warsaw Stock Exchange in Poland should be achieved within two years, until 2017-2018, with the improvement of situation on the Global financial markets.

## LITERATURE:

- [1] Czekaj J., “Efektywność giełdowego rynku akcji w Polsce z perspektywy dwudziestolecia”, PWE, Warszawa, 2014, pp. 201-205
- [2] Jajuga K., Jajuga T. „Inwestycje”, Wydawnictwo Naukowe PWN, Warszawa 1996, pp. 34-57.
- [3] Parvi R., “Analysis of companies of the energy sector based on an example of the companies quoted on the Warsaw Stock Exchange in Poland and their fair value” CER – International Scientific Conference, LONDON 2014, pp. 33-36.
- [4] Parvi R., “The analysis of companies of the Polish fuel sector based on an example of PKN Orlen and Lotos companies versus value of fuel prices and their impact on fuel sector management”, ESD – International Scientific Conference Economic and Social Development, Zagreb Croatia 2014, pp. 52-60.
- [5] Parvi R., “Investment funds and their financial effectiveness”, Goce Delchev University Macedonia & THOMSON Ltd. Slovakia, EDIS - Publishing Institution of the University of Zilina, 2014, pp. 262-267.
- [6] Parvi R., “Valuation of share and their fair value of the banking sector's companies quoted on the Warsaw Stock Exchange in Poland within 2008-2014”, Goce Delchev University Macedonia & THOMSON Ltd. Slovakia, EDIS - Publishing Institution of the University of Zilina, 2014, pp. 76-81.
- [7] Parvi R., “Share price of companies listed on WIG20 and their fair value”. EDIS - Publishing Institution of the University of Zilina EIIC – 3 rd Electronic International Interdisciplinary Conference 2014, pp. 169-177.
- [8] Pierce R., “Stocks, Options & Spreads, Infinity Publishing” 2004, pp. 110-115.
- [9] Sincere M., “Understanding Stocks”, McGraw-Hill, 2014, pp. 62-75.
- [10] Stooq.pl - [http://stooq.pl/q/?s=wig\\_banki&c=10y&t=l&a=lg&b=0](http://stooq.pl/q/?s=wig_banki&c=10y&t=l&a=lg&b=0), 29.09.2015.
- [11] Veale S., “Stocks, Bonds, Options, Futures”, Prentice Hall Press 2001, pp. 88-125.
- [12] Withers H., “International Finance”, Warszawa, Kraina Książek, 2012, pp. 25.
- [13] Zaremba, A., „Giełda. Podstawy inwestowania”, Warszawa, Helion, 2014, pp. 67-70.

## THE SUSTAINABLE HOUSING AND STRATEGY 2030

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### **ABSTRACT**

*Same as the emerging economies achieve the living standards of the advanced industrial world, grows a global energy consumption. It is estimated that by 2030, world energy demand will increase from currently by 50 percent, while fossil fuels will account for 80 percent of the stock. It will increase dependence on imports, while the EU will import almost two-thirds of its energy. In addition, the availability of energy and other essential resources likely to be adversely affected by climate change and, according to many forecasts, by 2030 will encounter some serious power shortage. Price volatility and supply uncertainties will also be exacerbated by political volatility in energy-rich countries. Although the growth in renewable energy will be faster than in traditional sources, in 2030 renewable energy will continue to represent only a small part of global energy supplies. This trend exacerbates our inability to reduce the loss of biodiversity, with serious implications for long-term economic sustainability. In the paper we devote sustainability to tackling sustainable housing.*

**Keywords:** Energy efficiency, Housing, Housing policy, Climate change, Sustainable Development

*Costs of ensuring the sustainable features of buildings during its construction are lower compared to the savings during their use. Professionals in the construction estimate construction costs of green buildings by 17 % higher, than the cost to build a conventional construction, but saving energy and maintenance costs is within the councils tens of percent.*

### **1. INTRODUCTION**

The Europe 2020 strategy is built on three, mutually coherent and mutually reinforcing policy areas: smart growth that is developing an economy based on knowledge and innovation, sustainable growth, thus supporting a more resource efficient, more resource-efficient and inclusive growth, thus supporting the economy a high-employment economy delivering social and territorial cohesion. In connection with the proposed strategy, José Manuel Barroso said, "Europe 2020 is about what we do today and tomorrow in order to return the economy in the EU to growth path. For the treatment of our weaknesses, we must decide to act and we must build on that, not a little area, where we are strong. We must create a new economic model that is based on knowledge, environmental management and a high level of employment. To this fight is necessary to endeavour everybody acting in the Europe." Already in 1996 in Copenhagen held the Conference of European Ministers responsible for housing on sustainable housing policy, based on the charter to launch the "European Campaign for Sustainable Cities, which was adopted by representatives of eighty European cities, or the issue of the so-called "Green Paper on the Urban Environment" in 1990 and other related documents.

## 2. SUSTAINABLE GROWTH

The UN General Assembly in 1983 requested the then Norwegian Prime Minister, Mrs Gro Harlem Brundtland, to develop a comprehensive program to manage the environmental crisis that threatens the Earth. Committee headed by Mrs Brundtland in 1987 gave its report entitled "Our Common Future". The principles set out in the report became known worldwide as the principles of sustainable growth. According to the Bureau sustainable growth "... meets the demands of today the way, in the meantime, it does not compromise the ability of future generations to meet their demands." Term of sustainable growth in the wider sense means sustainable economic, environmental and social growth, making them harmonized, in the strict sense maintaining natural resources and the preservation of their quality. In terms of sustainable growth used to distinguish three groups of natural resources: renewable energy (hydro, biomass, etc.), non-renewable (minerals) and partly renewable (soil fertility, waste assimilation). One general requirement for sustainable growth is the use of renewable natural resources are not higher than a recovery of these resources. The second basic requirement is that the rate of waste was less or equal than capacity to take wastewater environment, which determines the assimilation capacity of the environment. Another requirement is that the finite sources of energy should be used reasonably, which partly determines the substitutability of finite energy resources and partly technological progress. Violation of the above principles, sooner or later leads to the lack of energy. While growth is not sustainable, it cannot curtail their needs and satisfaction. The requirement is that we meet those by using less material and energy to minimize the polluting effects of production. Sustainable growth means integrating a social and economic objectives, and deciding to take into account the costs and benefits of all factors. Maintaining equity between the generations means that the current generation should not achieve economic growth at the expense of the potential for survival and development of the next generation. Economic growth, which in this sense is the value and the quality is not identifiable with the quantitative aspects of growth, and can ensure an environmentally friendly manner suitable transformation, harmonization of structures and resources of the forming system of values, respectively conversely, can sustain the economic growth that take into account the values and environmental protection. This heading covers applications of renewable resources instead of finite resources, finding ways of recovering waste and analysis of products life cycle.

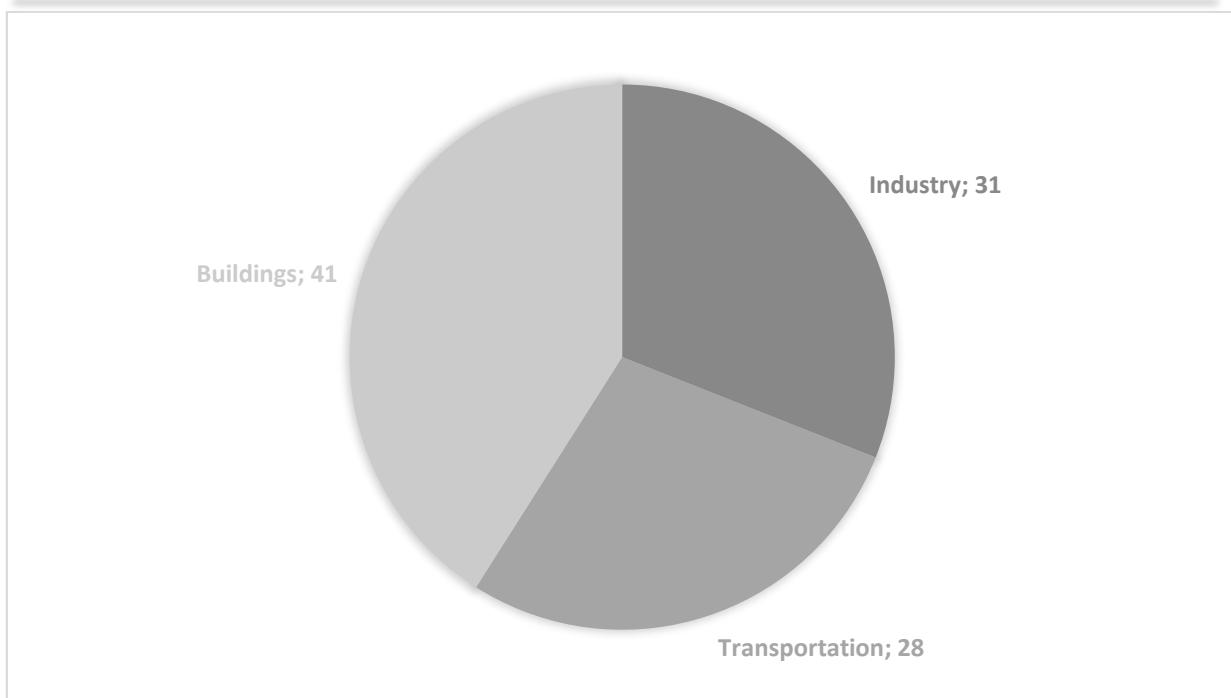
### *Sustainable development requirements*

The European Union is the world's largest energy importer - it imports up to 53 percent, representing an annual cost of around € 400 billion. It is therefore essential

- That the rate of use of renewable natural resources is less than or equal to the rate of their natural abilities or guidelines regeneration (recovery)
- That the level / rate of waste was less than or equal to the rate of capacity reception environmental pollution, which determines the assimilation capacity of the environment, prudent use of finite resources rate, which in part determines the substitutability of finite resources with renewable resources, partly technological progress.

## 3. BUILDINGS AND RESOURCES

Buildings account for 75% of electricity and for almost 70% of all waste. At the same time they use 12% of our water and generate more than 30% of greenhouse gas emissions. More than transportation, or any other industry, the construction industry and the buildings operation can contribute to better management of scarce resources and reduce greenhouse gas emissions (mainly CO<sub>2</sub>). For these reasons, buildings and improvements they equipped with one of their main tasks, changing commonly used building technologies, materials and by construction of passive buildings. In Fig. 1 show the share of energy. Fig. 2 shows energy consumption by each of purposes related to the use of buildings.

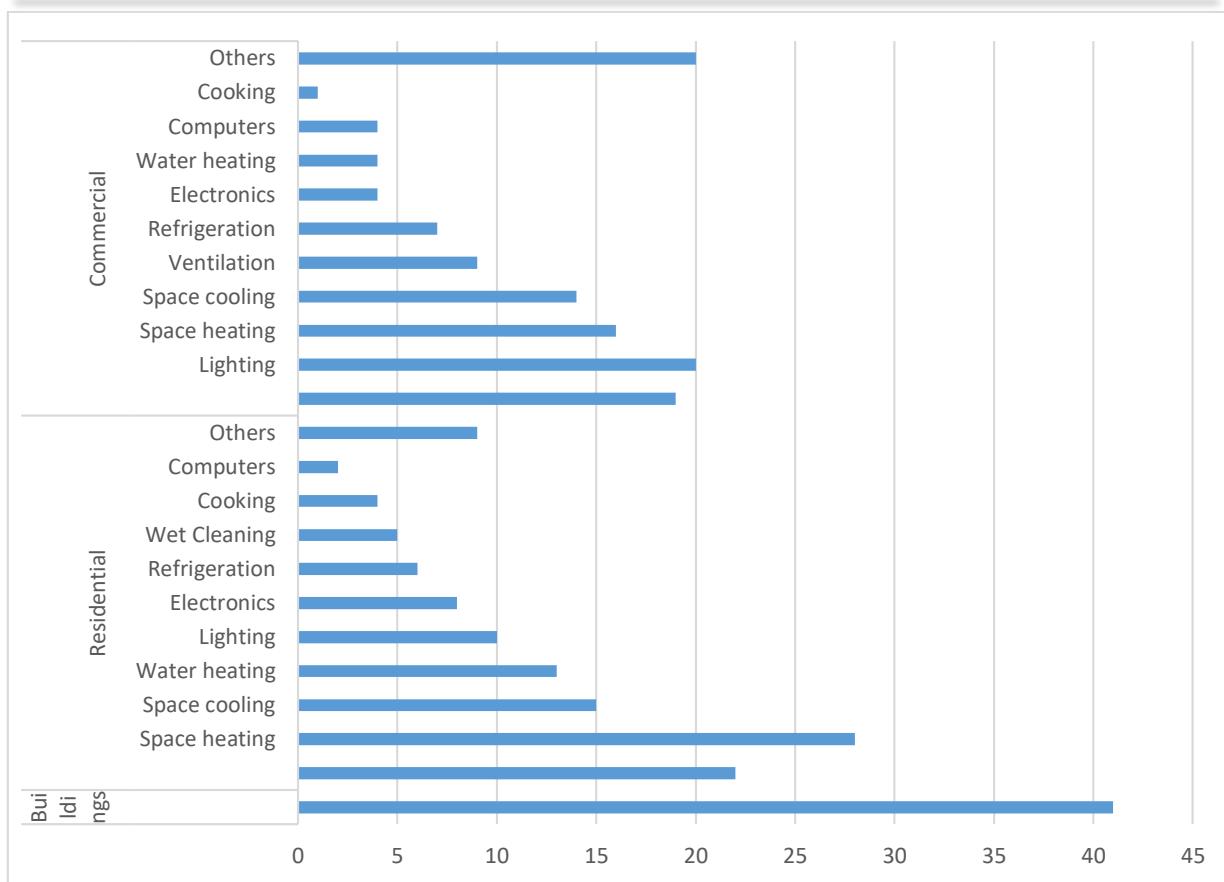


*Figure 1 Energy consumption by sector in %. (Source: US EA. 2012)*

As an example that demonstrates the imperfection of our housing by comparing of the two highest buildings. The first, probably the highest livestock building is the termite mound and the second one, the highest human, is the Burj Khalifa in Dubai. A closer analysis of the two buildings we come to the conclusion that there is no aspect in which it would be "human project" better than the "natural". Animal built in nature (termite mound, hives etc.) have high ingenuity and optimal, efficient use of components of its natural environment (e.g. in said termite mound is stable at the temperature of the outside temperature fluctuations up to 40 ° C). These buildings do not need any special building materials, engineering, control system and still provide ideal conditions for the survival of individuals within them. It is important to note that these ideal conditions are created without any need for energy and without the help of material, construction, electrical and other specialists - engineers).

It is obvious that buildings are the biggest polluters of the Earth as well as the largest consumer of energy resources and raw materials. This fact is also confirmed by the Energy Performance of Building Directive (2002/91 / EC), which was created due to the high negative impact of buildings on the environment and not due to purposeful energy conservation (upgraded Directive of the European Parliament and Council Directive 2010/31 / EU, known as Strategy "20-20-20").

The cause of the increased consumption of resources is our lifestyle. Way to work from greater distances and also food imported from various parts of the world. Potato truck ride from abroad burns biodiesel from rapeseed, which is bred in our place for potatoes which were equally able to grow directly from us we probably does not make sense, but this demonstrates the cause of senseless management of resources and the absence of the concept of sustainability. Broader analysis of comprehensive planning of the building we can see that in the evaluation of the building in terms of sustainable housing, we must to include to its concept another very important fact, namely energy sources and the food, as its form the energy flows (inputs) to buildings with high environmental impact.

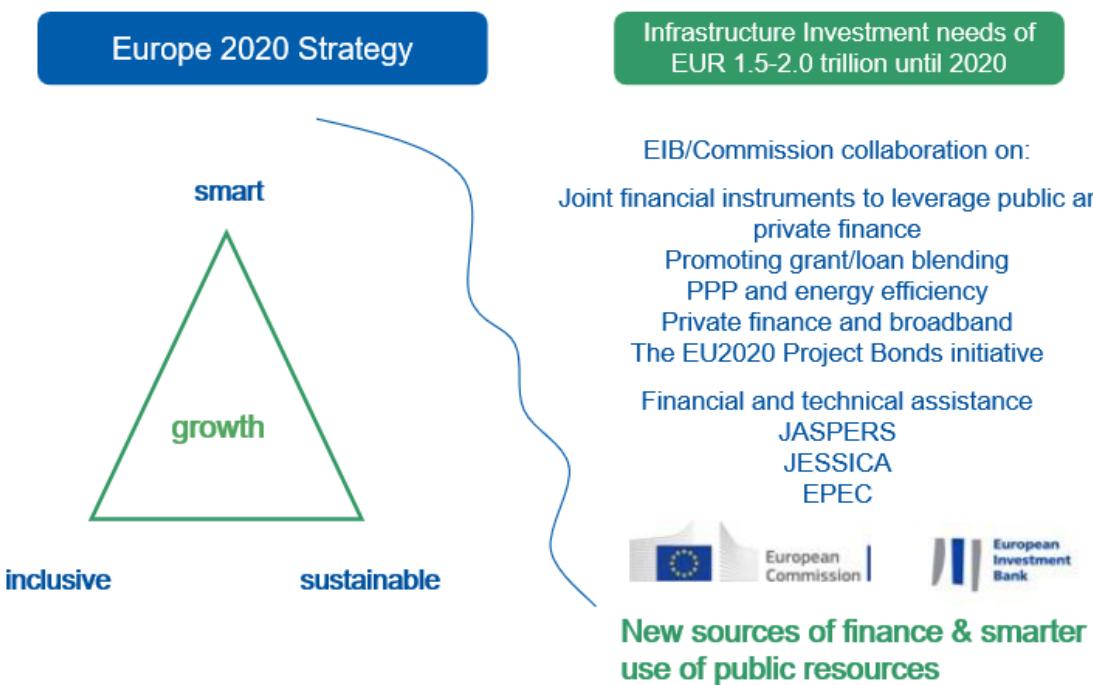


*Figure 2 Energy consumption in buildings by purpose in %. (Source: US EA. 2012)*

That concept has far-reaching impact on the consumption of resources, environmental pollution and the very lifestyle itself. Achieving energy savings in industry, transportation and construction as well as in domestic appliances is the most effective way to reduce greenhouse gas emissions and external dependency. It is also the fastest way for the EU to achieve tangible results. Of course, the cheapest and cleanest energy is that which is not consumed. Increasing energy efficiency is not new, it nevertheless needs to be expanded and strengthened as a key objective in all Member States. To this end, the main objective in the area of energy efficiency was part of a concerted 20 percent in 2020 increased to 50 percent by 2030. The EU can advance towards this objective so it will apply stricter standards for domestic appliances and new buildings, as even more ambitious targets regarding vehicle emissions. It should also encourage innovative public-private partnerships for energy efficient investments while setting and monitoring compliance with the objectives of the effectiveness of the Member States. Meet the basic needs of humanity is not that difficult. The problem is the unequal distribution of resources. Nature, animals, people, even their own employees are only figures in the balance sheet, inanimate objects that can be used and discarded. Sustainable housing is totally dependent on the consciousness of mankind and lifestyle. Relation to housing reflects the actual relationship to life, whereas the housing and building administration, is the largest polluter of nature (consumer resources) and indirectly linked to the segment of buildings usage nearly all other economic sectors. In a rapidly changing urban environment, ensuring adequate and affordable housing is a key priority for all governments. However, the housing concept requires new effective and synergistic solutions of challenges of urban development. The important issue is becoming of urban development in poor countries, where housing provision is often not so much about ecology as a matter of survival and construction of dwellings are not in accordance with sustainable urban development.

#### 4. JESSICA AND SUSTAINABLE LIVING IN EUROPEAN UNION AND IN THE SLOVAK REPUBLIC

In the Slovak Republic as well as in other countries of the European Union in the context of sustainable housing using funds from the Joint European Support for Sustainable Investment in City Areas - JESSICA. It is an initiative of the European Commission, drawn up in cooperation with the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB). It supports sustainable urban development and regeneration through financial engineering mechanisms.



*Figure 3 EIB/EC as European Partners to Public and Private sectors.  
(Source: Barrett, T. Financing and Procurement od EU Infrastructure.  
<http://slideplayer.com/slide/3380586/>)*

EU countries may decide to invest part of the funds allocated from the EU structural funds as a revolving fund to support the recycling of funds to increase investment in Europe's urban areas. JESSICA promotes sustainable urban development by supporting projects in the following areas:

- Urban infrastructure - including transport, water / waste water and energy,
- Heritage or cultural facilities - for tourism and other sustainable uses,
- Revitalization of unused space - including the demolition and decontamination,
- The creation of new commercial spaces for SMEs and organizations in IT and research and development,
- University buildings - medical, biotech and other specialized equipment,
- Improve energy efficiency.



*Figure 4 Energy consumption in buildings by purpose in %. (Source: JESSICA - A new way of using EU funding to promote sustainable investments and growth in urban areas (EIB 2008))*

Contributions from the European Regional Development Fund (ERDF) will be transferred to urban development funds (UDFs), which will invest in public-private partnerships or other projects included in an integrated plan for sustainable urban development. These investments can take the form of equity, loans and / or guarantees.

Regulatory authorities may decide to transfer resources to the UDF using Holding Funds (HF) set up to invest in several UDFs.

This procedure is not required, but provides a governing body to delegate certain tasks necessary for the implementation of the JESSICA to professional experts. Thanks to the revolving nature of these instruments, the investment income reinvested in new urban development projects, contributing to the recycling public funds and promoting the sustainability and impact of EU funds and public resources of the state.

## 5. CONCLUSION

Sustainable housing is totally dependent on the consciousness of mankind by lifestyle. Relation to housing reflects the actual relationship to life, whereas the housing and administration buildings, the largest polluter of nature (consumer resources) and indirectly on the segment occupied buildings linked nearly all other economic sectors. In a rapidly changing urban

environment, ensure adequate and affordable housing is a key priority for all governments. However, the concept requires new housing effective and synergistic solutions to pressing challenges of urban development. Becoming important issue of urban development in poor countries, where housing provision is often not so much about ecology as a matter of survival and construction of dwellings are not in accordance with sustainable urban development. To ensure quality, sustainable housing as defined in the UN Charter on sustainable housing, civil society organizations play an important role in representing and both sides, t. j. owners and users, and cooperation with them. The Committee recommends to address organizations such as the International Union of tenants, the association of owners of apartments and homes, construction teams, architects and urban planners.

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#### **LITERATURE:**

1. Sika, P. (2005). *Bytová politika vo vybraných krajinách Európskej únie*. In: Zborník príspevkov z medzinárodnej vedeckej konferencie Trendy hospodárskeho a sociálneho rozvoja v krajinách EÚ. Trenčín. ISBN 80-8075-094-7
2. Urge Vorsatz, D., K. Petrichenko, M. Antal, M. Staniec, M. Labelle, E. Ozden, E. Labzina. (2012). *Best Practice Policies for Low Energy and Carbon Buildings*. A Scenario Analysis. Research report prepared by 3 CSEP for the GBPN. Maj 2012.
3. Vidová, J. (2014) *Resource-efficient Europe*. In: For fin : odborný mesačník pre financie a investovanie [elektronický zdroj]. - Bratislava : Fin Star, 2014. ISSN 1339-5416, 2014, č. Júl-august, s. 1-5 online. Dostupné na : [ftp://193.87.31.84/0190799/FF-2014\\_Jul\\_August\\_Vidova\\_Europa\\_efektivne\\_vyuzyvajaca\\_zdroje.pdf](ftp://193.87.31.84/0190799/FF-2014_Jul_August_Vidova_Europa_efektivne_vyuzyvajaca_zdroje.pdf)
4. Vidová, J. (2015). *Circular economy and investment in efficient use of raw materials*. Finančné trhy. Bratislava. 4/2015. ISSN: ISSN 1336 – 5711. [http://www.derivat.sk/files/2015\\_financne\\_trhy/Dec\\_2015\\_FT\\_Vidova\\_Kruhova%20ekonomika.pdf](http://www.derivat.sk/files/2015_financne_trhy/Dec_2015_FT_Vidova_Kruhova%20ekonomika.pdf)
5. Vidová, J. (2016). *Investments for the efficient use of raw material*. In: Economic and Social Development. 16th International Scientific Conference on Economic and Social Development – “The Legal Challenges of Modern World”. Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia. Faculty of Law, University of Split, Croatia. University North, Koprivnica, Croatia ISSN 1849-7535.
6. Európska Komisia (EK). 2010. Smernica 2010/31/EU Európskeho parlamentu a Rady zo dňa 19. mája 2010 o energetickej hospodárnosti budov. Úradný vestník Európskej únie, Štrasburg, 19. 5. 2010
7. Európska Komisia (EK). 2011. Smernica Európskeho parlamentu a Rady o energetickej efektivnosti a o zrušení smernice 2004/8/ES a smernice 2006/32/ES. KOM (2011) 370 v konečnom znení. Brusel
8. JESSICA. (2008). A new way of using EU funding to promote sustainable investments and growth in urban areas (EIB 2008)

# THE COMMON AGRICULTURAL POLICY OF THE EUROPEAN UNION WITH A SPECIAL FOCUS ON AGRICULTURE IN THE NEW EU MEMBER STATES

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## **ABSTRACT**

*This paper represents a product of professor (mentor) and student (graduate) cooperation. It analyses the the Common Agricultural Policy of the European Union (CAP), which is trying to preserve agriculture that guarantees food safety and to ensure sustainable and balanced development of all European rural areas, including areas with difficult production conditions. This agriculture policy should respond to citizens' concerns in terms of food, but at the same time, it is necessary to preserve rural communities and landscapes, as they are a precious part of European heritage. Rural areas cover more than 77% of the area of the European Union, and in them lives approximately half of the EU population. By entering of Central and Eastern European countries in the EU's agricultural diversity of Europe has increased even more. The CAP allows the farmers from the EU to meet the needs of about 500 million people whose main goals are to provide a decent living for farmers and to guarantee well-established and safe food supply at a price affordable for consumers. Since its inception in 1962, the CAP has developed significantly. It is developing continuously, and the basic priorities of CAP are to guarantee sustainable food production, to ensure the sustainable management of natural resources and promote the balanced development of rural areas of the EU. Poland, which is the most successful new EU member state when it comes to the CAP, utilizes all the benefits of this policy. Poland can be considered as a model country, which consistently applies and takes advantage of the agricultural policy. The paper analyzes the implementation of CAP on the overall growth of the Polish economy and GDP.*

**Keywords:** The Common Agricultural Policy of the EU (CAP), the European Agricultural Fund for Rural Development, the rate of subsidy, the amount of the aid, Poland

## **1. INTRODUCTION**

The Common Agricultural Policy of the European Union (further in the text the CAP) is a set of measures and programs of aid to agriculture in the European Union (further in the text the EU) governing the production and sale of agricultural products in the EU. The CAP is one of the most important areas covered by the European Union. It is designed both for farmers and for all the people of the European Union. The aim of European Union policy of the agriculture is to ensure reasonable prices and quality of food agricultural products for European consumers, and adequate income for farmers, but also to preserve the rural heritage.

## **2. THE PLANS REGARDING THE CAP BY THE YEAR 2020**

The plans of the CAP are currently scheduled for the period from 2014 to 2020. The reform is fully in accordance with the fundamental principles of the CAP, aimed at ensuring sufficient amounts food of high quality at reasonable prices to consumers in the EU and globally. The

reform also fully applies on the EU rules on animal welfare and environment protection. It also aims to ensure the adequate standard of living for European farmers<sup>1</sup>.

The reformed CAP includes:

1. Payments to farms owners and introduction of environmentally friendly farming practices such as crop diversity, and the maintenance of ecologically rich landscape features and the minimum area of permanent grassland.<sup>2</sup> Article 37 of the EU Regulation 1307/2013 of the European Parliament and of the Council of 17 December 2013, stipulates that the Member States should use part of their national ceilings for direct payments in order, on top of the basic payment, awarded yearly payment. It can take into account the internal convergence of the Member State or a region, as a mandatory practice, which farmers should follow, and is primarily concerned with the operation of climate and environmental policy objectives. Those practices should take the form of simple, general, non-contractual and annual measures that go beyond cross-compliance and are linked to agriculture, such as diversity of crops, maintenance of permanent grassland, including traditional orchards where fruit trees are grown in the rare part of the lawn and the establishment of ecologically important areas. In order to achieve the objectives of the CAP and to allow effective management and control of it, such a practice should apply to the eligible area of the farm<sup>3</sup>.
2. Fair distribution of aid in order to reduce the major differences in levels of income support received by farmers across the EU and reducing payments above a certain amount to the largest farms<sup>4</sup>. To ensure that financial resources for rural development are used in the best possible way and to measure the scope of the rural development program focused in accordance with the priorities of the Union for rural development and to guarantee equal treatment of applicants, Member States should establish selection criteria when selecting projects. Exceptions to this rule should be made only for payments under the measures for agriculture, the environment and climate, for organic farming, the measure Natura 2000 network and the Water Framework Directive, and measures for areas with natural or other specific constraints, for animal welfare, for forestry environmental and climate services, and measures related to risk management. The application of the criteria for selection should take into account the scope of activities in accordance with the principle of proportionality<sup>5</sup>.

Council Regulation (EU) no. 1370/2013 of 16 December 2013 on establishing measures for the determination of certain grants and subsidies related to the common organization of the markets in agricultural products are also provided support for: supplying students with milk and dairy products, for private storage as a measure of market intervention, to deliver fruit and vegetables to children. In addition, certain subsidies for production

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<sup>1</sup> The reform of the common agricultural policy, Why reform?, <http://www.consilium.europa.eu/hr/policies/cap-reform> (Retrieved 10/02/2016).

<sup>2</sup> Ibid.

<sup>3</sup> REGULATION (EU) no. 1307/2013 of the European Parliament and of the Council from the 17th of December 2013 laying down the rules for direct payments to farmers to support programs in the framework of the common agricultural policy and repealing Council Regulation (EC) No. 637/2008 and Council Regulation (EC) No. 73/2009, article 37.

<sup>4</sup> The reform of the common agricultural policy, Why reform?, <http://www.consilium.europa.eu/hr/policies/cap-reform> (Retrieved 10/02/2016).

<sup>5</sup> REGULATION (EU) no. 1307/2013 of the European Parliament and of the Council from the 17th of December 2013 laying down the rules for direct payments to farmers to support programs in the framework of the common agricultural policy and repealing Council Regulation (EC) No. 637/2008 and Council Regulation (EC) No. 73/2009, article 38.

in the sugar sector, for cereals and rice, and others. The new budget of the CAP for the period from 2014 to 2020 makes about 38% of the total EU budget.

3. The total amount of expenditure of the CAP in the period of the afore-mentioned seven years amounts to 408.31 billion euros. The annual budget should be reduced during the period from 2014 to 2020 a commitment budget of the CAP in 2020 should be reduced by approximately 15% compared to 2013<sup>6</sup>. The new agricultural policy by 2020 is necessary to find a solution for the challenges ahead. The CAP has provided food and an integrated, high-quality and safe products at an affordable and fair price. Over the years, the CAP has made efforts to respond to the economic circumstances and the complex demands of the market that are constantly changing. In 2013, the CAP was transformed in order to meet the challenges that lie ahead. Taken into account the expectations of society and it will allow far-reaching changes. Direct support should become more equitable and in accordance with the highest environmental standards, the situation of farmers in relation to other participants in the food chain should be strengthened and overall policy to become more efficient and transparent. The reform of the CAP gives a strong answer to the challenges in terms of food security, climate change and growth and job creation in rural areas. The CAP will continue to play a key role in achieving the overall objective of promoting smart, sustainable and inclusive growth.

### **3. THE AGRICULTURAL DEVELOPMENT IN THE NEW MEMBER STATES OF THE EU**

The main challenges facing the agriculture and rural areas in transition should face is how to fit its current transformation into the requirements and instruments of the common EU policy of agriculture and rural development. The accession to the EU provided a historical opportunity for the countries of Central and Eastern Europe for the future development of their agriculture. Before them was the task of transition and reform policy adapt to new agricultural strategies of the EU. The main limitations and problems of agriculture and rural areas in transition countries were limited capital assets, which is provided by the EU. Investments in education are supposed to contribute to the goals of improving productivity, creating new businesses, and adapting quickly to the conditions of market economy. New EU vision and instruments on rural development have enabled the development of resources<sup>7</sup>. In the recent past, the new Member States were facing problems of transition, because in many cases after privatization and land reform remained unsolved property relation. It should be remembered that the development of agriculture here took place in a somewhat different way than in the Western Europe, because of those particular problems.

The main objectives of the CAP in the new EU member states were focused on modernization, which ensure rapid integration of candidate countries in the new concept of the second pillar of the CAP. Thus, the new concept of the European model of agriculture offered measures that are essentially the same measures of rural development offered by the existing policies for rural areas of the EU, in accordance with Agenda 2000<sup>8</sup>, including the restructuring of farms and plots of land.

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<sup>6</sup> The reform of the common agricultural policy, Why reform?, <http://www.consilium.europa.eu/hr/policies/cap-reform> (Retrieved 10/02/2016).

<sup>7</sup> Ibid.

<sup>8</sup> In Agenda 2000, there are explicitly established economic, social and environmental objectives, within the new reformulated sets the objectives of the CAP, which were in accordance with the requirements of the Treaty of Amsterdam. In the coming years, it is aimed to give a concrete form to the European model of agriculture and the preservation of diversity of farming systems throughout Europe, including areas that are faced with specific problems.

#### 4. THE EU FUNDS AND SUBSIDIES

The membership in the EU has provided the new Member States a perspective in the development of agriculture through the systems of European funds and subsidies. Despite the many advantages that the EU has provided to the Member States, the experience<sup>9</sup> has shown that the Member States, even those with the longest membership, have a problem with spending funds for the CAP and that the negative experiences are an accompanying factor. There was 346.5 million inappropriately spent euros, which had to be returned to the EU budget. On the other hand, the key results of the assessment of agricultural income in the EU for example, 2014, prepared by the national authorities in the Member States of the European Union in accordance with a common methodology of economic calculation in agriculture, according to the agricultural income per worker was 33% more than in the crisis year of 2009. However, there was a decrease of agricultural income by 1.7% compared to the year 2013<sup>10</sup>. By analyzing the available data, it can be concluded that since 2005, for example, Slovakia more than doubled its level of income per worker. Bulgaria and Hungary have also made similar progress. Six countries with the highest increase in its revenues entered the EU in 2004 or later, which is evidence of the positive effects of increasing public aid granted to the agricultural sector, higher market prices and access to the single market. At the bottom of agricultural income per worker, there are eight countries where the income was lower in 2014 than in 2005, and that leads Luxembourg who recorded the biggest drop of nearly 33%.

However, despite successive income increase agricultural income, which is recorded in the countries of the EU-N12<sup>11</sup> is about 5 800 euros, which is much less, compared to the advent of agriculture in 2014 for the group of EU-15<sup>12</sup>, where revenues amounted to as much as 24 500 euros<sup>13</sup>.

The Agricultural Fund for Rural Development (EAFRD) aims to strengthen European rural development policy and simplify its implementation. It was envisaged that the Fund would improve the management and control of the rural development policy for the period 2007–2013. The Fund is financed by the CAP, and contributes to achieving the objectives of the strategy Europe 2020, by promoting a sustainable rural development throughout the European Union and contributes to environmental and territorial balance, climate protection and the introduction of innovation in the agricultural sector<sup>14</sup>.

For the 2007-2013 period, 96.4 billion euros were available, while in the new financial period from 2014 to 2020, the planned program budget should amount to 84.93 billion euros. The program can be used for agriculture, economic operators, agricultural organizations, associations and trade unions, environmental protection associations, and organizations that provide services in the culture of the community, including the media, women associations, farmers, foresters and the young farmers.

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More in: Agriculture and rural development, [http://ec.europa.eu/agriculture/cap-history/agenda-2000/index\\_en.htm](http://ec.europa.eu/agriculture/cap-history/agenda-2000/index_en.htm) (Retrieved 20/02/2016).

<sup>9</sup> The agriculture is unprepared for the EU, <http://www.poduzetnistvo.org/news/poljoprivreda-nespremna-za-eu> (Retrieved 12/02/2016/)

<sup>10</sup> According to the EU agricultural income in 2014 - first estimates, in 2014, the EU Agricultural Economics and Farm Briefs.

<sup>11</sup> A group of countries including Member States that accessed the EU in 2004: Czech Republic (CZ), Estonia (EE), Cyprus (CY), Latvia (LV), Lithuania (LT), Hungary (HU), Malta (MT), Poland (PL), Slovenia (SI) and Slovakia (SK), and in 2007: Bulgaria (BG), and Romania (RO).

<sup>12</sup> A group of countries that includes the Member States of the European Union in 2003: Belgium (BE), Denmark (DK), Germany (DE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (INT) , Luxembourg (LU), the Netherlands (NL), Austria (AT), Portugal (PT), Finland (FI), Sweden (SE), and the United Kingdom (UK).

<sup>13</sup> According to the EU agricultural income in 2014 - first estimates, in 2014, the EU Agricultural Economics and Farm Briefs.

<sup>14</sup> The European Agricultural Fund for Rural Development - EAFRD, <http://europski-fondovi.eu/content/europski-poljoprivredni-fond-za-ruralni-razvoj-eafrd> (Retrieved 12/02/2016).

It promotes knowledge transfer and innovation in agriculture, forestry and rural areas, strengthening the competitiveness of all types of agriculture and increasing the sustainability of the economy, promoting food chain organization and risk management in agriculture. It is also aimed at reconstruction, preservation and promotion of eco-dependence on agriculture and forestry, promoting resource efficiency and the shift of support to low levels of carbon dioxide and climate adaptive agriculture, food and forestry, a weight and promoting social inclusion, poverty reduction and economic development of rural areas. This provides for the maximum co-financing rate of 85% of eligible expenditure in the less developed regions, outermost regions and the smaller Aegean Islands, and 50% of eligible public expenditure in other regions. Minimum co-financing rate will be 20% of eligible public expenditure<sup>15</sup>. Area co-financing of the EU agriculture included a number of regulations that must be applied directly from EU legislation and their correct administrative application is crucial for the functioning of the CAP. By joining the EU, the Member States have access to the funds for co-financing in agriculture from the CAP, which has enabled farmers to use the grant to a certain percentage.<sup>16</sup> The call for grant applications is published once a year (until 31 October). The Commission accepts applications for co-financing in agriculture only from legal persons and registered farms that are established for at least two years in one of the member states. In addition to agricultural subsidies, allocated following a call for proposals, the Agriculture and Rural Development Directorate-General also concludes public procurement contracts for the provision of services. These contracts have been signed after calls for tender. Among the most important concepts advocated by the new CAP is to strengthen environmental sustainability (“greening”) and 30% of the spending of direct payments in order to improve the use of natural resources. Encouraging young people to engage in agriculture provided the additional incentives of 25% per hectare for a period of five years. Small farmers are given a one-time annual subsidy 500-1000 euros, regardless of the size of the economy. Farmers who are not engaged in agriculture, and therefore do not generate income, will cease or reduce the direct payments or co-financing in agriculture. Every economy will have a limit of 300.000 Euros per year (minus the cost of salaries for the previous year) on co-financing in agriculture. For each economy, conditions of cross-compliance have to be met. The plan is to abolish the production quotas for sugar (from 2017)<sup>17</sup>. The level of aid within the CAP can vary from one farm to another and from one country to another. The reform of 2013 and the inequalities in the distribution of EU funds through grants sought to reduce. For 2008, the amount of agricultural subsidies that came from the EU budget varied considerably between the Member States<sup>18</sup>. As part of the reform that was adopted, the decision, which will ensure that each Member State does not receive the amount of no less than 75% of the EU for co-financing in agriculture. All Member States will be obliged to use a single payment per hectare to the beginning of 2019. The national envelope for direct payments will be adjusted so that those who receive less than 90% of the EU average direct payments per hectare receive more support<sup>19</sup>. The reform, taken in 2013, which aims to reduce the inequalities in the distribution of the EU funds, is very important, since the common European market, with unequal agricultural subsidies, leaves very serious consequences in member countries whose farmers have considerably less subsidies (which is generally the case with the former socialist countries). The high subsidies in the EU lead to low food prices in the market, which are lower than the actual cost of production and

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<sup>15</sup> Ibid.

<sup>16</sup> Brochure of the European Commission, EU policies - Agriculture (co-financing in agriculture).

<sup>17</sup> According to: Co-financing in agriculture, taken from: <http://www.pravaideja.net/sufinanciranje-u-poljoprivredi> (14.02.2016.).

<sup>18</sup> According to the data from Farmsubsidy.org, <http://farmsubsidy.openspending.org/>.

<sup>19</sup> According to: Co-financing in agriculture, taken from: <http://www.pravaideja.net/sufinanciranje-u-poljoprivredi> (14.02.2016.).

therefore threatens the survival of farmers in countries that do not have high subsidies and are forced to import food even though they were unable to comply with (at least) their personal needs. The tendency is to take and in those EU countries with high subsidies, maximizing the impact of farmers in the entire food chain, and greater ownership share of primary production to higher stages of processing and distribution of food. In some countries of the EU, direct payments to farmers from the EU budget make up 2/3 of agricultural income, or about half of their total income. However, there is a problem of their survival under conditions of reduction of previous subsidies.

## 5. THE DEVELOPMENT OF AGRICULTURE: A BRIEF OVERVIEW OF THE POLAND'S SUCCESS

The growth rate of Poland's economy shows that this country has managed to avoid a recession that hit most European countries. Among the “EU-27”, in the most serious year of the Great Recession (2009), Poland was the only member state had a growth rate (1.7%), which shows that Poland, apart from positive results recorded in normal economic conditions, maintained the appropriate economic policies even during the economic decline of countries around. The available data show that Poland is among the few countries where the rural population is increasing, and despite the turbulence in the market, growth and investment in food production. Poland has received generous support from EU funds, and it is estimated that only support the pre-accession period amounted to around 180 million euros per year. Today, Poland is a European food superpower, which is the only year exports increased by 17%. Before these successes, Poland's agriculture was too diversified. The investments in infrastructure are partly facilitated by European funds and they are also for the purchase of equipment used funds from the SAPARD<sup>20</sup> program. The Polish problem was, among other things, agricultural land, that because of the high cost hardly anyone buys. This land is typically used for lease and land are very bad quality so that herders rely more on the purchase of fodder, but on the cultivation<sup>21</sup>. Despite significant reductions of family farms after joining the EU, Poland is the fourth producer of milk in the EU. Although Poland is mostly oriented towards the EU market, there is also a cooperation with Japan, Korea, Singapore, the African countries, the USA and Canada, and the increasing importance of the Eastern markets. Poland is the second producer of tomatoes in Europe. Everything is built and supported by the EU funds, and in many cases, it was a joint investment and so they were easier to accomplish planned investments. In Poland, there was an increase in the entire branch of agriculture; many people have found a job. Demand for tomatoes in Russia (although the sanctions represent a problem at the moment) and local supermarkets guarantees continued employment, while in foreign markets there is a competition with lower prices. Polish example shows that it is specialization, together with directing the production and the recognition of major strategic development goals, can produce excellent results. A sound macroeconomic anti-inflation policy, particularly the implementation of three years prior to joining the EU, has resulted in strong economic growth and weakened inflationary pressures in the first years of the EU membership. The strongest growth was recorded in 2006 (6.2%) and 2007 (6.8%), while in 2006 the lowest inflation rate after the accession was recorded (1.3%). In addition, the rapid growth in exports and increase in domestic consumption strengthen the national balance of payments, which increased the value of the national currency<sup>22</sup>. In 2004, Poles could spend 25% of the level of support for agriculture

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<sup>20</sup> Pre-accession program aimed at rural development.

<sup>21</sup> Poland as an agricultural model, <http://www.agroklub.com/poljoprivredne-vijesti/poljska-kao-poljoprivredni-uzor/11536/> (Retrieved 29/02/2016).

<sup>22</sup> Mikuš, O., Piecuch, J. and D. Haladin (2011). *Agricultural policy in the EU after five years of membership: Polish experience*. The 46th Croatian and 6th International Symposium on Agriculture, ed. by M. Pospíšil, Opatija, Croatia: 11-18.

(compared to the EU15 member states), with a gradual increase of 5% by 2006. Then it started to increase by 10% to 2013 reached the level of support you have the EU-15. Compared with 2003, the year before entering the EU budget for agriculture and rural development has tripled in 2005, and the allocation of the EU funds increased by nine times<sup>23</sup>. The share of agriculture in the national budget is significantly increasing, for example (85% increase to 2008 compared with the level of 2005). After accessing the EU, rural areas experienced some changes in the context of the economic activity, which is increasingly oriented towards multi functionality. The funds from the common EU budget through the SAPARD and the Sectoral Operational Program "Reconstruction and modernization of food sector and rural development" for the period 2004-2006 and 2007-2013 in the function of achieving multi-functionality, support for improving the competitiveness of the agro-food sector and the introduction of instruments for diversification of economic activities. All these programs have a common goal: improving the quality of life in rural areas, development of the service sector and the opening of alternative employment opportunities, unrelated to agriculture<sup>24</sup>. Since 2002, the Polish farmers and local governments are entitled to use funds from the SAPARD pre-accession fund. Poland used 95% of allocated funds, and priority spending was oriented towards improving rural infrastructure. It has accepted 24 396 applications and spent 720 million euros from the EU funds. In the first years of membership, former concerns of farmers were gradually disappearing. Poland had generally very effective advantage of direct payments from the EU, which has increased the satisfaction of farmers and create a positive attitude towards the EU, which increases from year to year. The Polish membership did not cause a trauma in the agriculture: small farms are not removed, the Polish market is not flooded with food in other member countries, foreigners are not buying massive agricultural land, and Polish farmers do not feel like strangers in Union<sup>25</sup>. Poland, like most of the new Member States shall apply a simplified scheme of single payments per farm (Single Area Payment Scheme - SAPS). The increase in agricultural income is the result of the impact of increased levels of direct payments received under this scheme. The subsidies in the agricultural income in 2003 amounted to 9.4%. In 2008, it amounted to 49.9%. The financial package from 2007 to 2013 had to a total of 17 billion euros for rural development program, 3.2 billion euros a year for direct payments, while the Structural and Cohesion Funds allocated a total of 67 billion euros. Poland is also a beneficiary of the highest 19% of funds from the structural and cohesion funds within the Member States, and the funds are diverted for transportation (35%), research and development in the context of innovation (16%), environmental protection and risk management (14%), human resources (13%) and information society (6%). The increased interest of foreign investors in Poland since joining the EU supports the fact that Poland does have a stable macroeconomic environment, and the data from the first half of 2010 show that investment increased three times compared to the same period of 2009, and the recession did not cause damage the Polish economy<sup>26</sup>.

## 6. CONCLUSION

Modern agricultural policy of the EU with their programs and systems of co-financing from EU funds instilled new hope Member States which, tortured bad economic policy of the communist legacy, recorded a steady decline in agricultural production, low rate of GDP, constant unemployment and a general decline in the overall economy. Experiences of member states

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<sup>23</sup> MINROL, 2006, [http://ec.europa.eu/agriculture/events/simplification/index\\_en.htm](http://ec.europa.eu/agriculture/events/simplification/index_en.htm) (Retrieved 15/02/2016).

<sup>24</sup> MINROL, 2009, [http://ec.europa.eu/agriculture/climate-change/pdf/sec2009\\_1093\\_en.pdf](http://ec.europa.eu/agriculture/climate-change/pdf/sec2009_1093_en.pdf) (Retrieved 16/02/2016).

<sup>25</sup> Mikuš, O., Piecuch, J. and D. Haladin. 2011. *Agricultural policy in the EU after five years of membership: Polish experience*. The 46th Croatian and 6th International Symposium on Agriculture, ed. by M. Pospíšil, Opatija, Croatia: 11-18.

<sup>26</sup> Ibid.

show that EU accession and use of privileges offered by the EU to its member countries, positive solution that can very well strengthen the economic picture provided a rational usage of resources obtained. On the way from its inception until today, the European agricultural policy has gone through many stages of development, from its original role of “breadwinner” to the present to achieve a monopoly in the global agricultural market. However, the “stumbling block” in the CAP to represent dissimilar coefficients of co-financing in the agriculture of the Member States which entail the problem of inequality in the European market. The CAP is providing a financial support to farmers to ensure the further cultivation and creation of additional reconstruction of villages, protection of the landscape and cultural heritage projects and a number of other tasks that are linked, directly or indirectly, with agriculture and rural economy. This prevents depopulation of rural areas due to low employment opportunities and high unemployment. By looking for a safe and high quality food, over the years Europe has developed a range of instruments, including the marketing standards, quality systems to identify products specific quality systems certification and hygiene rules. All this strengthened is the overall economic picture of the EU and created a distinctive and unmatched quality in the global market.

## **LITERATURE:**

1. Agriculture and rural development, [http://ec.europa.eu/agriculture/cap-history/agenda-2000/index\\_en.htm](http://ec.europa.eu/agriculture/cap-history/agenda-2000/index_en.htm) (Retrieved 20/02/2016).
2. Brochure of the European Commission, EU policies - Agriculture (co-financing in agriculture).
3. Farmsubsidy.org, <http://farmsubsidy.openspending.org/>.
4. REGULATION (EU) no. 1307/2013 of the European Parliament and of the Council from the 17th of December 2013 laying down the rules for direct payments to farmers to support programs in the framework of the common agricultural policy and repealing Council Regulation (EC) No. 637/2008 and Council Regulation (EC) No. 73/2009.
5. Poland as an agricultural model, <http://www.agroklub.com/poljoprivredne-vijesti/poljska-kao-poljoprivredni-uzor/11536/> (Retrieved 29/02/2016).
6. Mikuš, O., Piecuch, J. and D. Haladin (2010). Agricultural policy in the EU after five years of membership: Polish experience. Proceedings. The 46th Croatian and 6th International
7. Symposium on Agriculture, ed. by M. Pospišil, Opatija, Croatia: 11-18.
8. MINROL, 2006, [http://ec.europa.eu/agriculture/events/simplification/index\\_en.htm](http://ec.europa.eu/agriculture/events/simplification/index_en.htm) (Retrieved 15/02/2016).
9. MINROL, 2009, [http://ec.europa.eu/agriculture/climate-change/pdf/sec2009\\_1093\\_en.pdf](http://ec.europa.eu/agriculture/climate-change/pdf/sec2009_1093_en.pdf) (Retrieved 16/02/2016).
10. The EU agricultural income in 2014 - first estimates, in 2014, the EU Agricultural Economics and Farm Briefs.
11. The European Agricultural Fund for Rural Development - EAFRD, <http://europski-fondovi.eu/content/europski-poljoprivredni-fond-za-ruralni-razvoj-eafrd> (Retrieved 12/02/2016).
12. The reform of the common agricultural policy, Why reform?,  
<http://www.consilium.europa.eu/hr/policies/cap-reform> (Retrieved 10/02/2016).
13. The agriculture is unprepared for the EU,  
<http://www.poduzetnistvo.org/news/poljoprivreda-nespremna-za-eu> (Retrieved 12/02/2016).

## THE TERRITORIALIZED PRODUCTION ORGANIZATIONS: FROM THE MARSHALLIAN SCHOOL TO THE GRENOBLE SCHOOL, CONTINUITIES OR DISCONTINUITIES

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### ABSTRACT

This article provides a quick scan of the literature that treats the subject of the localized production organizations. This analysis allows us to understand how the theoretical concepts developed by A. Marshall had great success as they were exhumed by the Italians in a series of works on the Third Italy. The localized production system developed (LPS) by Courlet (1994) helps circumscribe the organization that binds the enterprises together in a territory and highlight the nature of the benefits (positive externalities, reduced transaction costs, better coordination between the actors of a territory) yielded by proximity. Indeed, the LPS is far from being a concept in the true sense of the word because it is interpreted in several ways. The LPS can be attached first to a broader interpretation of the economic phenomena: either it is the new techno-organizational paradigm of reference resulting from the swing of the global mode of production or it is a component or even a transition state of the new industrial organizations that are being set up. The LPS can also be attached to a more specific interpretation referring to the history of economic development according to which any local reality would be, at some point, more or less an LPS. It is but a unit of analysis, which, as the organization, sees its theoretical foundations vary according to approaches and authors. This means that the literature only analyzes the forms of organization in local systems, without explaining their foundations nor their evolution. However, the industrial district and the LPS concepts are each specific features of the "standard-categories" of the industrial territories. Thus, the continuity between the two schools stems only from the benefits of belonging to a territory in the broad sense of the word.

**Keywords:** externalities, industrial districts, LPS, proximity, territory

### 1. INTRODUCTION

Space is not only a localization framework of economic agents, it is also an emergence framework of a particular economic agent: the territory (Rallet and Torre, 1995). Veltz (1996) defines it as "*an active organization structure made of social interactions, shared memory and projects.*" Therefore, the sole consideration of the physical distance is no longer sufficient to explain the reality of the territories. In fact, the latter, which was the main property of space, fades away and determines less the economic and social relationships.

We deem the territory to be a space full of meaning because of its history. It is appropriated by a group of people who invest it with their values and associate it with their identities. This conception is close to that of GREMI which equates the territory with a complex milieu that coherently brings together a production apparatus, a technical culture and actors. For us, the territory should be perceived as the result of a construction process that stems from the strategies of actors and the phenomena of collective learning.

Under this approach, the territory can only exist if it is built during the long time of history through projects born from the relationships formed between the actors. It is through these collective actions that actors take ownership of their life space and transform it into territory. A space that has become a territory can thus become a space again based on the intentions and the degree of ownership it is subject to. This continuous process of "*territorialization/de-territorialization/re-territorialization*" is in the heart of the transformation of territorial production systems, an essential theme in our analysis of economic processes generated by the paradigm shift associated with the emergence of the knowledge-based economy.

According to Pecqueur (2004), the territory is not a piece of a nation or a region, but it is a space appropriated by a group or a person (Billaudot 2004) or even a form of social construction and regulation enclosed in space (Courlet and Pecqueur, 2001). It thus refers to "*a construction of actors in proximity with the idea of a direct relational scale, a "face to face" coordination and acquaintance*" (Pecqueur, 2004), which are basically specific models of production organization and of the continuous interaction between the economic and the social sphere (Courlet and Pecqueur, 1996). This structure is based on the mutual convertibility of rules and resources involved in social reproduction. (Giddens, quoted by Billaudot, 2004).

The territory is "*a component of economic development, as well-illustrated in the experience of industrial districts and LPSs.*" (Courlet, 2000). It reflects a particular form of industrial organization. The several studies that we can pick out in the economic literature show differentiated phenomena of economic activities coordination that underpin the different approaches on the territory.

The territory is a complex and dual notion. According to Joffre and Koenig (1992), it provides a competitiveness to enterprises that can be based on:

- The substratum of the territorialized specific assets (for us, local actors' activated resources and capabilities) that external actors cannot mobilize with the same efficiency;
- The reduction of transaction costs in the less uncertain universe of the rather more conventional than contractual industrial relationships.
- A favorable milieu to the development of specialized and specific individual skills, through the stimulation of the process of interaction and collective learning.

Klein (2000) presents an approach that aims to demonstrate the existence of "standard categories" of territories, whose economic dynamics are analyzed, and whose scope is rather general. Mobilizing the district and LPS concepts is part of a construction process of a theoretical framework to analyze the territorialized industrial dynamics and the territorialization processes of innovation dynamics. Therefore, our theoretical questions will be as follows: How is the territory apprehended in these different conceptual frameworks? Do these different frameworks help to grasp the complexity of the territorial dynamics, namely putting into perspective the differentiated modes of the development and spatial organization of production and innovation?

## **2. FROM THE INDUSTRIAL DISTRICT...:**

Early researches on territorialized production organizations were carried out in the 70s, on the “Third Italy”, by Italian economists namely: Becattini, Bagnasco, Trigilia, Brusco, Garofoli, Fuà and Zacchia (Courlet 1999). These researches emphasized the socially endogenous

character of development, the systematization of diffuse industrialization, as well as the type of industrial organization in these regions.

This type of organization, which presents itself as a blend of competition-emulation-cooperation within a system of very specialized small and medium enterprises, led to reintroduce the old concept of the "industrial district" developed in 1890 by the English economist Alfred Marshall<sup>1</sup>. This concept was reinstated by economists eager to explain the existence and persistence of economically dynamic areas that are based on cooperative networks of small and medium enterprises.

In his analysis, Alfred Marshall (1892) had already laid, somehow by his concepts of the "industrial district" and "atmosphere", the essential foundations to eventually avoid a technocratic vision of development (Kherdjemil, 1999).

The fundamental point is that the limits of the new territorial configuration will no longer be defined by specific political frontiers inherited from historical rivalries, but by a network of economic relationships that identifies itself with the complementarity of enterprises and the other actors and rather divests itself of the nationality criteria. The genesis of the industrial districts is "*intrinsic to intercompany exchanges and their production organization, to their position in the world market and also to chance*" (Michalet 1999, page 124).

The industrial districts were analyzed in two ways over two different periods. First: the introduction of the concept by the English economist Alfred Marshall in 1890 based on the observation of a form of industrial organization different form that prevailing in the manufacturing centers in Liverpool or Manchester. Second: the reintroduction of the concept by Italian economists namely Beccatini in the 70s, to translate the success of Northern and central Italy.

Therefore, our analysis of the districts will be twofold, namely the Italian and Marshallian analysis.

## 2.1. The Marshallian analysis of the concept:

According to Courlet (1999), the reflection on the relationships between industrial dynamics and territorial dynamics was crystallized mainly due to the notion of the industrial district in recent economic literature.

In his analysis, Marshall tries to see how the industrial concentration<sup>2</sup>, which is the result of the geographical, historical and politico-psychological characteristics of the region (Courlet,

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<sup>1</sup> Benko G (1995) « Les théories de développement local/ Local development theories» in « Problèmes économiques », n° 2440, Octobre 4th. For Rallet & Torre, this concept is borrowed from the industrial economy since it is based on the pioneering work of Marshall, in Rallet A, Torre A (1995) « Economie industrielle et Economie Spatiale: un état des lieux/ A survey on industrial economy and spatial economy », in Rallet A, Torre A « Economie industrielle et Economie Spatiale / Industrial economy and Spatial economy», Economica, Paris. And, in addition, because the economic geography in globalization pertains more to the concepts of the industrial economy than those of the pure theory of international exchanges. Michalet C-A (1999) « la séduction des nations ou comment attirer les investissements/ Nations seduction or how to attract investment» Economica Editions, page 124.

<sup>2</sup> When Marshall wrote Trade and Industry in 1919, he observed industrial concentrations in Europe: (Lyon for silk, Roubaix for wool, Sheffield and Birmingham in England and Solingen in Germany for steel). Pecqueur B (2000) "the local development, towards an economy of territories" Syros.

Pecqueur, Soulage 1993), is a sine qua non for the achievement of the division of labor which is a key factor in the law of increasing productivity. Courlet (1999) also points out that "*the groundwork of the district economy for Marshall is the external economies of agglomeration i.e. the district enterprises continual evaluation of the differential advantage of costs of production and exchange within and without. These external economies of agglomeration are deeply rooted territorially speaking and highly irreversible based on the historical and social structures of the districts.*" These external economies of agglomeration are free services that adjacent enterprises exchange mutually because of their impact on the environment<sup>3</sup>.

Marshall underlines that "so great are the advantages which people following the same skilled trade get from near neighborhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously; (...) If one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas."(Marshall, 1898, p 466, quoted by Courlet (1999)).

The concentration of many enterprises in one place creates these external economies. That is to say, the whole area benefits from advantages in terms of production costs by the mere fact of the concentration of activities therein. The district then draws its performance from the relationships between the different production units. The latter partake at a specific stage in the production of an industrial product. The external economies of scale, which are limited to an industrial sector anchored in a confined space, are the result of three main effects:

- A purely market effect related to the strong complementarities within the local input-output system, and also to the presence in one place of consumer-workers and of firms.
- A sharp adequacy effect of a skilled workforce for employers' needs, an adequacy which strengthens over time.
- An industrial atmosphere effect, which derives from the common culture within the district, the circulation of information, and labor, etc. So many phenomena well suited for innovation, flexibility and cooperation within the district.

If the partitioning of the various stages of the production process is the source of productivity gains in large industrial enterprises, Marshall developed the hypothesis that the economic performance could also be expressed through a configuration characterized by geographical and sector-based concentration of yet interdependent enterprises, but complementary. These enterprises develop extra-commercial relationships which transcend the mere economic contingencies to acquire a social and territorial dimension that he interprets as the key to their competitiveness.

Therefore, the geographical proximity leads to economies of agglomeration comparable to economies of scale in large enterprises. These economies of scale may have their roots not only in the manifestation of "internal economies" that increase with the firm size, but also in the manifestation of "external economies" to these firms. These economies, promoted by the economic milieu where these firms are located, are common to all firms and therefore do not depend on their size (Catin, 1994).

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<sup>3</sup> For instance: the fight against transaction costs, economies of scale, training the workforce, circulation of innovation, etc. ...

In general, the economies of scale are linked to the division of labor and for Marshall the exploitation of external economies by the industrial production units depends on the spatial proximity. Marshall's contribution to the economic thought while taking into account the external economies "*is the existence of specific relational processes and of privileged spaces that can improve productivity and promote the development of firms, which are neglected in the set of hypotheses by the mainstream theorists of the competitive balance at that time*"(Catin, 1994).

For Pecqueur (2000), "*the common central element to these different spaces is the elaboration of a fully mature economic culture that creates a mood or an atmosphere in which the industrialists go beyond the mere market relationships and entertain special relationships of reciprocity.*" Thus, the district groundwork is a space of geographic proximity, a limited territory where relationships of solidarity are weaved between the enterprises that make up the local industrial fabric and the other institutional actors. To put it in Marshall's words, this results in creating an industrial atmosphere that reflects the interplay of the external economies and the agglomeration effects (Michalet, 1999).

Marshall introduces the industrial atmosphere, whose scientific rigor is much up in the air (Azaïs, 1997), only to connect stimulating innovation with the district. This industrial atmosphere which is the main characteristic of the district is based on workers savoir-faire, on relations with customers, with suppliers or even with subcontractors (Hsaïni, 2000).

## 2.2. Analysis of the Italian districts:

Recently and after having fallen into oblivion, the industrial district of A. Marshall was reinstated in the 70s and 80s at the time of the crisis of the Fordist model by Italian economists and sociologists who sought to explain the success of Northeast and central Italy (Courlet, Pecqueur Soulage, 1993, Hsaïni 2000).

The starting point of these studies was unquestionably the works of Becattini, Bagnasco, Trigilia, Brusco, Garofoli, Fuà and Zacchia. They insisted on the existence of configurations of specialized small and medium enterprises in the Northeast and the central regions of Italy and described them as "*efficient export-oriented socio-economic entities focused on an industrial branch and resting on a dense network of interactions, often informal, between small firms specializing in the different phases of the production process, a local labor market and a community driven by local development values*"(Rallet, Torre, 1995). These studies also underline the endogenous dynamics of development and the sociological characteristics of these regions as the factor underlying these dynamics.

Arnaldo Bagnasco is credited with the discovery of an economic “Third Italy” whose industrial districts in the center of the country separate the rich north with its large enterprises from the poor south. Bagnasco noted that coordination mechanisms are at work between small and medium industries within the same (geographical and social) milieu and are able to produce economies of scale thought to be specific to large production units. These mechanisms are driven by immaterial forces of relationships, values, shared knowledge and a paradoxical coexistence of cooperation-competition relationships.

The first trend is represented by Becattini because thanks to him the analysis "*will be drifted towards the industrial economy when he recalled that these regions type of industrial organization was a competition-emulation-cooperation mix within a system of small and medium enterprises.*"

Beccatini (1992) points out that the district is indeed a space where history had a very exacting influence on the "natural" behavior of the inhabitants. And he adds "*The district is a concrete case of localized labor division, which is neither diluted in a general market nor concentrated within one or a few enterprises. The term localization does not mean here the accidental concentration of several production processes attracted to one place by factors specific to the region. On the contrary, the enterprises are rooted in the territory and it is not possible to conceptualize this phenomenon regardless of its historical evolution.*"

The "revisited" industrial district (Benko et al, 1996) is thus defined as "*a socio-territorial entity characterized by the active coexistence of an open community of individuals and a segmented population of enterprises (B Kherdjemil, 1999 ) where coordination between the different phases and the control of the regularity of their operation are not subject to pre-established rules or hierarchical mechanisms as it is the case in big firms. Unlike what is happening in other environments such as factory towns, it seems to be a perfect osmosis between the local community and the enterprise in the district*" (Vidal, 1998). That "*osmosis between production activities and daily life is the most representative trait* «of the industrial district (Becattini, 1989, page 263).

According to Markusen (2000) «*Unlike the passivity of Marshallian firms, Italianate districts exhibit frequent and intensive exchanges of personnel between customers and suppliers and co-operation among competitors to share risk, stabilize markets and share innovation. (...) Activist trade associations provide shared infrastructures-management, training, marketing and technical or financial help- as well as forums to hammer out collective strategies. Local and regional governments may be central in regulating and promoting core industries. Trust among district members is central to their ability to cooperate and act collectively*»

The Italian industrial district would be the result of an endogenous development. This refers to: "*This also means that generally there is no big leading firm, let alone multinational firms behind these local production systems. The productive organization is not induced here via a polarization phenomenon around a large firm*" (Peyrache-Gadeau 1992). This does not mean that the production would not be connected in one way or another to one or more multinational firms. What Peyrache-Gadeau (1992) tries to explain is the fact that the district sector-based specialization is based on a savoir-faire of local economies and on deeply-rooted production forms in a territory whose origin is rural or artisanal. Hence the idea of diffuse industrialization or spontaneous industries areas.

### **2.3. The characteristics of the industrial districts:**

The district's modus operandi relies on market relationships and non-market cooperation relationships: the market in terms of demand and supply of goods; and (face to face) cooperation to exchange mutual free services (non-market relationships). Regarding regulation, the presence of local institutions is also essential even if personal contact, trust or power relations among participants are essential. In conjunction with the local institutional system, the national institutional system will definitely give some color to the industrial district.

#### **2.3.1. Local community: informal networks & institutions**

According to Becattini (1992) «*The industrial district is a socio-territorial entity characterized by the active presence of a community of people and a population of enterprises in a given geographical and historical space (...) it tends to be a perfect osmosis between the local community and enterprises.* »

In the industrial district there are institutions, rules, values (work ethic, collective identity, cooperation, etc.) related to a social and economic structure based on SMEs, VSBs and the industrial workers. The social composition is sufficiently homogeneous in terms of cultural behaviors and aspirations: there is a strong social mobility of workers who can become entrepreneurs without much difficulty (Vidal, 2001).

Thus, Italy is called the "Home of the molecular capitalism" (idem). Business is often undertaken between members of allied families or old acquaintances. The industrial district appears as "*a typical form of territorialized production organization in which relationships between firms are governed by a set of norms, implicit or explicit, combining market rules and social code*" (Courlet, 2001, page 67).

The local institutions i.e. the local administration or other collective organisms (professional associations, schools, health and social services centers, research centers) support considerably the operation of the district. They offer services that SMEs could not afford individually. In addition, it is noteworthy to mention the existence of formal and informal training networks for the workforce in different sectors (availability of technical schools) and for enterprises in-house training.

### **2.3.2. Production process: the flexible specialization**

The flexibility of the district enterprises relies heavily on their small size, on the tight relationships between them and the speed of response to the new internal and external conditions of the district (Courlet, 2001b). The district enterprises therefore specialize in a given stage of the production process of the same product. However, some will specialize in needed services to the district enterprises: design, research and development, marketing, export, etc.

Specialization allows then small businesses to benefit from advantages similar to those which usually benefit large enterprises. Besides the benefits of specialization, these enterprises also enjoy economies of scale at a given stage of the process: quality improvement, better understanding of markets, new products, new materials, etc. Furthermore, the use of new technologies (programmable machine-tools) enables the rapid switch from one product to another (Piore and Sabel 1989, page 49). The district is, in consequence, characterized by constant innovation.

Therefore, there are favorable technical conditions for the "*establishment of a specialized local network at each stage of production*", however, "*among the production processes able to define and characterize the economic development of a district, we shall retain those capable of satisfying one final variable and differentiated demand in time and in space as opposed to a standardized and constant demand*"(Becattini, 1992).

Initially, the production of these enterprises could only meet the local market needs. With time, the production has become globally competitive where the bulk of its production is sold. The industrial district is also known by its own specific product which is its trademark.

### **2.3.3. Competition and cooperation:**

The enterprises entertain cooperative relationships while in competition. It must be underlined "*the singular coexistence of competition and solidarity among the enterprises, which reduces the local market transaction costs*" (Courlet 2001a, page 22). On the one hand, the enterprises

strive to produce at the lowest costs by saving resources and banking upon the innovations that would improve on the production processes and increase the yield<sup>4</sup> (Julien, 1994). On the other hand, cooperation enables to leverage the advantages of proximity and specialization<sup>5</sup>. Cooperation can be more formal so as to create genuine external economies of scale<sup>6</sup>.

Other economies are connected to the district organizational mode: the spreading of specialties and savoir-faire, the renewal of inventions and innovations, the development of trade and transport, the close contacts with suppliers and buyers, the renewal of the entrepreneurial capacity, etc.

#### **2.3.4. A local regulation of competition and cooperation:**

Besides the industrial atmosphere and the specialization in a branch, the districts are characterized by regional or local institutions that balance cooperation and competition between the enterprises. This regulation can be ensured by rules defined, as is the case in Germany, by the professional corporations to avoid excessive wage reduction and maintain competence standards (Streeck, 1992). This could be the commitment of a municipality in order to ensure the mobility of resources or even enforce certain quality standards. In other cases, it could be arbitration committees or a coordination "Via the Consorzio"<sup>7</sup>.

From the regulation perspective, these institutions seek sometimes to encourage competition so that everyone innovates and excels, and sometimes to encourage cooperation so that the local advantages are leveraged to the max to conquer external markets. These institutions must also be able to regulate conflicts when the protagonists (arbitration committees) cannot handle them.

Every time we expound the concept of the industrial district, the Italian case seems so omnipresent and the characteristics of the Italian models are attributed to the district. However, even in the case of the Italian industrial districts and especially the most recent ones, diffuse industrialization is increasingly less characterized by spontaneity. And this is because of the political factors which played a relatively important role in the development of these regions: the intervention of the local administrations in the Christian Democratic North and in the socialist-communist Centre. These initiatives lie in the financing of activities or the rationalization of the territory (infrastructure) without ignoring the "*building of a political consensus for the diffuse industrialization*"<sup>8</sup>.

In sum, if the Italian experience is the main reference for researchers on the industrial districts (Piore and Sabel, 1989), one must recognize that it is possible to identify industrial districts in virtually all countries and in new as well as traditional sectors.

And so there is the Silicon Valley in California, the Spanish districts in Navarre in the sector of electronics or alabaster (Castillo, 1994, page 84) without forgetting the German districts in

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<sup>4</sup> It is noteworthy that in these districts, each year dozens of companies go bankrupt, being unable to follow the competition despite cooperation (Julien, 1994)

<sup>5</sup>, equipment loans, exchange orders and information, meeting to discuss how best to improve production etc.

<sup>6</sup> They are economies for the purchase of raw materials, the creation of a local price subsystem, access to credit by the presence of a local bank, the circulation of information on the recruitment of employees and qualifications of the local labor market.

<sup>7</sup> The consorzio associative formula (non-profit) can easily create groupings able to achieve goals related to the collective interests of multiple stakeholders. See Vidal F, (2001) page 89.

<sup>8</sup> Negri, quoted by Peyrache V (1992), page 26.

Baden-Württemberg. In the latter, there is emphasis on the industrial district being not synonymous with a low-wage zone (Semlinger 1994, Streeck 1992).

In light of the Italian industrial districts, other authors were interested in similar phenomena in their countries (Courlet and Pecqueur, 1992; Aydalot 1986; Maillat, 1993). From this point of view, the notion of a localized production system stems from that of the industrial district.

### 3. ... TO THE LPS:

The LPS is at the center of debates over the relationships between industry and territory. It appears as a synthesis that helps to apprehend the connections between economic dynamics and territory (Courlet and Pecqueur, 1996). For Courlet (1999) this concept "*comes from the combination of the different contributions of recent literature on the subject: the proposals of F. Wilkinson who introduces the notion of production system, those of G. Garofoli (1983) with the idea of a local production system to highlight the deep symbiosis between the economic and socio-cultural phenomena, and finally, those of some French authors with the localized production system term to introduce the role of local regulations (Raveyre, Saglio, 1984; Courlet, Pecqueur 1991 ; Ganne, 1992; Courlet, Soulage, 1994).*" The notion of a localized production system is presented as a set of interdependent activities, technically and economically organized, and territorially agglomerated.

This concept also means "a collective way of living, thinking and producing, peculiar to a company, a space, a milieu. It expresses arrangements, specific practices and ways of social and economic organization. It defines a specific structuring of the game of economic and social relationships between actors in a delimited geographical and socio-cultural space" (Dimou 1994, pp 87-88). The LPS is thus three-dimensional as it integrates the spatial, organizational and institutional dimensions.

#### 3.1. The LPS: definition attempt

The LPS allows to give account of the role of SMEs and their cooperation in a given territorial framework without neglecting the effects of proximity and the local socio-cultural context. The localized production systems present the SME mainly in a corporate system. The proximity of agents belonging to the same establishment space, as opposed to the distant and external, is a fundamental characteristic of the localized production systems. Paraphrasing Pecqueur (2000), one might call this phenomenon "the dialogue of enterprises and territories."

Indeed, the LPS differs from the industrial district in many aspects such as the fact that the enterprises are not necessarily concentrated in a single branch or specialized in the production of components of a single product. In addition, in the LPS, it may be a matter of territorialized relations between SMEs but also between SMEs and large enterprises and even between large enterprises. In other words, the LPSs are not confined by the traditional subcontracting relations between enterprises (Courlet and Soulage, 1994, 18). Moreover, the LPSs are also characterized by their great flexibility and their ability to meet variable and differentiated demands in time and space.

The LPSs can in fact be rooted in a long artisanal tradition that is gradually switching to an industrialization process, be part of a dynamic linked to the "territorial decentralization of production" (Garofoli, 1992) or to the "vertical disintegration" (Leborgne and Lipietz, 1991) and be present in low-density environments such as the metropolitan areas.

Proximity, networks, competition and cooperation are the basic ingredients of an industrial organization characterized by a spatial concentration of production. By adding the specialization of enterprises in a trade and/or a product to these components, the main characteristics of localized production systems, as defined by DATAR (a Former French Inter-Ministerial Delegation to Spatial Planning and Regional Attractiveness), are then met.

Thus, DATAR relies broadly on Courlet's (1994) definition of the Localized Production System to define one of its aid programs to local economic development within a comprehensive framework of spatial planning: "*The Localized Production System can be defined as a configuration of enterprises grouped together in a proximity space, revolving around a trade or even several industrial trades. The enterprises entertain relationships between themselves and with the socio-cultural milieu of integration. They are not fully market relationships, they are also informal and produce positive externalities for all the enterprises. The dominant industrial trade does not exclude the possibility of several industrial branches.*"

More explicitly, we can say that an LPS is a cluster of production units located in the same territory and entertaining diverse relationships, more or less intense. This term is tricky because it covers some realities and very different underlying theories. (Courlet (2001) provides a detailed analysis of this notion and empirical and theoretical works on its usage).

This definition attempt of the LPSs would also emphasize the relational dimension of the various units of productions in a proximity space. The grouping around a trade or product seems to be irrelevant to be the source of its success. The key to a successful LPS is largely contingent upon its ability to provide "specific territorial resources."

The LPS is only the fruit of coincidence and not a development model. For Garofoli (1996) "*the theoretical problem, in connection with the economic policy and development strategy, is the possibility of the territorial diffusion of industrialization and the transfer of the model to other regions.*" It cannot just spring up anywhere or any time because it is based on a fundamental spatial dimension that conveys specific socio-cultural characteristics.

The LPS consists also of a cluster of SMEs connected or not to one or many large enterprises located in the same proximity space (local or sub-regional) and revolving around a trade, or even several industrial trades. There is a dense network of interdependencies between the various enterprises affiliated with the LPS. These relationships "*range from the pursuit of a specialized production, which one enterprise cannot achieve, to the development of outstanding economies of scale*" (Courlet and Soulage, 1994, page 18). Therefore, there are particular market relationships between the enterprises in the case of specialized production, and cooperation relationships in the case of the pursuit of external economies of scale. For goods and services not to mention employment, the LPS is based on a system of regulation that appeals not only to the rules of the market but also to a social code, to social forms: rules, values, etc.

The LPS is in line with the pursuit of the territorial dynamics and the industrial localization, which are subjects of studies shared at the same time by economists, sociologists and geographers. For economists who study the LPS the market is central to their construction, they do not neglect the specificity of the firm and underline the competition-cooperation blend to which it is committed; the specificity of these production forms comes then from this arrangement of apparently opposing forces. Their specificity seems to be in the combination of analytical tools borrowed from both economy and sociology, which may reveal a sense of theoretical fragility.

The LPS is based broadly on the tight interdependent relationships between the local actors in the form of external economies and advantages in their production activity. External economies of agglomeration show up too once tight relationships are affirmed in a limited spatial context (Pecqueur, 1992).

In fact, Pecqueur (1992) insists on the existence of three characteristics that are the density, the form and the small (the space limitation), to speak of the existence of an LPS whose industrial district is but a particular configuration.

### **3.2. Characteristics of the LPSs:**

#### **3.2.1. Origin of the LPSs:**

The notion of the LPS is inspired by the recent analyses of the industrial economy and the regional economy on innovation (Courlet, 2001b). Therefore, two types of analyses can be undertaken. The first gives more importance to the milieu rather than the enterprises: the supporters of this trend insist that the milieu predates the birth of enterprises and that it begets innovation. We are talking about a "*theory of milieus development*" rather than a "*theory of enterprises localization*" (Aydalot 1986). The second trend is rather focused on industrial organization as such (Perrin, 1992), and particularly on response strategies to the crisis of Fordism, and thus on the search for flexibility and integration. However, both approaches insist on the identity of the milieu and the conventions that stipulate more or less explicit norms (Salais and Storper, 1994).

For the researchers (Garofoli, 1992; Courlet 2001b, Leborgne & Lipietz 1991, Courlet & Soulage 1994, and others), the LPSs may result from two processes: On the one hand, we find LPSs coming from a long artisanal-like tradition which traversed the Fordist era and was the cornerstone of a gradual process of diffuse industrialization. In these systems that one might call "old", the workforce high versatility, and particularly its ability to undertake, plays a decisive role. On the other hand, we also find "recent" LPSs whose formation is the outcome of a search for solutions to the crisis of the Fordist model. This formation can illustrate the regulation theses that explain the transition from one type of organization to another (Courlet, 2001b). The LPS is therefore the result of a "territorial decentralization of production" (Garofoli, 1992, page 77) or what others call "vertical disintegration" (Leborgne and Lipietz, 1991). It also responds to the search for a highly involved workforce in working in a micro-social context lightly affected by Fordism. In these recently built up systems, qualification and the milieu's innovative capacity are intrinsic factors.

Finally, this development mode may appear not only in rural areas but "*in areas featuring a dense urban mesh*" (Courlet and Soulage, 1994, page 19). In any case, they are productive systems deeply embedded in the community so that reciprocity and cooperation can complement the exchanges regulated by the market. This obviously involves local institutions concerned with the local development.

#### **3.2.2. LPSs and economies of agglomeration:**

To characterize the LPSs, Courlet (2001a, 2001b) introduces the notion of economies of agglomeration. These are well defined by Arthur: "(...) *economies of agglomeration mean that the net profits yielded by an enterprise from a localization in the neighborhood of other firms increase with the number of firms that are in the same localization. The sources of the economies of agglomeration are diverse: at the same time as there is a growing number of established firms in a localization area, the latter gains ground in infrastructure. Its labor market grows. Financial services and specialized offices emerge. Spare parts and obsolete stock become available locally, thereby reducing storage costs. Social networks begin to exist where information, expertise and contracts can be easily exchanged*"(Arthur, 1995, page 299).

These economies are therefore the result of the tight relationships between the local enterprises which "*amplify labor division thus making room for more specialization*" (Courlet 2001b, page 78). The result is "*a set of relationship networks between actors*" that form a "*local industrial fabric*" (Pecqueur, 1987).

Therefore there is a vertical quasi-integration (Leborgne and Lipietz, 1988) whose characteristics are "*stable relationships between suppliers and customers; a substantial customer share in the supplier's turnover; subcontracting ranging from design to marketing; non-market forms of inter-firm relationships going from subordination to partnership*"(Leborgne and Lipietz, 1988, page100). However, "*the vertical quasi-integration implies also the extension of non- market relationships between firms: strategic alliances, technology transfer, joint research programs, joint venture*". Thus, "*the leading firm obtains both the benefits of the vertical integration (transactions at low cost, just-in-time management, flexibility of the overall policy) and those of the vertical disintegration (innovation opportunities among subcontractors, imposition of quality standards, risk-sharing of development-research and fixed assets)*"(Bellet et alii, 1991, pp 25-26).

As concluded, a localized production system is made of more or less heterogeneous activities, more or less interdependent, with more or less coherence and cooperation, and having various types of external connections. However, at this stage, a reflection on the phenomena of LPSs organization allows further study of its various mechanisms.

### **3.2.3. LPSs and organization:**

Our goal is to know what organization mechanisms can influence the competitiveness of the production system. Yet, the successes and failures of the policy of creating counterweight metropolises in France or in developing countries show that the process of industrializing industry in growth centers as a consequence of the direct and indirect market spread effects (Perroux 1955) is by no means automatic, even if the injected capital is important (Lipietz 2001). But this finding is too general to be used straightforward. It would be appropriate to question the background of this greater productive efficiency.

Traditionally, an increase in a business profitability is a result of three factors:

- Lower production costs thanks to a more effective technology (in the broad sense, including labor) and reducing the inputs cost (including transaction costs).
- Cheaper access to a larger market thanks to lower costs of transport (or more generally the distance) and distribution (including transaction costs).
- Finally, the stimulation of demand by providing the quality characteristics desired by consumers (principle of differentiation)

These three "sources of profitability" constitute the first read key of organization effects. However, with the consideration of space in the analysis, the debate on the need to take into account non-market mechanisms allows to draw other intrinsic factors. First, the external effects, along the same line of Marshall's work, which are found in the evolutionist trend, but can also be integrated into a microeconomic formalism (Fujita and Ogawa 1982, Soubeyran and Thisse 1999). In these works, the gain function of economic agents depends on their interaction with their neighbors. Also, with the importance of transaction costs in some situations, which concerns mainly the neo-institutionalist approach, the organization is studied not only between the actors but also "inside the agents" that are the enterprises whose borders can be indistinct.

The distinction between external economies and transaction costs is sometimes uncertain. Besides, some authors as Coase think that both mechanisms are intrinsically linked. Thus, the preferential access to local natural resources could also be seen as a positive externality. The co-operations are not literally external economies, but are close<sup>9</sup>. On the other hand, some actions are double-sided. For example, from a production perspective, competence self-reinforcement is a positive externality for local enterprises. From a recruitment perspective, it offers savings in transaction costs for both workers and enterprises. Thus, we must remember that this classification does not attempt to transcend the various researches on the economic organization phenomena, but to deepen the analysis of the diversity of potential relationships between organization and economic efficiency.

Some works attempt a more detailed description of the basic mechanisms at play in the localized production systems. Perrat (2001) proposes a detailed reading key of the different types of externalities, intersecting a "functional" approach with a "substantial" approach. We will stick to this simple classification, which will help us to examine the possible developments in terms of formalizing organization effects. In order to use it in the rest of the document, we will present the identified mechanisms in the following way that brings together the organization effects per element of the production process concerned:

- factors access and prices: preferential access to local natural resources, preferential access to credit, specialized workforce, a captive, accepting lower wages.
- firms internal efficiency: quality of workforce, competence self-reinforcement.
- relationships between firms: vertical complementarities and ad hoc cooperation, technical information circulation, market information circulation, loyalty to local suppliers, goods used in common.
- relations with the markets: preferential rates, effective mobilization of distributors, loyalty to local products, barriers to entry.
- nature of demand: atmosphere conducive to innovation, reliance on product quality, horizontal complementarities, lower advertising costs, responsiveness to exogenous shocks.

### **3.2.4. LPSs and Innovation:**

Several studies defend the idea that the LPS is a specific organization that creates technologies whose "*own innovation capacities would emerge over the course of their history and explain the dynamics thereof*" (Ragni 1997). Also, the LPS is a milieu where the process of innovation could be permanent since the different stakeholders seek "*to determine the external conditions necessary for the birth of the enterprise and adoption of innovation*" (Benko 1994: 37). Innovation is a product of the activity (Courlet 2001b, page 68), and usually in continuity with the experience acquired by the milieu (Courlet and Soulage, 1994, page 23), and in addition, the "*geographically neighbor enterprises are more likely to exchange knowledge formally or informally (...) all this confirms the importance of geographical proximity between economic actors, and encourages the consideration of the weight of spatial networks of knowledge*" (Courlet 2001a, pp 23- 24). Or even more, in the case of radical innovations, taking into account the relationships with milieu-oriented institutions (university research centers). Hence the importance of governance to translate "all non-market and State-controlled regulation forms."

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<sup>9</sup> The enterprise that lends a machine has indeed an effect on the objective function of another firm without side-effects on prices.

In other words, "governance is civil society minus the market" to which adds "the local political society, community leaders, municipalities" (Benko and Lipietz, 1992).

### **Key points to remember on LPSs:**

- A cluster of enterprises operating in one or more branches and located in the same territory (region or local area);
- Strong interdependence between enterprises, whether between SMEs, between SMEs and one or more large enterprises or even between large enterprises (vertical integration or quasi-integration);
- Ability of enterprises to meet a final variable and differentiated demand in time and space (flexible production units);
- Existence of a strong regional or local identity promoting cooperation and reciprocity between the enterprises and the various stakeholders;
- Presence of rules and conventions (usually unwritten) promoting industrial coordination (rules protecting local production, support to local enterprises, local purchasing, local reinvestment, priority of hiring local workforce etc.);
- Presence of local institutions, communal and public, likely to ensure local governance and therefore to ensure private interests and public property articulation, articulation of economic and social aspects;
- Existence of a local workforce pool (versatility);
- Atmosphere and institutional support promoting innovation and the emergence of new enterprises.

## **4. CONCLUSION**

Though there is no real similarity between the two concepts and the phenomenon of the Third Italy remains unique, the LPS and the Industrial District are always used together. The Grenoble school, formed mainly by Courlet Claude and Pecqueur Bernard remains directly linked to the Italian school which digged out the old term of Marshall. However, the industrial district and the LPS concepts constitute each distinctive features of the "standard categories" of the industrial territories. Finally, Districts and LPSs remain:

- As part of a more general process of "refocusing" / return to the local.
- As the core of a new post-Fordist economy, localized and of small scale
- As mythologies, labels and self-fulfilling prophecies.

## **LITERATURE:**

1. Abdelamalki L, Courlet C (1996) « *les nouvelles logiques de développement/the new logics of development* » coll « Economic logics », Paris, Harmattan.
2. Amable B, Lordon F (1992) « *La régulation et le changement technique : une analyse critique, pourquoi/ Regulation and technical change: a critical analysis, why* » in “Revue économique industrielle », n°60, 2<sup>nd</sup> quarter.
3. Amin A, Robins K (1992) « *Le retour des économies régionales? la géographie mythique de l'accumulation flexible/ The return of regional economies? The mythical geography of flexible accumulation* » in Benko G, Lipietz A.
4. Arthur B (1995): « *Les localisations en grappe dans la 'silicon valley': à quel moment les rendements croissants conduisent-ils à une situation de monopole? / The clustered localizations in the 'silicon valley': when do increasing yields lead to monopoly?* » in: Rallet A. & Torre A. (1995).

5. Ascher F (2000) « *Ces évènements nous dépassent, feignons d'en être les organisateurs. Essai sur la société contemporaine/ Since these events overtake us, let's pretend we organized them. An essay on the modern society* » L'aube editions.
6. Assidon E (2002) « *Les théories économique de développement/The economic theories of development* » 3<sup>rd</sup> edition, Collections Repères, La Découverte, Paris.
7. Aubert F, Guérin M et Perrier-Cornet P (2001) « *Organisation et territoire : un cadre d'analyse appliqué aux espaces ruraux/Organization and territory: an analytical framework applied to rural areas* » in RERU, vol. 3, pp. 393-414.
8. Azaïs C (1997) « *Dynamique territoriale, localisation et Systèmes Productifs Locaux : quelques repères théoriques/Territorial dynamics, localization and Local Production Systems: some theoretical benchmarks* » in Palloix C et Rizopoulos Y « *Firmes et économie industrielle/Firms and industrial economy* », L'Harmattan editions.
9. Aydalot P (1986) « *Milieux innovateurs en Europe/Innovative milieus in Europe* » Paris, GREMI.
10. Aydalot P (1985) « *Economie Régionale et Urbaine/Urban and regional economy* » Economica, Paris.
11. Aydalot P (1984) « *La crise économique et l'espace: recherche sur les nouveaux dynamismes spatiaux/The economic crisis and space: research on the new spatial dynamics* », in « *Revue Canadienne des Sciences Régionales* », vol. VII, n°1, pp. 9-31.
12. Bailly A, Ferras R, Pumain D « *Encyclopédie de géographie/Geography Encyclopedia* » Economica, Paris, 1992.
13. Bagnasco, A., Sabel (1994) « *PME et développement économique en Europe/SMEs and economic development in Europe* » Paris, La Découverte.
14. Beccattini G, Rullani E, (1995) « *Système local et marché global, le District industriel/Local system and global market, the Industrial District* » in Rallet A, Torre A « *Economie industrielle et Economie Spatiale/Industrial economy and Spatial economy* », Economica, Paris.
15. Becattini G (1992) « *Le district industriel: une notion socio-économique/The industrial district: a socio-economic notion* » in Benko G, Lipietz A, « *Les régions qui gagnent, District et réseaux : les nouveaux paradigmes de la géographie économique/Regions that win, District and networks: the new paradigms of economic geography* » PUF, Paris.
16. Becattini G (1989) « *les districts industriels en Italie/The industrial districts in Italy* » in Maruani M et Reynaud E & Romani C (1989) « *La flexibilité en Italie /Flexibility in Italy* », Tenmire, Syros, Paris.
17. Bellet M (1992) « *Technologie et territoire : l'organisation comme objet de recherche/Technology and territory: the organization as a research subject* », in « *Revue française d'économie* », vol VII, n°1, France.
18. Bellet M, Colletis G, Lecoq B, Lung Y, Pecqueur B, Rallet A, Torre A (1992) « *et Pourtant ça marche ! Quelques réflexions sur l'analyse du concept de proximité/And yet it works! Some reflections on the analysis of the concept of proximity* » in “*Revue économie industrielle*”, n°61, 3<sup>rd</sup> quarter.
19. Benko G, Lipietz A (1992), « *Les régions qui gagnent, District et réseaux : les nouveaux paradigmes de la géographie économique/Regions that win, District and networks: the new paradigms of economic geography* » PUF, Paris.
20. Benko G, Lipietz A (1995) « *De la régulation des espaces aux espaces de regulation/From Regulation of spaces to spaces of regulation* » in Boyer R et Saillard Y « *Théorie de la*

*régulation, l'état des savoirs/Regulation theory, the state of knowledge»* La Découverte Editions, Paris.

21. Benko G, Lipietz A (2000), « *La richesse des regions/The wealth of regions*», PUF, Paris.
22. Benko G (1998) « *La science régionale/The regional science* » coll. «que sais-je», Puf Editions, Paris.
23. Benko G (1990) « *La dynamique spatiale de l'économie contemporaine/ The spatial dynamics of the contemporary economy* » l'Espace européen Editions, Paris.
24. Benko G Lipietz A, (2000) « *Géographie socio-économique et économie géographique/Socio-economic geography and geographical economy* » in Benko G, Lipietz A « *La richesse des regions/ The wealth of regions* » PUF, Paris, pp. 9-29.
25. Benko G, Dufnord M, Lipietz A (1996) « *les districts industriels revisités/The industrial districts revisited* » in Pecqueur B (1996).
26. Billette A, Carrier M, Saglio J (1991) « *Structuration sociale d'un système industriel de PME : le cas de la région de St-Georges-de-Beauce/Social structure of an industrial system of SMEs: the case of the St-Georges-de-Beauce region* » Quebec, University of Laval.
27. Bouabdallah K, Massard N (1996) « *Globalisation technologique et compétition des territoires/ Technological globalization and territories competition* » in Abdelamalki L, Courlet C.
28. Bradelli P, (1996) « *Le modèle de production flexible/ The flexible production model*» PUF, coll. Que sais-je?, Paris.
29. Camagni R (2002), « *Compétitivité territoriale, milieux locaux et apprentissage collectif : une contre-réflexion critique/Territorial competitiveness, local milieus and collective learning: a counter-reflection critique*», in «Revue d'économie régionale et urbaine», n°4.
30. Camagni R (1995) « *Espace et temps dans le concept de milieu innovateur/ Space and time in the innovative milieu concept* » in Rallet A, Torre A.
31. Catin M (1994) « *Externalités/Externalities* » in Auray J-P, Bailly A, Derycke P-H, Huriot J-M (1994) « *Encyclopédie d'économie spatiale/Spatial economy encyclopedia* » Paris, Economica.
32. Colletis G, Gilly J-P, Leroux I, Pecqueur B, Perrat Jacques, Rychen F, Zimmermann J-B (1999) « *Construction territoriale et dynamiques productives/Territorial Construction and productive dynamics*» in «Sciences de la Société » journal, n° 48, October.
33. Courlet C (2001a), «*Les systèmes productifs locaux: de la définition au modèle/Local production systems: from the definition to the model.* » in «*Réseaux d'entreprises et territoires, Regards sur les systèmes productifs locaux./Enterprise Networks and Territories, a look at local production systems* », La DATAR, La documentation française.
34. Courlet C (2001b) «*Territoires et régions, les grands oubliés du développement économique./Territories and regions, the big forgotten of economic development*», L'Harmattan Editions, Paris.
35. Courlet C (2001c), «*Les systèmes productifs localisés: un bilan de la littérature/The localized production systems: an assessment of the literature*» in «Cahiers d'économie et de sociologie rurales», n°58-59.
36. Courlet C (2000b) « *Le district industriel d'Alfred Marshall/Alfred Marshall's industrial district*» in « *Géographie, Economie et Société* », volume 2, n°1.
37. Courlet C (1999a), « *Territoire et développement/Territory and development*» in RERU, n° 3.

38. Courlet C & Soulage B (1994) « *Industrie, territoires et politiques publiques/Industry, territories and public policies* » Paris, l'Harmattan Editions.
39. Courlet C. & Pecqueur B (1992) « *Les systèmes industriels localisés en France: un nouveau modèle de développement/ The localized industrial systems in France: a new development model.* » in Benko G et Lipietz A (1992).
40. Courlet C Féguène A (2001) « *Globalisation et développement : le cas des SPL dans les pays en développement/Globalisation and development: the LPS in developing countries* » Coll. « Economie sociale et développement local/Social economy & local development» University of Mohamed V – Souissi, Salé- Rabat, April 5-6 & 7.
41. Courlet C Pecqueur B (1996) « *Districts industriels, systèmes productifs localisés et développement/Industrial districts, localized production systems and development* » in Abdelamalki L, Courlet C, « *les nouvelles logiques de développement/Development new logics* » coll. «Logiques économiques/Economic logics», Paris, Harmattan Editions, pp 91-102.
42. Courlet C, B Pecqueur, (1991) « *Systèmes locaux d'entreprises et externalités : un essai de typologie/Enterprises local systems and externalities: an essay on typology.* » in «Revue d'économie régionale et urbaine» n° 3/4.
43. Courlet C, Pecqueur B, Soulage B (1993) « *Industrie et dynamiques des territoires/Industry and territories dynamics* » in « Revue d'économie industrielle », n° 64, 2<sup>nd</sup> quarter, pp 7- 22.
44. Dimou M (1994) « *La dynamique d'évolution des systèmes productifs locaux, une interprétation marshallienne du développement/The evolution dynamics of local production systems, a Marshallian interpretation of development* » PhD at UPMF, under the direction of Claude Courlet.
45. Ferguène A (2001), « *Dialectique globale/locale et dynamisme endogène dans les pays en développement : exemples tunisiens./ Global/local dialectic and endogenous dynamism in developing countries: Tunisian examples* » in “Perspectives” journal (URTSD), University of Badji Mokhtar in Annaba, n° 5, March.
46. Ferguène A (1997) « *Les dynamiques industrielles endogènes: quels enseignements pour une alternative au modèle standard dans les pays du Sud?/Endogenous industrial dynamics: what lessons for an alternative to the standard model in Southern countries?* » in “Espaces et sociétés”, n° 88/89.
47. Ferguène A Hsaïni A (1998) « *La flexibilité source d'efficacité productive? Enseignement à partir d'un système localisé de PME en Tunisie/ Flexibility as a source of productive efficiency? A lesson from a localized system of SMEs in Tunisia* » in «Revue internationale PME», vol 11, n°4.
48. Garofoli G (1996) « *Industrialisation diffuse et système productifs locaux : un modèle difficilement transférable aux pays en voie de développement/Diffuse industrialization and local production system: a model difficult to transfer to developing countries* » in Abdelamalki L, Courlet C, (1996) « *les nouvelles logiques de développement/The new logics of development* » coll. « Logiques économiques/Economic logics», Paris, Harmattan, 1996.
49. Garofoli G (1992) « *Les systèmes de petites entreprises: un cas pragmatique de développement endogène/The systems of small enterprises: a pragmatic case of endogenous development* » in Benko G, Lipietz A.(1992).
50. Gilly J.P, Pecqueur B (2001) « *Régulation des territoires et dynamiques institutionnelles de proximité: le cas de Toulouse et des Baronnies/Territories regulation and proximity institutional dynamics: the case of Toulouse and Baronnies* » in “Dynamiques de proximité/Proximity dynamics”, Rallet & Torre, L'Harmattan Editions, pp. 131-164.

51. Hsaïni A, (2000), « *Le dépassement des économies d'agglomération comme seules sources explicatives de l'efficacité des systèmes de production territorialisés/Exceeding the economies of agglomeration as the only explanatory sources of the effectiveness of territorialized production systems.* » in RERU n° 2.
52. Hsaïni A (1996), « *La spécialisation souple comme vecteur d'industrialisation : une expérience tunisienne/Flexible specialization as an industrialization vector: a Tunisian experience.* » in Abdelamalki L, Courlet C, « *Les nouvelles logiques de développement/The new logics of development* » coll. « Logiques économiques/Economic logics », Paris, Harmattan.
53. Hsaïni A (1996) « *Spécialisation souple et développement: le cas de Ksar Hellal/Flexible specialization and development: the case of Ksar Hilal* » Phd at the UPMF, Grenoble II, under the direction of Courlet Claude.
54. Kherjemil B (1999) « *Territoires, Mondialisation et redéveloppement/Territories, Globalization and Re-development* » in « Revue d'économie régionale et urbaine » n° 2.
55. Lebrorgne D, Lipietz A (1992b) « *Flexibilité offensive et flexibilité défensive, deux stratégies sociales dans la production des nouveaux espaces économiques/Offensive flexibility and defensive flexibility, two social strategies in the production of new economic spaces.* » in Benko G
56. Lipietz A (1992), « *Les régions qui gagnent, District et réseaux : les nouveaux paradigmes de la géographie économique/Regions that win, District and networks: the new paradigms of economic geography* » PUF, Paris.
57. Longhi C, Spindler J (2000), « *Le développement local/The local development* », LGDJ editions, Paris.
58. Markusen A, (2000), « *Des lieux-aimants dans un espace mouvant: une typologie des districts industriels/ Magnetic places in a moving space: a typology of industrial districts* » in Benko G, Lipietz A « *la richesse des regions/The wealth of regions* » PUF, Paris, pp. 85-119.
59. Maruani M & Reynaud E & Romani C (1989) « *La flexibilité en Italie/Flexibility in Italy*», Tenmire, Syros, Paris.
60. Nadvi K, Schmitz H (2001) « *Les clusters dans les pays en voie de développement : bilan d'expériences et perspectives de recherches/The clusters in developing countries: results of experiences and research perspectives.* » in « *Réseaux d'entreprise et Territoires, regards sur les systèmes productifs locaux/Enterprise Networks and Territories, a look at local production systems* », Datar, La documentation française.
61. Pecqueur B (2000) « *Le développement local : pour une économie des territoires/Local development: for a territories' economy* » Syros Editions ; Dijon.
62. Pecqueur B (1995) « *La logique de la proximité/The logic of proximity* » in “sciences humaines”, Special issue, n° 8, February-March.
63. Pecqueur B (1996) « *Dynamiques territoriales et mutations économiques/Territorial dynamics and economic changes* » L'Harmattan, Paris.
64. Pecqueur B (1987) « *Tissu économique local et systèmes industriels résiliaires/Economic fabric and network industrial systems* » in RERU n° 3.
65. Perrat J (1997), « *Une clé de lecture du rapport firmes/ territoires : la notion d'externalité/A reading key of firms/territories relationship: the notion of externality* », « *Espaces et Sociétés* », n° 88/89.
66. Perrin, J-C (1992) « *Pour une révision de la science régionale. L'approche par les milieux/For a review of regional science. The approach by the milieu* » in “*Revue canadienne des sciences regionals*”, XV summer 1992, pp 155-197.

67. Peyrache V (1992) « *Le district industriel: un nouveau modèle d'organisation spatiale de la production et du développement régional?/The industrial district: a new model of spatial organization of production and regional development?* » Problèmes économiques, no 2.262.
68. Piore M Sabel C (1989) « *Les chemins de la prospérité: de la production de masse à la spécialisation flexible/ Pathways to Prosperity: from mass production to flexible specialization* » Coll. Mutations, Hachette, Paris.
69. Porter M (1998) « *Localisation et compétitivité/Localization and competitiveness* » Sociétal n°19, May.
70. Ragni L (1997) « *Systèmes localisés de production: une analyse évolutionniste/Local production systems: an evolutionary analysis* » in « Revue d'économie industrielle », n°81, 3<sup>rd</sup> quarter.
71. Rallet A, Torre A (1995) « *Economie industrielle et Economie Spatiale/Industrial economy and spatial economy* », Economica, Paris.
72. Rallet A, Torre A (1995) « *Economie industrielle et Economie Spatiale : un état des lieux/A survey on Industrial economy and spatial economy* », in Rallet A, Torre A « *Economie industrielle et Economie Spatiale/Industrial economy and spatial economy* », Economica, Paris.
73. Thireau V (1993), « *Les nouvelles dynamiques spatiales : A la redécouverte des territoires/The new spatial dynamics: discovering territories* », L'Harmattan, Paris.
74. Vidal F (1998), « *les secrets des districts italiens/The secrets of Italian districts* » in Sociétal n°20.
75. Vidal F (2001) « *Les districts industriels italiens/The Italian industrial districts* » in « *Réseaux d'entreprise et Territoires, regards sur les systèmes productifs locaux/Enterprise networks and Territories, a look at local production systems* », Datar, La documentation française.
76. Veltz P (2002), « *Des lieux et des liens: politiques du territoire à l'heure de la mondialisation/Places and connections: territory policies at the time of globalization* » l'Aube Editions, La Tour d'Aigues.
77. Veltz P (1996), « *Mondialisation villes et territoires/ Cities and territories globalization* » PUF, Paris.
78. Veltz P (1994) « *Des territoires pour apprendre et innover/Territories where to learn and innovate* » L'aube Editions, La Tour d'Aigues.
79. Veltz P (1995) « *Economie globale et réinvention du local/Global economy and the reinvention of premises* » l'Aube Editions, 1995

## RANKING OF USER EXPECTATIONS WHICH INFLUENCE THE LEVEL OF ADOPTION AND USE OF INTERNET BANKING SERVICE

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### **ABSTRACT**

*There is a growing awareness of the importance of internet banking in banks all over the world accompanied by their client's growing interest in using online banking services. In practice, it is often not enough to merely identify the expectations of users, but is necessary to determine the difference in the importance of the identified needs. In this way, employees in marketing and IT sectors can define priorities when designing and implementing strategies for successful online presentation. For the purposes of this study, in the process of identifying customer expectations, the authors used a combination of the two theoretical models: the Technology Acceptance model (TAM) and the Theory of Planned Behaviour model (TPB). The Analytic Hierarchy Process (AHP) was applied to determine the weights of the identified user requirements. The results showed that the perception of the security and financial risks, the perceived benefits, social norms and subjective attitudes, the ease of use, self-organization and the intention to manage one's own accounts do not bear the same importance when deciding on adoption of internet banking and when making decisions on future behavior. In practice, the results obtained can be used as guidelines and recommendations on how to define priorities when creating online banking offers. In theory, the presented systematization of user expectations may prove useful for future research on adoption and diffusion of online banking*

**Keywords:** AHP, internet banking, priorities, user expectations

### **1. INTRODUCTION**

The application of internet technology in banks in order to improve the quality of their presentation to customers is not new. Over the last ten years the number of services that can be offered online has been growing rapidly and there is a growing awareness in banks of the importance of applications that can support these services.

Despite the conspicuous advantages of internet banking over traditional banking, internet banking has not been accepted in all countries by a sufficiently large number of users. This lagging behind in terms of the level of adoption of internet banking is especially pronounced in developing countries, such as Montenegro. This can be due to a number of factors, such as the perception of the security of transactions, the complexity of use of online services, failure to obtain the expected benefits, failure to meet social norms and so on.

Since managements of banks aim to create functional systems for online services, in order to achieve successful design and implementation, they should be well aware of the priorities in terms of user requirements.

In the studies conducted so far on adoption and diffusion of information and telecommunication technologies (ICT), several theoretical models were used for the identification of the factors and for measuring the degree of their impact on the level of adoption and use of online services. Sets of determinants which are the subject of such studies can be identified through the Social Cognitive Theory (SCT), the Expectation Confirmation Model (ECM), the Theory of Reasoned Action (TRA), the Innovation Diffusion Theory (IDT), the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB) and many other theoretical models.

Taking into consideration the focus of this study, the authors used an integrated model: the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB). Neither of the two models separately can explain the behavior of banks' clients and the reasons for their behavior regarding the use of online services, but these two models together can lead to quite comprehensive explanations.

An additional reason for choosing a combination of these two models is the fact that they have received a consistent empirical support in a growing body of research on ICT diffusion and adoption as well as on intentions of users to use the new systems and technology (Awa et al., 2015, 76-94; Gamal Aboelmage, 2010, 392-414; Hameed et al., 2012, 358-390).

As regards internet banking specifically, over the recent years a large number of studies has been conducted based on the integration of these two theoretical models (Nasri and Charfeddine, 2012, 1-14; Khanifar et al., 2012, 8072-8079; Safeena et al., 2013, 146).

Since the intention of this study was to develop a ranking of importance of the identified factors, we used the AHP method.

The AHP method has so far been successfully used to identify and predict user requirements regarding the use of ICT (Natarajan et al., 2010, 1-16; Zhang et al., 2012. 3611-3623; Lee and Kozar, 2006, 1383-1401), which led the authors to believe that it may prove suitable for a study of this type.

The study was conducted for the banks in Montenegro, where despite many positive developments in technical and organizational terms, we still cannot talk about an acceptable level of development of online banking and the use of its services. Therefore, the authors believe that the results of this research might help managers to understand the difference in terms of value creation in the physical and electronic environment. The conclusions of the study can offer inputs to marketing and IT experts which they might find useful in the future course of action in the field of internet banking, in terms of defining priorities when creating their online offer.

On the other hand, these results can be used for comparative analyses of the banking sectors of the countries which are at the same level of socio-economic and technical development, but also to compare the differences between developed and developing countries.

The paper is structured as follows:

The following section provides an overview of literature on internet banking and the justification for using the TAM and TPB models. It also presents the results of previous studies. The third section explains the research methodology, research tools and characteristics of the sample. The fourth section presents and discusses the obtained results. Finally, the authors offer conclusions and an overview of the theoretical and practical implications of the study. In addition, the final section features an overview of the limitations of the study and offers recommendations for future research in this field.

## 2. RELATED WORKS

One of the important criteria for measuring the success of a system based on ICT is the degree of its use and adoption.

For this reason, in a significant number of studies (Lee, 2009, 130-141; Kesharwani and Singh Bisht, 2012, 303-322), the TAM model was used as a conceptual framework for identifying the

factors that influence the adoption of internet banking (Davis, 1989, 318-339). This model evolved as the result of the adaptation of the Theory of Reasoned Action-TRA (Fishbein, 1980). This model suggests that the level of use and adoption of the technology can be influenced if we know the perception of usefulness and the perception of the ease of use of the system. The perception of usefulness is defined as the extent to which the user believes that the system will contribute to the realization of benefits, while the perception of the ease of use is defined as the degree to which the system will facilitate one's work (Davis et al., 1989, 318-339). Since the decision on the degree of the use of the system is not influenced by personal perception only, the need arose to expand the list of determinants of the TAM model by the determinants of another model.

Hernandez and Mazzon (2007, 72-88) combined the Innovation Diffusion Model and the TAM. Gounaris and Koritos (2008, 282-304) based their research on a combination of the TAM and the Perceived Characteristics of Innovation (PCI) model, while (Awa et al., 2010, 6(1), 1) combined this model successfully with the TOE framework.

As regards research on internet banking, the most commonly used model alongside the TAM is the TPB model.

The TPB model sheds light on the three factors influencing a person's decision to use a system: (a) behavioral beliefs about the likely outcomes of the behavior and the evaluations of these outcomes; (B) normative beliefs about the normative expectations of others and the motivation to comply with these expectations; and (c) control beliefs about the resources and opportunities possessed (or not possessed) by the individual and also the anticipated obstacles or impediments toward performing the target behavior (Ajzen, 1991, 179-211).

In the context of this study, the authors considered it unacceptable not to add the factor of risk perception to the factors included in the previously explained methods.

Security and privacy are important determinants of the adoption of online banking services (Zandhessami and Geranmayeh, 2014, 1369-1374; Nasri and Charfeddine, 2012, 1-14).

While most previous studies used standard statistical methods for testing the importance of the defined determinants, in this study we opted for the AHP. Due to its flexibility, the AHP is widely applicable in the situations when a decision is to be made to solve problems with multiple criteria, when it is necessary to determine the importance or weight of a criterion and when it is necessary to make a ranking.

In addition, this model has found a foothold in many studies in the field of marketing, finance, management, etc.

### **3.RESEARCH METHODOLOGY, RESEARCH TOOLS AND CHARACTERISTICS OF THE SAMPLE**

In accordance with the defined goal of the research, the major research question in this paper is: What is the weight of user expectations that influence the level of adoption and use of online banking services by customers, i.e., whether the ranking of these expectations might yield the results that would serve as an input in the management of IT resources?

As has already been pointed out, in order to find the answer to this question, the authors used one of the methods of multi-criteria decision-making: the Analytic Hierarchy Process (AHP). A multi-criteria analysis or multi-criteria decision-making is decision making in situations where there are a number of usually conflicting criteria, which allows for solving real problems. There is a wide spectrum of problems that can be solved by using multi-criteria analysis, but all these problems have some common characteristics, such as: a larger number of criteria, a conflict between the criteria, incomparable units of measure for different criteria, a larger number of alternatives (solutions) to choose from and the process of selection of one final decision (which may be designing the best alternative or selecting the best alternative from a set of predefined final alternatives).

When solving a problem by using the AHP, the three components can be identified.

These are: decomposition, comparative judgment and synthesis of priorities.

When decomposing a system the elements of the hierarchy should be established, with the goal at the top, the criteria at the level below and the alternatives at the bottom of the hierarchical model.

In this paper, the goal was to rank the importance of user expectations from internet banking. Since it was necessary to establish the criteria for the next level of the hierarchy, based on the literature review and the study of the TAM and TPB models and after eliminating the repeated elements of these two models, while taking into account the safety and security of electronic transactions, the authors defined 6 determinants affecting the level of adoption of the services. The set of these determinants comprises: the expected benefits, the ease of use of the system, the perception of risk, the possibility of self-organization and managing one's own resources, social norms and subjective attitudes.

The confirmation of the significance of studying these very factors was found in the research completed so far.

It is clear that the expected benefits can significantly influence the user's intention to use a certain online system (Lin and Chang, 2011, 424-444; Wei et al., 2009, 370-388), that complexity and complicatedness might discourage them (Morosan and Jeong, 2008, 284-292), and that the user will not use the service unless they are sure that they are guaranteed privacy and security (Zandhessami and Geranmayeh, 2014, 1369-1374).

Just as the subjective attitude influences the behavior and intention to use a specific system (Puschel et al., 2010, 389-409), so social norms, the attitude of the environment, pressure from friends, co-workers, the media, people in authority, etc., may influence future behavior (Aboelmaged and Gebba, 2013, 35-50)

In addition, numerous studies (Lin and Chang, 2011, 424-444; Aboelmaged and Gebba, 2013, 35-50) confirm that the degree of use of online systems will always be greater if the user believes that thanks to the online systems they will increase the level of self-organization and management of their own resources: money, time, place, ...) in a manner and at a time that suits them.

At the bottom level of the hierarchy are alternatives, that is, banks operating in the banking system of Montenegro.

The second component of the problem is comparative assessment, which means that at every level of the hierarchy elements are compared pairwise. The goal of this phase is to obtain local criteria priorities, i.e. the weights of each of the observed criteria and alternatives depending on which level of the hierarchy is observed. The preferences of the decision maker are expressed using a scale. In our model, a ratio scale (the Saaty Rating Scale) was used which has five levels and four intermediate levels of verbally described intensities and corresponding numerical values for them on the scale from 1 to 9 (Saaty, 1980, p.54). The Saaty's scale is shown in Table 1.

*Table following on the next page*

*Table 1: The Saaty's scale (Saaty, 1980, p.54)*

Intensity of Importance	Definition	Explanation
1	Equal Importance	Two activities contribute equally to the objective
2	Weak or slight	
3	Moderate importance	Experience and judgement slightly favour one activity over another
4	Moderate plus	
5	Strong importance	Experience and judgement strongly favour one activity over another
6	Strong plus	
7	Very strong or demonstrated importance	An activity is favoured very strongly over another; its dominance demonstrated in practice
8	Very, very strong	
9	Extreme importance	The evidence favouring one activity over another is of the highest possible order of affirmation
2,4,6,8	Intermediate values	

The third component of the problem is to synthesize all the local priorities of the criteria and alternatives to yield a set of overall priorities for the hierarchy, that is, to obtain a ranking of alternatives.

For the purposes of this study, the authors used a survey. The data collection took place between September and December 2015. The respondents were clients of Montenegrin banks. Out of a total of 1,500 questionnaires sent, 775 were returned fully completed.

The authors used the integrated TAM and TPB models as the conceptual framework for defining the survey, while a 5-point Likert scale was used for the assessment of attitude.

The respondents were informed about the goal of the research and were asked to express their views on a scale from 1 (strongly disagree) to 5 (strongly agree).

The data obtained were first entered in an Excel spreadsheet, and then a table with the processed data was exported into Expert Choice software.

#### **4. RESULT AND DISCUSSION**

As already mentioned, six criteria were used in the analysis which influence the increase of the degree of adoption and use of internet banking in Montenegro. Using the TAM and TPB models, the authors defined the criteria and based on the processing of the surveys, the data were obtained that are shown in Table 2.

*Table following on the next page*

*Table 2: Evaluation of users' views*

Banks	Safety and security risks	Perception of benefits	Subjective attitudes	Social norms	Ease of use of the system	Self-organisation and the ability to manage their own resources
<b>Bank 1</b>	4.95	4.11	3.35	1.01	3.98	3.56
<b>Bank 2</b>	4.56	4.21	3.56	1.22	4.15	3.33
<b>Bank 3</b>	4.68	4.23	3.57	1.35	4.13	3.48
<b>Bank 4</b>	4.69	4.02	3.50	1.65	3.96	3.68
<b>Bank 5</b>	4.88	4.25	3.41	1.26	3.67	3.47
<b>Bank 6</b>	4.81	4.31	3.36	1.63	4.05	3.65
<b>Bank 7</b>	4.86	4.32	3.33	1.34	4.89	4.01
<b>Bank 8</b>	4.79	4.05	3.41	1.11	4.07	3.69
<b>Bank 9</b>	4.35	4.09	3.24	1.09	3.82	3.54
<b>Bank 10</b>	4.83	4.41	3.35	1.25	3.63	3.66
<b>Bank 11</b>	4.67	4.22	3.42	1.36	4.12	3.48
<b>Bank 12</b>	4.59	4.24	3.36	1.45	4.03	3.64
<b>Bank 13</b>	4.62	4.36	3.53	1.24	3.76	3.48

The obtained data were adjusted for further analysis through the AHP, and the weights of the observed criteria were obtained (Table 3).

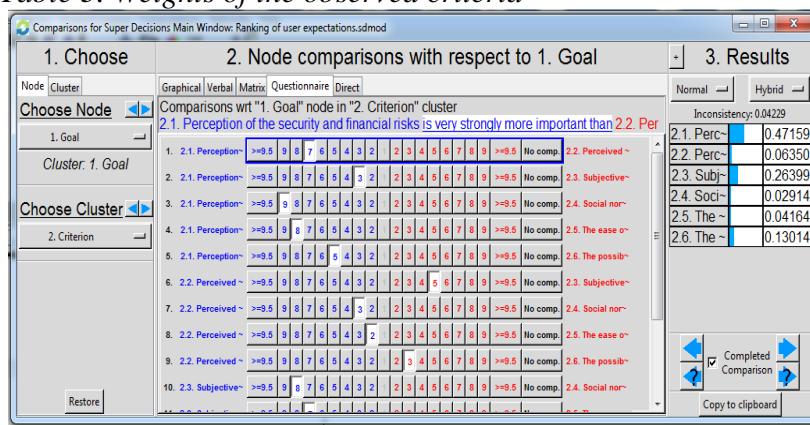
The results show that the most important criterion for the adoption of internet banking is the perception of possible security and safety risks (0.47519). This result was expected and confirmed not only in many pioneering works (Booz et al., 1997; Sathye, 1999), but also in recent papers on the subject (Nasri, 2011,1-14; Zandhessami and Geranmayeh, 2014, 1369-1374).

However, both practice and theory show that troubleshooting the issue of vulnerabilities on a network proves often to be detrimental to the ease of use of the system. French (2015, 1-14) showed that clients do not mind if the measures taken to protect a system decrease the ease of use of the system. The results of our study confirmed the previous findings and in this case the ease of use of the system is at the bottom of the list of user expectations (0.04164).

This research has also shown that when individuals make decisions on the use of an e-banking system the weights of the subjective, i.e., personal attitudes of users (0.26399) are greater than those of social norms, and social incentives and pressures (0.02914). The rationale for these results should be sought in the fact that external incentives and pressures may be a significant determinant when making decisions to adopt an ICT innovation, but they cannot have an impact on the decision whether to continue using the system. In contrast, subjective attitudes influence both the adoption and the further use of the system, and, therefore, have a greater weight.

The result which comes as a surprise is that the criterion of self-organization and the ability to manage their own account (0.13014) carries more weight than the expected benefits (0.06350). This result was not expected having in mind the low purchasing power of the Montenegrin population. However, it can be justified by the fact that the clients in the sector of business-consumer (B2C) fall primarily into the category of the employed, better-off and highly educated, that is, those users who prefer comfort.

*Table 3. Weights of the observed criteria*



One of the characteristics of the AHP model is the possibility of assessing the level of consistency, as a measure of inconsistency in assessing the elements in the model. This means that the model can identify and analyze inconsistencies of decision-makers in the process of reasoning and evaluation of the elements of a hierarchy. If the level of consistency is less than 0.1, the result is sufficiently accurate and there is no need for adjustments in comparisons and the repetition of the calculation.

In this paper, the level of consistency is 0.04229, which indicates that the model is well established and the errors in the estimates are very small.

## 5. CONCLUSION, PRACTICAL IMPLEMENTATION AND THEORY CONTRIBUTION

The paper used the AHP method to rank by importance the factors defined by the TAM and the TPB model. This integrated model was extended by the determinant which estimated the users' attitude towards the security and safety of transactions.

The results showed that, as regards the adoption and use of these technologies, the most important determinant is the perception of security of transactions. This means that the priority in defining the policy of online performance should be given to the activities of defining security policies and security measures and the issue of their implementation as well as the ways of dealing with safety and security concerns and sanctioning in case of violation of the pre-set goals in this domain.

Since the subjective attitude is the second most important determinant, the banks should do more to promote internet banking and thus influence the personal attitudes of their clients so as to persuade a greater number of them to move from the traditional to the electronic environment. The fact that the users give priority to self-organization and the ability to manage their own accounts over the expected benefits could be beneficial to the management of the banks if they want to expand the range of online services that can provide a higher level of so-called self-efficacy to their clients.

At the present moment, social norms exert very slight influence on the intended behaviour of the clients of Montenegrin banks. It is possible that the findings would be different if the level of adoption of internet banking was higher, which can certainly be investigated in some future research when internet banking in the country enters a more mature phase.

In theoretical terms, this paper contributed to the debate on e-banking adoption and diffusion and also supported the theoretical models based on which the factors to be ranked were identified.

In practical terms, the authors believe that the study yielded some useful information for managers of the banks, because thanks to the ranking of importance of the investigated factors, they might be able to define priorities when implementing the policies of their online presentation and operations.

The research encompassed all banks operating in Montenegro and the major limitation of this study is that the number of the banks, as compared to more developed market economies, is relatively small. Nevertheless, these findings may serve as useful input to a similar study to be done for other less developed countries.

## LITERATURE:

1. Aboelmaged, M., & Gebba, T. R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. *International Journal of Business Research and Development (IJB RD)*, 35-50
2. Ağırgün, B. (2012). Ranking B2C web sites with AHP and TOPSIS under fuzzy environment. *Nevşehir Bilim ve Teknoloji Dergisi*, 1(2).
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
4. Awa, H. O., Nwibere, B. M., & Inyang, B. J. (2010). The uptake of electronic commerce by SMEs: a meta theoretical framework expanding the determining constructs of TAM and TOE frameworks. *Journal of Global Business and Technology*, 6(1), 1.
5. Awa, H. O., Ojiabo, O. U., & Emecheta, B. C. (2015). Integrating TAM, TPB and TOE frameworks and expanding their characteristic constructs for e-commerce adoption by SMEs. *Journal of Science & Technology Policy Management*, 6(1), 76-94.
6. Booz, Allen & Hamilton. (1997). Internet banking: a global study of potential. Booz, Allen & Hamilton Inc., New York, NY
7. Dumitache, M. (2010). E-Commerce applications ranking. *Informatica economica*, 14(2), 120.
8. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
9. Fishbein, M (1980), Understanding attitudes and predicting social behavior , Englewood Cliffs, NJ: Prentice-Hall)
10. Fonchamnyo, D. C. (2013). Customers' Perception of E-banking Adoption in Cameroon: An Empirical Assessment of an Extended TAM. *International Journal of Economics and Finance*, 5(1), 166.

11. French, A. M. (2015). A Case Study on E-Banking Security? When Security Becomes Too Sophisticated for the User to Access Their Information. *The Journal of Internet Banking and Commerce*, 2012.
12. Gamal Aboelmaged, M. (2010). Predicting e-procurement adoption in a developing country: an empirical integration of technology acceptance model and theory of planned behaviour. *Industrial Management & Data Systems*, 110(3), 392-414.
13. Gounaris, S. and Koritos, C. (2008), “Investigating the drivers of internet banking adoption decision: a comparison of three alternative frameworks”, *International Journal of Bank Marketing*, Vol. 26 No. 5, pp. 282-304.
14. Hameed, M. A., Counsell, S., & Swift, S. (2012). A conceptual model for the process of IT innovation adoption in organizations. *Journal of Engineering and Technology Management*, 29(3), 358-390.
15. Hernandez, J.M.C. and Mazzon, J.A. (2007), “Adoption of internet banking: proposition and implementation of an integrated methodology approach”, *International Journal of Bank Marketing*, Vol. 25 No. 2, pp. 72-88.
16. Kesharwani, A., & Singh Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4), 303-322.
17. Khanifar, H., Nia, M., Javad, M., Jandaghi, G., Molavi, Z., & Emami, M. (2012). Factors influencing the intendency of e-banking: An integration of TAM & TPB with e-service quality. *Elixir Fin. Mgmt*, 46, 8072-8079.
18. Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130-141.
19. Lee, Y., & Kozar, K. A. (2006). Investigating the effect of website quality on e-business success: An analytic hierarchy process (AHP) approach. *Decision support systems*, 42(3), 1383-1401.
20. Lin, J-S. and Chang, H-C. (2011), “The role of technology readiness in self-service technology acceptance”, *Managing Service Quality*, Vol. 21 No. 4, pp. 424-444
21. Morosan, C. and Jeong, M. (2008), “Users’ perceptions of two types of hotel reservation web sites”, *International Journal of Hospitality Management*, Vol. 27 No. 2, pp. 284-92.
22. Nasri, W. (2011). Factors influencing the adoption of internet banking in Tunisia. *International Journal of Business and Management*, 6(8), 143.
23. Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research*, 23(1), 1-14.
24. Natarajan, T., Balasubramanian, S. A., & Manickavasagam, S. (2010). Customer’s choice amongst self service technology (SST) channels in retail banking: A study using analytical hierarchy process (AHP). *Journal of Internet Banking and Commerce*, 15(2), 1-16.
25. Puschel, J., J. A. Mazzon, and J. M. C. Hernandez, “Mobile banking: Proposition of an integrated adoption intention framework,” *International Journal of Bank Marketing*, Vol. 28, No. 5: 389-409, 2010.
26. Saaty, T.,(1980), “*The Analytic Hierarchy Process*”, McGraw-Hill, New York
27. Safeena, R., Date, H., Hundewale, N., & Kammani, A. (2013). Combination of TAM and TPB in Internet banking adoption. *International Journal of Computer Theory and Engineering*, 5(1), 146.
28. Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, Vol. 17 No. 7, pp. 324-34.

29. Sundarraj, R. P., & Manochehri, N. (2013). Application of an Extended TAM Model for Online Banking Adoption: A Study at. *Managing Information Resources and Technology: Emerging Applications and Theories: Emerging Applications and Theories*, 1.
30. Wei, T., Marthandan, G., Chong, A., Ooi, K. and Arumugam, S. (2009), “What drives Malaysian m-commerce adoption? An empirical analysis”, *Industrial Management & Data Systems*, Vol. 109 No. 3, pp. 370-88.
31. Yaghoubi, N. M. (2010). Factors affecting the adoption of online banking-an integration of Technology Acceptance Model and Theory of Planned Behavior. *International Journal of Business and Management*, 5(9), 159.
32. Zandhessami, H., & Geranmayeh, P. (2014). Determinants of user acceptance of internet banking: An empirical study. *Management Science Letters*, 4(7), 1369-1374.
33. Zhang, Y., Deng, X., Wei, D., & Deng, Y. (2012). Assessment of E-Commerce security using AHP and evidential reasoning. *Expert Systems with Applications*, 39(3), 3611-3623.

# HOW DOES INFORMATION TECHNOLOGY CAPABILITY SHAPE THE RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND INNOVATION CAPABILITY IN MANUFACTURING SECTORS?

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## Abstract

*The complexity and turbulent business environment nowadays forced organizations to enhance their capabilities to be able to respond to all the environmental changes. As a sign of response manufactures, among other sector, tried to acquire unique resources and capabilities, develop innovation capability. This argument has been justified by the increasing attention given by many researchers to examine the interaction between the Organizational Culture (OC) and information technology capability (ITC). Moreover, a great deal of attention has been paid to the Innovation capability implication of this interaction. This paper reviewed the literature related to the interaction between Organizational Culture (OC) and information technology capability (ITC) and Innovation capability (IC) of manufactures.*

**Keywords:** *Information technology capability (ITC), Innovation capability (IC), manufactures sector and Organizational Culture (OC)*

## 1. INTRODUCTION

Innovation has become widely recognized as a key to competitive success (Francis & Bessant, 2005). Scholars are mainly concerned with innovation because of the life requirements and the persistent desire for continuous change to be in accordance with individuals' needs and desires (Badawy, 1993). Developments in all aspects of life aspects are attributed to innovation. Peter Ducker, one of the administration scholars, says that innovation is one of the main forces in economic and social development and a basic tool in the growing, resistance and adaptability of the contemporary organizations with the changing environmental conditions as those organizations with no innovation will shortly remove (Drucker, 1995). Leaders of businesses of all sizes and from all industries make innovation among their top priorities and concerns (Scantlebury& Lawton, 2007). Many studies have found that innovation is the most important tool that firms use to maintain a competitive advantage (Kimberly and Evanisko, 1981; Damanpour and Evan, 1984; Badawy, 1993; Rabelo and Speller, 2005).

Innovation, in the developed countries, has become an activity practiced by all pioneer organizations and supervised by specialized sections to provide the suitable environment to support and encourage innovation to reach the creative solutions for the problem (Hadjlmonnoli, 2000). The important role of innovation for the states and organizations and the changes in the contemporary organizations environment, in particular changes in competition, complex customers' needs, products life cycle shortage and the increasing technologies, has changed bases and rules of competition supporting the view that innovation is the competitive force for achieving the success of the organizations (Shi, Yeo, and Wang, 2001).

A large number of variables have been proposed as determinants of innovation capabilities. In general, these can be grouped as individual factors, organizational factors and environmental factors. This study goes in depth into organizational factors since the literature has identified these as having the most effect on innovation (Damanpour, 1991).

However, there are many problems for manufactures in the current global business environment. The first problem sustainable and successful innovation is so difficult to be achieved by many firms (Marane, 2011; Al-Muafaq, 2009). The second problem is increasing competition and offering similar products and services from other firms, It becomes imperative for firms to develop capability to innovate at a faster rate and in a sustainable level (Fruhling & Siau, 2007).

Thus, the current paper intends to investigate the mediating role of information technology capability in relationship between organizational culture to innovation capability to increase firm performance, market share, market exposure and potential for revenue earning.

## **2. INNOVATION CAPABILITIES**

Innovation is the main element in improving economic conditions for all the states, the large and the small, the developed and the developing. It is also the important factor in the long term success for all kinds of organizations (Galanakis, and Passey, 2001).

A review of literature from the past several decades revealed numerous definitions of innovation. Many of the definitions are slight variations built on common themes. Because this chapter synthesizes innovation concepts and strategy mechanisms, it is important to have a working definition of innovation. Thompson (1976) defined innovation as the generation, acceptance, and implementation of new ideas, processes, and products or services. Damanpour (1996) defined innovation as the adoption of an idea or behavior new to the adopting organization. Slappendel (1996) defined innovation as the process through which new ideas, objects, and practices are created, developed, or reinvented. Coopey, Keegan, and Emler (1998) defined innovation as a particular form of change characterized by the introduction of something new. Cortese and McDonough (2001) presented innovation as the processes by which firms master and get into practice product designs and manufacturing systems that are new to them. For Stoker, J.I., & Van der Heijden, B.I.J.M. (2001) innovation is defined as any idea, practice, or material artifact perceived to be new by the relevant unit of adoption. Finally, Edwards, Kumar, and Ranjan (2002) define innovation as a series of processes that are designed and managed to create and apply ideas and knowledge.

More specifically, there is a plethora of studies and discussions in the areas of organizational innovation and innovativeness, leaders' management and influence on fostering innovative cultures and innovations, individual innovativeness, and innovation-supportive cultures. However, this researcher believed there was a gap in published research on senior executives' support of innovation, particularly in the manufacturing sector. Wilson, Ramamurthy and Nystrom (1999) states that innovations are heavily dependent on executive leaders' interests and beliefs. However, very few studies have quantitatively examined the impact of top management on innovation (Papadakis & Bourantas, 1998). These seven definitions of innovation have two common themes: something new and processes. Synthesizing the two common themes from the referenced literature, the working definition of innovation for this study is a system designed and managed to create and apply new ideas that result in new products (goods and services) and processes. Thus, innovation is among the main requirements in the contemporary management where adopting the traditional managerial methods is not enough and could lead to failure (Hadjimanolis, 2000). Organizations searching for success should be characterized by innovation, invention and change.

## **3. ORGANIZATIONAL CULTURE**

Studies concerned with the organizational culture presented various definitions regarding concepts and contents. One of the studies confirmed that the organizational culture is a common system of values and beliefs developing within the organization and clearly determine the members' behavior (Schermerhorn, James, Hunt and, Osbon, 1997). Another study indicated

that the organizational culture is the directed values and beliefs, understanding and methods of thinking shared by the organization members themselves. The study added that culture is the undocumented part of the organization (Daft, 2001).

Research has suggested that management is the key to innovation improvement (Sarah and Sebastian 1993). Therefore, the culture must be one that will allow management to change and respond to market demands. A critical area for any company in today's globalizing economy is the development of an organizational culture that lends itself to change and continuous improvement (Hitt et al., 1997). The competing values model of organizational culture was used to draw inferences about the culture of the companies surveyed in this research. Byar (1987) suggested four factors that contribute to the origin of an organization's culture: its history, environment, staffing process, and socialization process. Trice and Beyer (1993) argued that substances and forms are two basic elements of a corporate culture. Substances refer to work practice contained in organizational values, norms, and beliefs, whereas forms are expressed, affirmed, and communicated to the members of the organization (Trice & Beyer). The environment plays an important role in shaping organizations' cultures (Scott, Jennifer, and Anind, 2003).

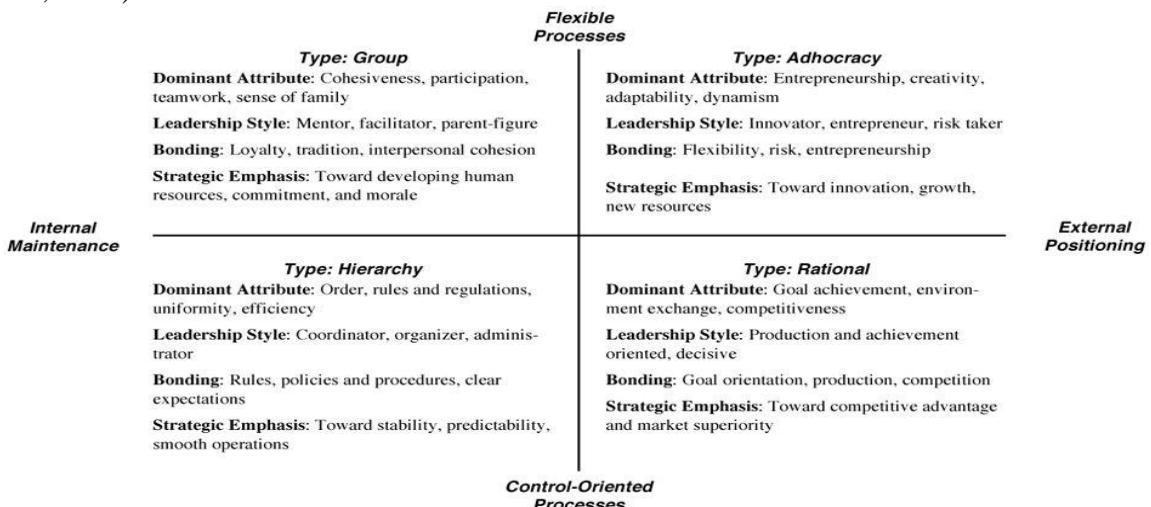


Figure (1) Competing Values Framework

Source: Quinn, R. E. & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria:

Toward a competing values approach to organizational analysis. *Management Science*, 29, 363-77. According to this model, adhocracy culture emphasizes flexibility and change and it is externally oriented. It is usual in companies operating in dynamic contexts and in those trying to be the leaders in their markets (Quinn and Rohrbaugh , 1983). The key values that adhocracy culture emphasizes are creativity, entrepreneurship and risk taking. Clan culture also emphasizes also flexibility but its focus is on the internal organization. Characteristics of clan-type firms are teamwork, employee involvement and corporate commitment to employees. Market culture is externally focused, but it is control oriented. The core values of firms with this culture are productivity and competitiveness. Finally, hierarchy culture is also control oriented but also focuses on the internal organization. Efficiency, coordination and close adherence to rules and regulations are its main characteristics (Maloney, 1989; Maloney and Federle, 1993).

#### 4. THE IMPLICATIONS OF THE FOUR ORGANIZATIONAL CULTURE TYPES IN THE CVF

The four effectiveness criteria models in the CVF are also called four organizational culture types. Based on former organizational culture studies in the literature, Cameron and Quinn

(2006, p.28) termed the four culture types as Clan, Adhocracy, Market, and Hierarchy, respectively. The implications of each culture type are summarized as follows (Cameron and Quinn, 2006):

### **1. The Clan Culture**

The clan culture is full of shared values and common goals, an atmosphere of collectivity and mutual help, and an emphasis on empowerment and employee involvement. The authors contend that the clan culture is just the organizational culture defined by Wilkins and Ouchi (1983), which can be developed under certain conditions such as a relatively long history and stable membership, absence of institutional alternatives, thick interactions among members, etc.

### **2. The Adhocracy Culture**

The adhocracy culture is like a temporary institution, which is dismissed whenever the organizational tasks are ended, and reloaded rapidly whenever new tasks emerge. The adhocracy culture is often found in such industries as filming, consulting, space flight, and software development, etc.

### **3. The Market Culture**

The market culture focuses on the transactions with the environment outside the organization instead of on the internal management. The organizational goal is to earn profits through market competition. This concept originates from Ouchi's (1979, 1984) study on the market control system.

### **4. The Hierarchy Culture**

The hierarchy culture has a clear organizational structure, standardized rules and procedures, strict control, and well defined responsibilities. This concept can be traced to the image of “bureaucracy” in Weber's (1947) early works on modern organizational management.

## **5. INFORMATION TECHNOLOGY CAPABILITY**

In today's business environment, information technology capability (ITC) is playing an active role in creating competitive advantage for companies (Rayport and Jaworski 2001). Information technologies (ITC) have had a significant impact on organizations in a number of different ways. Researchers have studied the impacts of ITC on different dimensions of business and have established ITC as a strategic factor in organizations. To begin with, researchers have found ITC to directly impact the operational aspects of the firm that enables the firm to be more efficient (Mukhopadhyay, Kekre and Kalathur 1995, Menon and Lee 2000), reduce errors overall (Mukhopadhyay, Rajiv and Srinivasan 1997) and enhance the quality of business process execution (Devaraj and Kohli 2003). These different aspects of ITC capabilities have been summarized in three type which are ITC conceptualized as managerial capabilities, ITC conceptualized as technological capabilities and ITC conceptualized as a combination of both managerial and technological capabilities.

Sambamurthy & Zmud (1992) defined ITC The internal capabilities on which its competitive strategies are based... it also refers to the managerial capabilities required for a firm to productively acquire, deploy, and leverage its IT investments. Other one defined ITC as the ability to control IT-related costs, deliver systems when needed, and affect business objectives through IT implementations (Ross, Beath, & Goodhue, 1996).

Teo & King (1997) defined ITC the capabilities of the IS function... can be operationalized in terms of general technical expertise and technological leadership in the industry. Others define ITC the ability to easily and readily doff use or support a wide variety of hardware, software, compunctions technologies, data, core applications, skills and competencies, commitments, and values within the technical physical base and the human component of the existing IT infrastructure (Byrd & Turner, 2000). Sabherwal (1999) explain ITC as the extent to which the

technologies needed for manipulation, storage, and communication of information are available within the organization.

Ray, Muhanna &Barney (2005) defined ITC It is composed of two categories of resources: the first consists of raw IT spending, the technical skills and generic information technologies within the firm (i.e., the technology components) and the second consists of more managerial resources that “influence how the first [category] of resource is used”. Bhatt & Grover (2005) it is composed of value capabilities, competitive capabilities, and dynamic capabilities.

Recently however, there have been attempts to adopt a more inclusive view of ITC which takes into account both the technological and managerial aspects. For example, Ray, Muhanna, and Barney (2005) view ITC as being composed of two categories of resources: the first consists of raw IT spending, the technical skills , and generic information technologies within the firm (i.e., The technology components) and the second consists of more managerial capabilities that “influence how the first [category] of resource is used. Bhatt and Grover (2005) view ITC as being composed of the value or technological capabilities (e.g., IT infrastructure), and more managerial capabilities such as competitive capabilities (e.g., IT business experience, relationship infrastructure), and dynamic capabilities (e.g., intensity of organizational learning). Bharadwaj (2000) categorizes various aspects of ITC within four dimensions. It is useful to observe that there are varying degrees of overlap amongst the existing perspectives on ITC Based on these and other studies, we have combined the similar elements of ITC and derived a more integrative set of underlying dimensions of the construct: (1) IT infrastructure, (2) IT architecture and (3) IT relationship resource.

### **IT Architecture**

The definition of IT architecture has emerged slowly overtime (Sullivan, 1982) with researchers usually focusing on different components of information systems, such as data storage, communications, or applications. Gibson (1994) adopted a more intergrative approach and viewd architecture as being composed of four physical elements: computing compatibility, data organization, communications connectivity, and applications functionality. Following Gibson's (1994) approach, IT architecture may be defined as a high-level map of information and technology requirements of the entire firm in this study. It provides a vision for how a firm will select and deploy its corporate IT resources to derive business value. Well-designed and well-planned IT architectures deliver significant benefits to a firm, by lowering IT cost through technology standardization, and by enabling agility in the organization (Bhatt, 2000; Sambamurth, Bharadwaj, & Grover, 2003).

### **IT Infrastructure**

The value of IT infrastructure, often defined as a shard information delivery base relying on hardware, software, and networks, is growing rapidly in today's organizations (Byrd & Turner, 2000). An IT infrastructure provides a shared foundation of ICT for building business applications and training employess, and is usually managed by the information system group. It is comprised of the computer and communication technologies and the shareable technical platforms, providing consistent and quick information support by enabling access to relevant databases throughout the organization (Ross, Beath, & Goodhue, 1996; Weill, Broadbent, & Butler, 1996). This IT infrastructure may thus be seen as a key source for attaining long-term competitive advantage (Keen, 1991; McKenney, 1995), serving as an enabler for future applications, and helping the organization cope with the uncertainty of future needs (Grossman & Packer, 1989).

### **IT Relationship Resource**

IT relationship resource includes the social capital developed though relationship building. Specifically, it involves developing users' understanding of IT's potential and boosting users' feelings of ownership and satisfaction. It plays an important role in fostering mutual confidence, harmony of purpose. And enabling successful communication among those focused on the

business and technical agendas (Feeny & Willcocks, 1998 b). A strong IT relationship is characterized by high levels of respect and goodwill between IT personnel and clients, which results in excellence in bi-directional communication without significant distortion of meaning and collaboration across both sides of the relationship. This in turn enables mutual knowledge sharing and appreciation of the capabilities of information technology and the needs of the business. An important element of IT relationship is that it enables convenient IT-based linkages with the organization's customers as well as suppliers, and indeed such connectivity can often be transformed to valuable inter-organizational collaborations, leading to: the creation of joint designs, reduction of transaction costs, better management of inventory, greater agility of the relationship, and so forth (Grewal, Johnson, & Sarker, 2007; Turban, Leidner, Mclean, & Wetherbe, 2006).

## 6. ORGANIZATIONAL CULTURE AND INNOVATIONS CAPABILITY

It has been stated in organizational studies that organizational culture is important as a vehicle for implementing organizational change (Yeung, Brockbank & Ulrich 1991). Although not all organizational change involves innovation, King (1990) asserted that all organizational innovation involves change which ultimately is supported or hindered by organizational culture. Various studies have acknowledged the existence of a relationship between organizational culture and organizational innovation (Cherian & Deshpande' 1985; Kotter & Heskett 1992; Detert, Schreder & Mauriel 2000; Zammuto, Gifford & Goodman 2000). Another research by Obenchain, Johnson & Dion (2002) also affirmed that organizational culture type is correlated with organizational innovation. The study suggests that culture types of adhocracy, market and 'balanced' (i.e. no-dominant) are associated with innovation implementation. In particular, the dominant culture type of adhocracy is affiliated with higher total organizational innovation, higher technical innovation and higher administrative innovation more than the culture designations of market, 'no-dominant', clan and hierarchy. Many different people have used the word 'culture' to explain a variety of phenomena. As each one tends to adopt a slightly different perspective, there is no universally accepted definition (Rollinson & Broadfield, 2002). identified over 70 different words or phrases used to define organizational culture. One of the first attempts was by Jacques (1952) who claimed that organizational culture is the customary and traditional way of doing things, which is shared to a greater or lesser degree by all members, and which the new members must learn and at least partially accept in order to be accepted for the firm's services. Harrison (1972) focused more on culture itself rather than on its effects and defined it as ideologies, beliefs, and deep-set values that occur in all firms and are prescriptions for the ways in which people should work in these organizations. Canalejo (1995), who considers that an innovation-based organizational culture must possess the following values: client-orientation, compromise with objectives, challenge and initiative, exemplary behavior, team work and permanent improvement. To sum up, in order to obtain competitive advantage by means of a search for new business processes, it becomes a must to possess previously a culture supporting such search. In this respect, Vrakking (1990) states that the cultural perception is a prerequisite for innovative behavior having effective results. As we have already said in this paper, there may be many ways to innovate, technology being one of them; therefore, we must define the general conditions of an organizational culture based on technology. For this purpose, we shall quote (Fons-Boronat 1992), for whom there is a basic difference between technics and technology.

Finally, within the same line of thought, Humble & Jones (1989) relate this cultural orientation to the purpose of often rendering the present products and services that the firm offers to the market, so as to improve customer satisfaction and obtaining profits. Another characteristic of this culture is the fact that it allows a considerable degree of autonomy and initiative to the members of the corporation. This results from stimulating and motivating the staff towards

technological innovation, refusing bureaucratic notions that may hinder the said cultural taxonomy (Rogovsky, Schuler and Reynolds, 2000). Moving on to another issue, if we relate corporate size to the possibility of developing a culture based on technological innovation, we may initially believe that, the lower the number of people present in the organization, the higher the possibility of these beliefs being accepted. Organizational culture has many dimensions and variations. The competing values framework (CVF) categorizes them in a two dimensional space (Denison & Spreitzer, 1991) see Fig. 1. Each axis represents contrast orientations. The first dimension stands for flexibility vs. control orientation. The second dimension describes the focus on activities occurring within or outside the organization. The combination of both dimensions defines four types of organizational culture: group, developmental, hierarchical, and rational. Group culture emphasizes flexibility and change and a focus on the internal organization. Developmental culture also emphasizes flexibility, but is externally focused. Rational culture is externally oriented, but focused on control. Hierarchical culture emphasizes stability; however, the focus is on the internal organization. Characteristics of all four types of cultures are represented in Fig. 1 and are further described in Denison and Spreitzer (1991), McDermott and Stock (1999) and Prajogo and McDermott (2005). An important assumption of CVF is that each type of culture is an ideal type. The culture in an organization is a combination of different culture orientations, although usually one type is more dominant than the others. “A high rating on one dimension, e.g. internal orientation, does not exclude high rating at the other end, e.g. external orientation” (McDermott & Stock, 1999). Further, Denison and Spreitzer (1991) argued that overemphasizing any culture type may become dysfunctional and the strength of the quadrant may even become a weakness. While there is a consensus that organizational culture is critical in any change initiative, no such consensus exists as to what type of organizational culture best supports business transformation and innovativeness (Merx-Chermin & Nijhof, 2005). A lack of empirical investigations into organizational culture on various aspects of innovativeness is still noted. Only a few studies have tackled some aspects of this issue in recent years (e.g. Kandemir & Hult, 2005; Kusunoki, Nonaka, & Nagata, 1998; Martins & Terblanche, 2003; Merx-Chermin & Nijhof, 2005; Sarros, Cooper, & Santora, 2008). Findings of Prajogo and McDermott (2005) indicate that an organization can implement different, even opposite culture types, in harmony. This opened up the question of which combination of culture types is most appropriate for innovations. Škerlavaj, Indihar Štemberger, Škrinjar, and Dimovski (2007) suggest the organizational culture as a combination of all four cultural types as shown above.

## 7. ORGANIZATIONAL CULTURE AND INFORMATION TECHNOLOGY CAPABILITY

The relationship between organizational culture and ITC may be better understood by examining the interactions between an organization and ITC in general. According to Schein's (1992), there are at least seven different ways in which ITC and the organization interact. An analysis of these interactions explains why ITC cannot be implemented without considering organizational culture change issues.

1. New ITC system to be effective, new organization policies or designs, such as a different distribution of authority, new training programs, broader and more flexible jobs or different selection criteria, may be required (Tricker 1988).
2. The introduction of an ITC system may elicit unanticipated organizational dynamics, such as new contests for power, altered patterns of communication, or more pervasive monitoring of behavior.
3. ITC itself may be further elaborated and revised by end users to better suit their personal preferences.

4. ITC may create or promote new organizational solutions. In many ways, ITC can change organizational practices and the ways businesses operate. Advanced ITC enable organizational members to work together across space and time, promoting the concepts of mobile offices and home-based professionals. In a way these changes might make the concept of a centralized or decentralized structure more relative since with the help of ITC, an organization might be able to enjoy the flexibility and responsiveness characteristics of a decentralized organization while achieving the integration and control of a centralized organization.
5. ITC can accelerate and refine organizational adaptation to changing conditions by early detection of possible problems, often achieved with the help of quick, consistent and comprehensive information.
6. ITC systems and organizational forms can sometimes be considered as alternatives since each is capable of performing similar functions (often with regard to communication and coordination).
7. Introduction of a new ITC system can create opportunities for introducing organizational changes that management might view as desirable independently of the requirements or potential effects of the system. For example, management might set higher standards of excellence, promote a more open communication style or a more organization-wide versus a territorial view following the capability of a new IT system.

It can be seen quite apparently from the above analysis that in most of these seven ways of interactions between the organization culture and ITC, references can be made to aspects of organizational culture to some extent (Rollinson & Broadfield, 2002). Therefore, organizational culture should be viewed as a very important factor affecting the capability of ITC in an organization. In other words, as concluded by (Kendall, Buffington & Kendall 1987; Schein's, 1992), the ITC process should be guided by organizational values.

Although increasing attention has been given to organizational culture in recent ITC literature, empirical research specifically addressing the relationship between organizational culture and ITC is still sparse. Some studies merely aim to identify the social/cultural factors affecting IT capability without attempting to establish a model of how the relationship between these two organizational variables work. In an extensive study by Hill et al. (1998), the following factors which are (Social class status in organization, Educational level, Leadership in organization, Personal relations in work group and between levels of organization, Allegiance to family and kin group, Communal world view, Religion, Valuing the past, and face to face interactions) have been viewed as having an impact on ITC adoption and capability in the sociocultural context of the Arab world.

## **8. INFORMATION TECHNOLOGY CAPABILITY AND INNOVATION CAPABILITY**

Despite progress in the understanding of innovation process in firms and the various impacts of information technology capability, there is limited understanding about the role of information technology capability and its impact on the innovation process of the firm. The literature on innovation in marketing has addressed information technology capability in many different ways. Overall, two different themes seem to emerge from the literature on the role of Information technology in the innovation capability of firms.

*Table following on the next two (2) pages*

**Table (1) the role of information technology capability as a medium of carrying out  
Innovation capability within firms**

Research	Antecedents	Reference to IT	Innovation capabilities
Atuahene- Gima (1996)	R&D Focus, Marketing proficiency, Technological Synergy, Management Support, Newness of product	Technological synergy in new products is more important for innovation success than for new services	Subjective measure of new product success
Moorman & Miner (1997)	Depth and dispersion of organizational memory	Technology in general has been referred to as a force that contributes to environmental turbulence by affecting operations.	Short term financial performance of new products
Han, Kim and Srivastava (1998)	Market Orientation	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	No of Administrative innovations and No of Technical innovations
Hurley & Huit (1998)	Team culture Participativeness, power sharing, Learning	Technology as a component of the product that provides barriers to succeed and hence needs to be overcome with learning and joint sense-making.	No of ideas generated by the firm (Capacity to innovate)
Sethi (2000)	Task interdependence and interconnectedness between departments and teams	Discusses new age information technology to enable the interconnectedness between departments and hence aid in new product development.	Subjective evaluation of firm achieving financial benchmarks with new products
Massey, Montoya-Weiss and O'Driscoll (2002)	Knowledge Management Strategy and Tools.	IT enabled Knowledge management strategy was shown to radically alter new product development processes in a firm and enable it to be more innovation productive.	New product development process and activity
Cavusgil, Calantone & Zhao (2003)	Innovation Capability and Extent of tacit knowledge transfer	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	Financial returns and ROI.
Atuahene-Gima (2005)	Strategic Orientation of firm and Interfunctional coordination	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	No of innovations & Financial impact of innovations (incremental & radical)
Zhou et al (2005)	Strategic Orientation, Technology based innovation and market based innovation	Technology as a component of the product that provides barriers to succeed and hence needs to be overcome with learning	Subjective evaluation of Firm Performance & Product Performance
Laursen & Salter (2006)	R&D Intensity, Breadth and Depth of Sources of Information	Discusses IT as a possible changer in the environment to which firms need to adapt.	Percentage of Revenue from New products
Durmusoglu, Calantone and Sambamurthy (2006)	T infrastructure and product development flexibility	IT infrastructure enables flexible yet costly new product development.	New product development activities
Salomo et al(2007)	Business planning and Risk Management	Technology has been explained as a force of change that increases ambiguity in innovation	Financial Success and Project efficiency
De Luca & Atuahene-Gima (2007)	Inter-functional coordination and Knowledge integration	IT has been referred to as a force that contributes to environmental turbulence by affecting operations	Extent to which new product objectives are achieved

Citrin, Lee and McCullough (2007)	Type of Information Use	Information technology was used as both the medium that enabled information use and as the factor that creates environmental turbulence.	Subjective evaluation of product market performance
Barczak, Sultan and Hultink 2007)	Extent of IT use and embeddedness of IT in the systems.	IT has been specifically identified as an enabler of innovation activity that leads to a better new product performance.	Speed to market and Market Performance of Products
Troy et al (2008)	Integration between various units in Innovation project	Technology enables fine effectiveness - grained integration that fosters product	Product effectiveness and Market Performance
Voss & Voss (2008)	Strategic Orientation of the firm and Interfunctional coordination	Technology in general has been referred to as a force that contributes to environmental turbulence by affecting operations	Product Quality, Financial Performance of Product and Subjective evaluation of product innovation
Lopez-Cabrales, Pérez and Cabrera (2009)	Collaboration and Knowledge Management practices of employees	Information technology is alluded in the paper as the medium that enables collaboration and knowledge management that fosters innovation activity.	Subjective evaluation of firm achieving financial benchmarks with new products)

A summary of studies that have addressed ITC in the innovation capability of the firm that were reviewed is presented in Tables 1. Studies have examined IT as a medium of operations and an exogenous factor that affects innovation. These findings from these studies have not found a clear link between information technology capability and innovation capability. While some studies show that ITC has helped in automating tasks and thereby improving efficiency of many steps in the new product development process, other studies show information technology capability as a deterrent in the product innovation process. Some studies show information technology capability as a process in which information is well integrated and acts a good collaboration enabler between various parts of the firm thereby enabling innovation. On the other hand, some studies find that ITC brings about volatility in the environment due to frequent changes and thereby disturbing the routines of innovation in an organization and ITC has positive relationship with innovation capabilities (Zhou, Yim and Tse 2005).

## 9. UNDERPINNING THEORY

The underpinning theory to combine all variable is resource based view (RBV) of the firm. The currently dominant view of corporate strategy, resource based theory or resource based view of firms is based on the concept of economic rent and the view of the firm as a collection of capabilities, this view of strategy has a coherence and integrative role that places it well ahead of other mechanisms of strategic decision making. (Freiling, 2008; Govind Menon, 2008; Peteraf, 2006; Priem & Butler, 2001). The contemporary approach to this view maintains that whether a firm is capable of creating and sustaining competitive advantage depends on how the firm's resources are deployed (Barney & Arik, 2001). Each organization is a collection of unique resources and innovation capabilities that provides the basis for its strategy and the primary source of its returns. In the 21st-century hyper-competitive landscape, a firm is a collection of evolving capabilities that is managed innovatively in pursuit of above-average returns. (Freiling, 2008; Govind Menon, 2008; Peteraf, 2006; Priem & Butler, 2001) Thus, differences in firm's performances across time are driven primarily by their unique resources and innovation capabilities rather than by an industry's structural characteristics.

Innovations capabilities are difficult to imitate combinations of resources, including effective coordination of inter organizational relationships, on a global basis that can give a firm a

competitive advantage (Dyer and Singh, 1998; Teece et al., 1997). Such capabilities have two primary characteristics:

1. They develop systemic global coherence while recognizing the unique features of each country's environment to facilitate customization of an individual country's strategies and;
2. They adapt, integrate, and reconfigure internal and external assets to match opportunities in the global marketplace (Eisenhardt and Martin, 2000; Teece et al., 1997).

Innovation capabilities are derived by a firm leveraging its internal and external asset. This strategy enhances its power in its global relationships, and enables it to coordinate inter organizational activities and respond rapidly, in a flexible manner, to global competitors' strategies (Eisenhardt and Martin, 2000; Teece et al., 1997). Internal and external assets provide the power base necessary to develop strategies that enable a firm to gain a global competitive advantage, thus providing an action dimension to the resource and market based views of the firm (Eisenhardt and Martin, 2000).

Innovation capability refers to the organizational capability that generates and generalizes innovations that will gain the organization competitiveness (Hurley & Hult, 1998). The concept stresses not only the ability to create new ideas, but also the ability to implement new ideas. Drawing on the RBV of ITC, Bharadwaj (2000) provides a rich conceptualization of ITC where ITC is determined by a firm's ability to use its resources to gain (and maintain) competitive advantage.

### **Content of the Social Environment and its Impact on Innovation:**

The relationship between the individual and his/her social environment is of great importance in order to understand the powers supporting or hindering innovation (Spence, 2000). Despite the impact of the personal factors on the innovative (Amabile, 1998), there are additional factors related to certain conditions and situations that are necessary to assess their impacts as important sources of innovation. These include esprit, referring to de groups, nationality, the mutual relation among the individuals and the environment which is a relation that none of the two parts could live without the other.

Societies are inclined to show the characteristics held by influential individuals in the society whether they were a majority or not. Thus, there will be progressive communities in addition to innovative individuals inside these societies and many societies show known classes but not distinguishing the majority of those inside the society. Such societies and individuals could form a network of interrelated relation among the innovative individuals and innovative societies. Figure (1) shows this interrelation through two continuums of the innovative individuals and the innovative societies. The innovative individual's continuum coincides with the innovative society continuum leading to four stages of interrelated conditions.

The four cases provide a useful guide for knowing the indicators that might affect the judgment issued by someone in decision making inside the environment. These cases mentioned in the squares represent the limits separating among the innovative and non innovative individuals and innovative and non innovative societies. But in fact, there are no such cases because what are existing are numerous conditions leading to endless conditions gathering endless circles of innovation and non innovation in innovative and non innovative societies (Spence, 1994).

There are innumerable individuals between the two sides of the innovative and the non innovative, the innovative and non innovative societies. What is represented through the first square in the figure of less innovative individual in a progressive society make it possible to add four new additional squares (Dongil, Chee, and Anne, 2008).

The cases presented according to relation circles between the innovative and the non innovative in innovative and non innovative society are logical cases in their contents and impacts but still

the interaction between the innovative and his/her society (Galanakis, and Stuart, 2001). The optimum case supposed to be the relation between the innovative and the innovative society is dominant in addition to the opposing case because the real condition supposes various differences among the cases presented by the study (Hadjlmonnoli & Drckson, 2000). The process as a whole is governed by innumerable variables, in particular the cultural variables consisting of values, morals, customs and traditions and this is applied on the organizations and the individuals (Subramanian and Nilakanta, 1996).

The optimum case as the study confirmed suppose that the innovative individual will be more creative when being in a progressive society (innovative) unlike existing in a traditional society (Hitt et al., 1997). The same is said for non innovative individual in a progressive and innovative society. In both cases, there is agreement among the all the sides because agreement between innovation and progressive society is reducing pressure factors imposed on the innovative (Spence, 1994).

Variance among the societies as related to innovations is attributed by one of the studies to the following reasons (Lynch, 2000):

1. Factors affecting the inputs of the innovative process in particular the scientific society in that country and its relation with the existing educational institutes.
2. Factors affecting demand in particular the customers.
3. The industrial structure preferring competition to evoke innovation.

In general, studies started to examine variance among the progressive societies and the traditional ones with their characteristics. One the specialized dictionaries presented the characteristics of the innovative societies as follows (Warner, Malcolm, 1996):

1. Innovative societies focus on strong culture.
2. Innovative societies focus is distributed among individuals, groups and organizations to encourage innovation.
3. Innovative societies focus on investment and financing activities.
4. Innovative societies acquire and store knowledge to be spread through adopting the developed and easiest technologies to be fully utilized by the society.

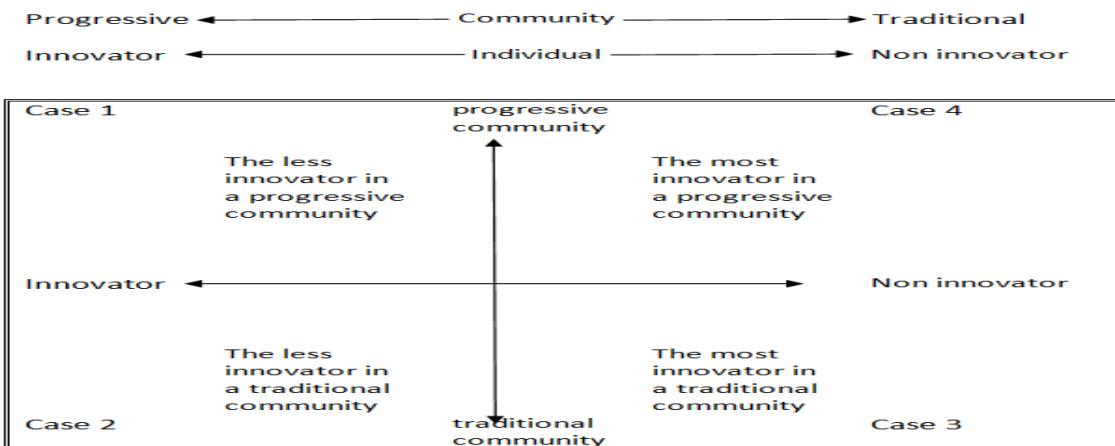


Figure (2) The Interactive Relations among the Individuals and the Societies depending on the Innovative Conditions

Spence, W.R. (1994). *Innovation: The Communication of Change in Ideas, Practices and Products*. Chapman & Hall: London.

## 10. CONCLUSION

There are certain reasons for such trend including the challenges faced by the contemporary organizations that are continuous threats. The customers complexities have increased and their demands varied in addition to the increasing of quality levels and complexities of most of the

products presented by these organizations, including goods, services and ideas. Trade, communication and information globalization have created new opportunities for the organizations to have new market portions in addition to the threats represented by the competition barriers and impacts. Innovation is the main element in improving economic conditions for all the states, the large and the small, the developed and developing ones. It is also important factor in the long term success for all kinds of firms. A comprehensive review of the management literature revealed that organizational culture has been emphasized as one of the solid ground for successful strategies' implementation. Since strategies are meant for the long run, organizational culture of a firm and ITC should lead the employees to adopt the firms' values towards achieving the future vision. In other words, firm's environment should tolerate failure and encourage employees to develop new and innovative ideas to enhance the firm competitive advantage. The role of the firm leader and top management has been emphasized in the management literature; the development of entrepreneurial culture is the responsibility of all the management levels. Hence, the role of firm's managers is justified and emphasized. Once the ITC has been developed in a firm, it is expected that all the employees' capabilities, skills, and knowledge are utilized to extreme extent. Finally, resulting from literature review for the interaction of organizational culture and information technology capability and innovation capability was provided showing the importance of competing value framework and information technology capability to enhance firm innovation capability.

## LITERATURE:

1. Ahmed, P. (1998). Culture and climate for innovation, *European Journal of Innovation Management*, 1(1), 30-43.
2. Al- Muafaq, (2009). Determine the level of innovation capability in Iraq industrial sector. *Al-Rafidain Journal*. 15 (4).
3. Al Shamaa, K. M. & Hamood, K. M. (1989). Impact of organization culture on performance. *Baghdad Journal*, 4(2), 38-58.
4. Amabile, T. M. (1998). *How to Kill Creativity*. Harvard Business Review, September–October.
5. Badawy, O. (1993). The fifth little dragon . *Englneering Management Review*, 21(1):89-92.
6. Barczak, G., Sultan, F., & Hultink, E. J. (2007). Determinants of IT Usage and New Product Performance. *Journal of Product Innovation Management*, 24(6), 600-613.
7. Barney, J. B., Arikan, R., (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27(6), 643-650.
8. Bharadwaj, A. S. (2000). A Resource-based perspective on information technology capability and firm performance, an empirical investigation. *MIS Quarterly*, 24(1), 169-196.
9. Bhatt, G.D., & Grover, V. (2005). Types of information technology capabilities and their role in competitive advantage. *Journal of MIS*, 22(3), 253-277.
10. Byar, L.L. (1987). *Strategic management planning and implementation: Concepts and cases*. (2nd E.D). New York: Harper and Row Publishers.
11. Byrd, T. A., & Turner, D. E. (2000). Measuring the flexibility of information technology infrastructure, exploratory analysis of a construct. *Journal of Management Information Systems*, 17(1), 167-208.
12. Cameron, K. S. and Quinn, R. E. (2006). *Diagnosing and Changing Organizationalture*. Revised Edition, Jossey-Bass, US. First published by Addison-Wesley in 1999.
13. Canlejo, M. (1995). Innovation organization en alcatel standard eléctrica S.A. V Congreso Nacional de la Association Client Economic y Direct on de la Empresa. *ACEDE*, 1(1), 205-216.

14. Cavusgil, S. T., Calantone, R. J., & Zhao, Y. (2003). Tacit knowledge transfer and firm innovation capability. *Journal of Business & Industrial Marketing*, 18(1), 6-21.
15. Cherian, J. and Deshpande, R. (1985). The impact of organizational culture on the adoption of industrial innovations (pp.30-34). *American Marketing Association Educators' Conference Proceedings*.
16. Citrin, A. V., Lee, R. P., & McCullough, J. (2007). Information use and new product outcomes: The contingent role of strategy type. *Journal of Product Innovation Management*, 24(3), 259-273.
17. Cooper, R & Zmud, R W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach, *Management Science* 36(2), 123-139.
18. Coopey, J., Keegan, O., & Emler, N. (1998). Managers innovations and the structuration of organizations. *Journal of Management Studies*, 35, 263-284.
19. Cortese, A.D., and McDonough, W. (2001). Accelerating the Transition to Sustainability Through Higher Education. *Environmental Grantmakers Association News & Updates*, Spring, pp. 11-13, 34.
20. Daft, R. L. (2001). *Organization Theory and Design*. Ohio: South-Western College Publishing.
21. Damanpour, F. (1991). Organizational innovation: a meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34 (3), 550-590.
22. Damanpour, F. (1996). Bureaucracy and innovation revisited: effects of contingency factors, industrial sectors, and innovation characteristics, *Journal of High Technology Management Research*, 7, 150-75.
23. Damanpour, F. and Evan, W. (1984). Organizational innovation and performance: the problem of organizational lag, *Administrative Science Quarterly*, 29(3), 392-409.
24. Deal T.E., Kennedy, A.A., 1982, Corporate Culture: The Rites and Rituals of Corporate Life. Reading, MA: Addison-Wesley.
25. Denison, D.R., & Spreitzer, G.M. (1991). Organizational culture and organizational development. *Research in organizational change and development*, 5(21). 33-49.
26. Detert, J., Schroeder, R., Mauriel, J. (2000). A framework for linking culture and improvement initiatives in organizations. *The Academy of Management Review*, 25(4), 850-863.
27. Devaraj, S. & Kohli, R. ( 2003). Performance impacts of information technology: Is actual usage the missing link?. *Management Science*, 49(3), 273-289.
28. Dongil, D. J., Chee W. C. & Anne, W.(2008). Towards Understanding the Direct and Indirect Effects of Transformational Leadership on Firm Innovation, *leadership Quarterly*, 19, 582-594.
29. Drucker, P.F. (1985), The discipline of innovation, *Harvard Business Review*, 63(3), 67-72.
30. Druker P.F. (1995) *Managing in a Time of Great Change*, Butterworth-Heinemann,
31. Durmusoglu, S. S., Calantone, R. J., & Sambamurthy, V. (2006). Is more information technology better for new product development?. *Journal of Product & Brand Management*, 75(7), 435-441.
32. Dyer, Jeffery H. & Habir Singh. 1998. The Relational View: Cooperative Strategy and Sources of Interorganizational, Competitive Advantage. *Academy of Management Review*, 23(4): 660-679.
33. Edwards, R. W., Kumar, P. and Ranjan, R. (2002), Organisation Culture and Innovation. Paper presented at the Paper presented at the 28th EIBA (*European International Business Academy*) Conference, Athens, Greece.
34. Eisenhardt, K.M., and Martin, J.A. (2000) Dynamic Capabilities: What are they?. *Strategic Management Journal*, 21(Special issue), 1105-1121.

35. Feeny, D. F., & Willcocks, L.P. (1998 b). Re-designing the IS function around core capabilities. *Long Range Planning*, 31(3), 354-367.
36. Fons-Boronat, J.M. (1992). *Gestin de la innovacin. Discourse of admission to the Real Academia de Ciencias Economicas y Financieras*. Barcelona.
37. Francis, D., & Bessant, J. (2005). Targeting innovation and implications for capability development. *Technovation*, 25(3), 171-183.
38. Freiling, J. (2008). RBV and the road to the control of external organizations. *Management Revue*, 19(1/2). 33-52.
39. Fruhling, A. L., & Siau, K. (2007). Assessing Organizational Innovation Capability and Its Effect on E-Commerce Initiatives. *The Journal of Computer Information Systems*, 48(1), 133-145.
40. Galanakis, K. and Passey, S., (2001). The creative factory: An innovation systems model using thinking approach. *The R & D Management Conference*, 7-9 February (35), Wellington, New Zealand.
41. Gibson, R. (1994). Global information technology architectures. *Journal of Global Information Management*, 2(1), 28-39.
42. Goetsch, D. L., & Davis, S. B. (1997). *Introduction to total quality: Quality management for production, processing and services* (2nd ed.). Upper Saddle River: Simon & Schuster.
43. Govind Menon, A. (2008). Revisiting dynamic capability. *IIMB Management Review*, 20(1). 22-33.
44. Hadjimanolis, A. (2000). A resource-based view of innovativeness in small firms. *Technology Analysis & Strategic Management*, 12(2), 263-281.
45. Han, J. K., Kim, N., & Srivastava, R. (1998), Marketing orientation and organizational performance: Is innovation a missing link?. *Journal of Marketing*, 62, 30-45.
46. Harrison, R., (1972), Understanding your organisation's character. Harvard business Review 5-6: pp. 119-28.
47. Hill, C.E., Loch, K.D., Straub, D.W. & El-Sheshai, K. (1998). A qualitative assessment of Arab culture and information technology transfer. *Journal of global information management*, 6(3), 29-38.
48. Hitt, M.A., Hoskisson, R.E. and Kim, H. (1997), International diversification: effects on innovation and firm performance in product-diversified firms, *Academy of Management Journal*, 40(4), 767-98.
49. Humble, J. & Jones, G. (1989). Creating a climate for innovation. *Long Range Planning*. 22(4), 46-51.
50. Hurley R. and Hult T. (1998). Innovation, market orientation and organizational learning: An integration and empirical examination, *Journal of Marketing*, 62(5), 42-54.
51. Jacques, E., 1952, *The Changing Culture of a Company*. London: Tavistock.
52. Jonscher, A. K., (1983). Dielectric relaxation in solids (*Chelsea Dielectric Press, London*).
53. Kandemir, D., & Hult, G. T. M. (2005). A conceptualization of an organizational learning culture in international joint ventures. *Industrial Marketing Management*, 34(5), 430–439.
54. Keen, P.G. W. (1991). *Shaping the future, business design through information technology*. Boston: Harvard Business School Press.
55. Kendall, K.E., Buffington, J.R. & Kendall, J.E., (1987), The relationship of organisational subcultures to DSS user satisfaction, *Human System Management*, 7, 3 1-39.
56. Kimberly J.R. and Evanisko M.J., (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovation. *Academy of Management Journal*, 24, 689-713.
57. Kotter, J. and Heskett J., (1992). *Corporate culture and performance*. New York: The Free Press.

58. Kusunoki, K., Nonaka, I., & Nagata, A. (1998). Organizational capabilities in product development of Japanese firms: A conceptual framework and empirical findings. *Organization Science*, 9(6), 699–718.
59. Laursen, K., & Salter, A. (2006). Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic Management Journal*, 27(2), 131-150.
60. Lopez-Cabrales, A., Pérez-Lu no, A., & Cabrera, R. V. (2009). Knowledge as a mediator between HRM practices and innovative activity. *Human Resource Management*, 48(4), 485-503.
61. Lynch, R. (2000). *Corporate Strategy*. 2<sup>nd</sup> ed., Financial Times, Prentice Hall, London, 580.
62. Malhotra, A., Gosain, S., & El Sawy, O. A. (2005). Absorptive capacity configurations in supply chains: gearing for partner-enabled market knowledge creation. *Quarterly*, 29(1), 145-187.
63. Marane B.M., (2011). How does ITC Shape the Relationship between Organizational Culture and innovation Capability in manufacturing sectors?.*Al-Rafidan Journal*.28(6).
64. Martins, E. and Terblanche, F. (2003), Building organizational culture that stimulates creativity and Innovation, *European Journal of Innovation Management*, 6(1), 64-74.
65. Martins, E. and Terblanche, F. (2003), Building organizational culture that stimulates creativity and Innovation, *European Journal of Innovation Management*, 6(1), 64-74.
66. Massey, A. P., Montoya-Weiss, M. M., & Tony, M. O. (2002). Knowledge management in pursuit of performance: Insights from Nortel Networks. *MIS Quarterly*, 26(3), 269-289.
67. McDermott, C.M., & Stock, G.N. (1999). Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management*, 17, 521–533.
68. McKenney, J. L. (1995). *Waves of change, business evolution through information technology*. Cambridge, JA: Harvard Business School Press.
69. Menon, N. M., & Lee, B. (2000). Cost control and production performance enhancement by IT investment and regulation changes: evidence from the healthcare industry. *Decision Support Systems*, 30(2), 153-169.
70. Merx-Chermin, M., & Nijhof, W. J. (2005). Factors influencing knowledge creation and innovation in an organization. *Journal of European Industrial Training*, 29(2), 135–182.
71. Moorman, C., & Miner, A. S. (1997). The impact of organizational memory on new product performance and creativity. *Journal of Marketing Research*, 91-106.
72. Mukhopadhyay, T. S., Kekre, S. & Kalathur, S. (1995). Business value of information technology: A study of electronic data interchange, *MIS Quarterly*, 19(2), 137-156.
73. Mukhopadhyay, T., Surendra, R. & Srinivasan, K. (1997). Information technology impact on process and output quality, *Management Science*, 43(12), 1645-1659.
74. Ouchi, W. G. (1979). A conceptual framework for the design of organizational control mechanisms. *Management Science*, 25(9), 833.
75. Ouchi, W. G. (1984). The M-Form Society: Lessons from Business Management. *Human Resource Management*, 23(2), 191-213.
76. Papadakis, V. and Bourantas, D., (1998). The Chief Executive Officer as Corporate Champion of Technological Innovation: An empirical investigation, *Technology Analysis and Strategic Management*, 10(1), 89-109.
77. Peteraf, M. A. (2006). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3). 179-191.
78. Prajogo, D.I., & McDermott, D.M. (2005). The relationship between total quality management practices and organizational culture. *International Journal of Operations & Production Management*, 25(11), 1101-1122.

79. Priem, R. L. & Butler, J. E. (2001). Is the resource-based “view” a useful perspective for strategic management research?. *The Academy of Management Review*, 26(1), 22-40.
80. Quinn, R. E. & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science*, 29, 363-77.
81. Rabelo, L., Speller, T.H., (2005). Sustaining growth in the modern enterprise: A case study, *Journal of Engineering and Technology Management*, 22, 274–290.
82. Ray, G., Muhanna, W. A., & Barney, J. B. (2005). Information technology and the performance of the customer service process: A resource-based analysis. *MIS Quarterly*, 29, 625-652.
83. Rayport, J. and Jaworski, B. (2001), *E-Commerce*. McGraw-Hill/ Irwin, New York, NY.
84. Reigle, F. (2001), Measuring organic and mechanistic cultures, *Engineering Management Journal*, 13(14), 3-8.
85. Rogovsky, N.G., Schuler, R.S., Reynolds, C. (2000). How can National Culture Affect Compensation Practices of MNEs?. *Global Focus*, 12(4), 35-42.
86. Rollinson, D., Broadfield, A., (2002), *Organisational Behaviour and Analysis – an Integrated approach*. 2nd ed. Pearson Education.
87. Ross, J. W., Beath, C. M., & Goodhue, D. L. (1996). Develop long-term competitiveness through IT assets. *Sloan Management Review*, 38(1), 31-33.
88. Sabherwal, R. (1999). The relationship between information system planning sophistication and information system success, an empirical assessment. *Decision Sciences*, 30(1), 137-168.
89. Salomo, S., Weise, J., & Gemünden, H. G. (2007). NPD planning activities and innovation performance: the mediating role of process management and the moderating effect of product innovativeness. *Journal of Product Innovation Management*, 24(A), 285-302.
90. Sambamurthy, V., & Zmud, R. W. (1992). *Managing IT for success, The empowering business partnership*. Morristown, NJ: Financial Executives Research Foundation.
91. Sambamurthy, V., Bharadwaj, ?, & Graver, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, 27(2), 237-263.
92. Sarah, J.V. and R.J. Sebastian. (1993). Developing a quality culture. *Quality Progress* 26 (9), 73-78.
93. Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies*, 15(2), 145–158.
94. Scantlegury, S. & Lawton, C. (2007).Gaining a seat at the innovation table. The Boston Consulting Group. Retrieved August 13, 2008 from [http://www.bcg.com/publications/files/Gaining\\_Seat\\_Innovation\\_Sept\\_2007.pdf](http://www.bcg.com/publications/files/Gaining_Seat_Innovation_Sept_2007.pdf)
95. Schein, E. (1992). *Organizational Culture and Leadership, Second Edition*. San Francisco: Jossey-Bass.
96. Schermerhorn, J.R., James, H., James, G. & Osbon, R., N. (1997). *Organizational Behavior*, John Wiley and Sons, Inc., New York, 420.
97. Scott L., Jennifer M., and Anind K. D.(2003). Who Wants to Know What When? Privacy Preference Determinants in Ubiquitous Computing, *Short Talk in the Extended Abstracts of CHI 2003, ACM Conference on Human Factors in Computing Systems*, pp. 724-725, April 5-10.
98. Sethi, R. (2000). Superordinate identity in cross-functional product development teams: Its antecedents and effect on new product performance. *Journal of the Academy of Marketing Science*, 25(3), 330.
99. Shi, J.Y., Yeo, K.T & Xuefeng, W. (2001). Acknowledge-Enabled Approach for Managing Constraints in Product Innovation. *The R & D Management Conference*,(47) 7-9 .

100. Slappendel, C. (1996). Perspectives on innovation in organizations. *Organizations Studies*, 17(1): 107-129.
101. Spence, W.R. (1994). Innovation: The Communication of Change in Ideas, *AlRafedain Journal*, 11(1), 51.
102. Stoker, J.I., & Van der Heijden, B.I.J.M. (2001). Competence development and appraisal in organizations. *Journal of Career Development*, 28(2), 97-113.
103. Subramanian, A. and Nilakanta, S. (1996), Organizational innovativeness: exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance, *Omega*, 24(6), 631-47.
104. Sullivan, C. H., Jr. (1982). Rethinking computer systems architecture. Computerworld extra, XVI, 5-10.
105. Teece, D., Gary P. & Amy S. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(7), 509-533.
106. Teo, T. S. H., & King, W. R. (1997). An assessment of perceptual differences between informants in information systems research. *Omega*, 25(5), 557-566.
107. Teresko, John. (2001). The value of velocity, *Industry Week*. 250(13), 43-44.
108. Thompson, E.A. (1976). A restriction of the space of genetic relationships. *Ann. Hum. Genet. 40*, 201–204.
109. Trice, H. M., & Beyer, J. M. (1993). *The cultures of work organizations*. Englewood Cliffs, NJ: Prentice Hall.
110. Tricker, R.I., (1988), Information resource management: A cross-cultural perspective. *Information and Management*, 15, 37-46.
111. Troy, L. C, Hirunyawipada, T., & Paswan, A. K. (2008). Cross-functional integration and new product success: an empirical investigation of the findings. *Journal of Marketing*, 72(6), 132-146.
112. Turban, E., Leidner, D., Mclean, E., & Wetherbe, J. (2006). *Information technology for management* (5th ed.). NJ: John Wiley & Sons.
113. Voss, G. B., & Voss, G. (2008). Competitive density and the customer acquisition – retention trade-off. *Journal of Marketing*, 72(6). 3-18.
114. Weber, M. (1947). *The Theory of Social and Economic Organization*. Trans. A. M. Henderson and Talcott Parsons. Ed. Talcott Parsons. New York: Oxford University Press.
115. Wilkins, A. L. and Ouchi, W. G., (1983). Efficient cultures: Exploring the relationship between culture and organizational performance, *Administrative Science Quarterly*, 28, 468-481.
116. Wilson, A.L., Ramamurthy, K. and Nystrom, P.C. (1999) A Multi-attribute Measure for Innovation adoption: The Context of Imaging Technology, *IEEE Transactions on Engineering Management*, 46(3), 311–321.
117. Yeung, A., Brockbank, J. and Ulrich, D. (1991). Organizational culture and human resources practices: An empirical assessment. In R.W. Woodman and W.A. Pasmore (Eds.) Research in organizational change and development, (pp. 59-82). London: JAI Press.
118. Zammuto, R., Gifford, B., and Goodman, E. (2000). *Managerial Ideologies, Organizational Culture, and the Outcomes of Innovation*. In N.
119. Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology-and market-based breakthrough innovations. *Journal of Marketing*, 69(2), 42-60.

## THE INFLUENCE OF MOTIVATORS ON BLOOD DONORS' ATTITUDES

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### **ABSTRACT**

*Modern business conditions and expressed hyper competition impose a new strategic approach that focuses on beneficiaries/ donors and development of long-term good business relationships. The quality of customer relationships is important for institutional survival, growth and prosperity of the organization, both in profit as well as the non-profit sector. The activities of non-profit organizations express the need for intensification of strategic marketing approach directed towards achieving better relations with donors, although, in practice two approaches are used, transactional approach and approach of establishing long-term relationships with donors. Traditional or transactional approach is based on attracting a large number of new beneficiaries. Unlike transactional approach, approach of establishing long-term relationships is based on a detailed analysis of the behavior of donors, a key indicator of quality of implementation of the strategy is the time value of each individual beneficiary. Transfusion centers are focused on a strategy of attracting new blood donors and retention of existing ones therefore the satisfaction and motivation of loyal blood donors is an important component in achieving strategic objectives. The focus of this paper is directed towards the analysis of the interrelationship between motivators and loyalty of blood donors, which make up a specific segment of donors. Key questions from which the problem of this research originated is: how strong is the influence of motivators on the attitudes of disloyal blood donors? The main instrument for the implementation of this study was a questionnaire composed of closed questions with multiple choice answers in which used Likert scale with five degrees of intensity. Data were collected by the method of personal examination of the organized actions of collecting blood and blood components and in the Croatian Institute for Transfusion Medicine in Zagreb. The research sample was intentional commemorative. A total of 2,000 questionnaires were collected.*

**Keywords:** blood donors, non-profit organizations, marketing strategy, motivators

### **1. INTRODUCTORY CONSIDERATIONS**

„Non-profit organizations' goal is not creating profit but achieving some public interest by helping the society to become community of responsible individuals oriented towards personal/family advancement, and also advancement of the community they belong to.“ (Pavičić, 2003:15) While doing that, individuals can act independently or connect with people

with similar opinions and form some kind of association, join existing or cooperate with other institutions, parties, foundations as long as what they are doing is acceptable in the community. Associated socially responsible individuals exist since the community itself, they can solve many important questions and in a legal way through working in voluntary humanitarian, political associations, syndicates and so on (Meler, 2003). In that way they affect everything that is outside direct influence of the country and market gain (Alfirević et al., 2013). Therefore the non-profit organizations are connected with the concept of social responsibility as care for functioning and prosperity of the community (Helmig, Thaler, 2010). But no matter what kind of the community is in question, what matters is the feeling of belonging to the community because without it the community would not have the need for development or preservation, nor to protect and help its individual members. Therefore one could speak about prosperity of the society as a whole it is necessary to, based on social values, form high-quality mutual relationship of individual subjects, organization and individuals with the whole social community. Just because the conscientiousness about the role of whole social community of individual and the organization is important, and the same goes the other way around (Pavičić, 2003).

The most important role of the non-profit organizations is public advocacy, by which is reckoned creating public support for individuals, groups projects, ideas etc. because generally non-profit organization helps those who cannot fight for their interests and aims on their own (Judd, 2001). Public advocacy, care for society, lobbying, mutual help and cooperation between members of associations, friends, neighbors and many other activities of non-profit organization are the result of „identifying individual and non-profit organizations/their members with the problems and situations in which are their users, associates, neighbors, countrymen, and the whole society, too“ (Alfirević et al., 2013:19).

Modern business conditions and clear hyper competition impose a new strategic approach which in its focus of act brings buyer/user/donor and the development of long-term good business relations. Organizations that achieve competitive advantage have realized the importance of knowing their users and cooperation with them and perceiving them as the biggest value of the firm and as a key link for future survival, growth and development (Kara, Spillman, DeSheilds, 2004). Therefore it is necessary to create a relationship (Kotler, Andreassen, 1996) in which both parties achieve additional value from which one can conclude that users have strong influence on creating rules on the market. In turbulent market surroundings, the quality of relationship with users becomes inevitable component in developing of organizations' business (Knowles, Gomes, 2009). The strength of this problem is particularly expressed with non-profit organizations which are faced with the problem of users' loyalty (Najev Čaćija, 2013), and also by nonexistence of deeply viable need of users to use the service again, despite the situational influence or marketing experts' trouble to influence that kind of behavior (Oliver, 1999: 34). In this case the users are the donors, natural persons or legal entities which give humanitarian gifts in money or some other value, and the donors are the people who give organs, tissue or bone marrow.

## 2. PROBLEMS OF THE RESEARCH

The role of non-profit organizations – solving social problems and participation in changes in society have also conditioned use of corresponding marketing (Pavičić, 2003:29). Although some employees/volunteers of non-profit organizations find marketing inappropriate for applying in their organizations, the fact is that the problem is only terminological. All organizations consciously or unconsciously use at least some of the marketing activities; whether it is advertising, fundraising, lobbying or something else. But the definition of

marketing may not fit the vision of non-profit organization because of its market orientation. So a question of difference between profit and non-profit organization is imposed, and the biggest difference is in their fundamental aims. Profit organization is oriented on making profit, and non-profit organization on making some benefit for the society. Even though some activities can be applied in almost the same way, major part of general marketing characteristics and laws need to be adapted to the specific needs of non-profit organizations (Pavičić, 2003). Maintaining relationship with the donors creates additional value for the user equally as for the organization. Thereby it is necessary to state that strengthening of relationships with donors implicates keeping them, additional propaganda by the donors, identifying with the organization and being proud of it (Kumar, 2008). Therefore in operation of the non-profit organizations the need for more intense strategic marketing approach directed towards achieving higher quality of relationships with donors is clear (Mikić, Orsag, Pološki Vokić, Švaljek, 2011: 542).

Focus of this paper is directed on analysis of the effect of motivators on the behavior of blood donors. According to the Law about blood and blood supplements<sup>1</sup> »blood donor« is a person who donates blood or blood ingredient (part of the blood collected from the donor i.e. erythrocyte, leukocyte, platelet, plasma. Definition of voluntary blood donor is written by International Society of Blood Transfusion (ISBN), International Federation of Red Cross (IFCR), World Health Organization (WHO) and the Council of Europe, and it says: „Voluntary blood donor is a person who gives blood, blood plasma and other blood ingredients voluntarily, anonymously, without any kind of payment, purely as an act of solidarity.“<sup>2</sup> By the definition it is highlighted that the key motive for blood donation is extremely humanitarian, wish to do a good deed and to help a sick person, even though there are many additional motivators that affect the behavior of donors. Therefore it is necessary to state that in the Republic of Croatia voluntary blood donors have the right to paid leave of absence from work (1 day off) from the title of Voluntary blood donation which can be actualized during calendar year according to work obligations according to the Work Law<sup>3</sup>. But, according to some collective contracts, voluntary blood donors have the right to two paid days of leave of absence for every blood donation for up to ten days in a calendar year.<sup>4</sup>

With the stated motivator it is important to highlight two other key motivators. Donors are relieved from paying the premium for additional health assurance that is carried out by Croatian Health Insurance Fund (CHIF) for which the funds are insured in the State budget<sup>5</sup>. By the stated motivators voluntary blood donors buying insurance from CHIF are motivated – men that donated blood more than 35 times and women that donated blood more than 25 times. Second important motivator states that voluntary blood donors in the City of Zagreb have the right to free year pass ticket for public transport that transport sin the area of the public transport of the City of Zagreb – for men that have donated blood 30 and more times and women that donated blood 20 and more times – if they can exercise their right and if they do not get that

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<sup>1</sup> Law about blood and blood supplements, NN 79/06, 124/11

<sup>2</sup> Acquisition of blood is done by authorized health institution. In the Republic of Croatia Croatian Institute for Transfusion Medicine and Croatian Red Cross organize and carry out actions of blood donating according to principles of voluntarism, anonymity, solidarity and no charge; and take special care of voluntary blood donors. (<http://www.hck.hr/>, <http://www.hztm.hr/> downloaded 20.8.2016.)

<sup>3</sup> Work Law, act. 57. Paragraph. 5 (NN 137/04)

This right may be denied in practice, but at the moment there is no legal documentation or paper which could be cited.

<sup>4</sup> Collective contract for health and health insurance agency act. 43. Paragraph 1. Subparagraph 9. (NN 09/05)

<sup>5</sup> Law of voluntary health insurance act 14 a. paragraph 1. ad 3 (NN 85/06, NN 150/08)

right on another basis<sup>6</sup>. Transfusion centers are focused on the strategy of attracting new blood donors and keeping the existing ones and therefore satisfaction and motivation of the loyal blood donors is very important part of accomplishing strategic goals. The declared motivator is altruism with a few additional motivators. The key question from which the problem of this research is imposed is how strong effect do the motivators have on attitudes of blood donors??

### **3. AIMS OF THE RESEARCH AND THE HYPOTHESIS**

The research is aimed on the attitudes and behaviors of the blood donors and the effect motivators have between them. The key problem on which the research is focused is sublimed in the question: do the motivators have enough power to encourage donors on donations? Therefore it is necessary to clarify the role and meaning of motivators while forming attitudes and behaviors of blood donors and how much would suspension of motivators affect changing attitudes and behaviors of blood donors in post-transitional period? So the primary goal of this paper is to determine effect of motivators on the behavior of blood donors. From the stated the following hypothesis was formed

H: Motivators have strong influence on encouraging blood donors on donations

It is assumed that there is a strong, positive correlating connection between motivators and motivation with voluntary blood donors to give blood which is particularly highlighted with non-loyal blood donors, donors who approach motivated by transactional approach. The goal is to analyze which of the motivators and how strongly affected the action and to see how strongly motivators affect attracting blood donors. The data was collected using questionnaire.

### **4. RESEARCH METHODOLOGY**

The research was focused on finding an answer to question how strong is the influence of motivators on changing attitudes and behaviors of blood donors themselves, and by that on loyalty of blood donors. The analysis was done over results of primary research. The research offered clear view of attitudes of blood donors about motivators, and the effect of motivators on the behavior of blood donors and frequency of donations. The research was compiled of acquiring primary data using a structured questionnaire (Vranešević, 2014) on the sample ( $n=2000$ ) of donors. Data acquisition was done in organized blood donating actions by which the research was aimed on the planned appropriate sample of donors who actively donate blood at the stated actions. During the research Likert scale in range from 1 to 5 was used (Grbac, Meler, 2010: 280), during which would blood donor state total agreement or disagreement with the given statement. Within research latent variables with measurable indicators were used. The stated indicators were influenced by many inside factors like motivation, attitudes, personality, education, perception and some outside factors such as status in society, culture, family influence, referential group influence etc. (Grbac, Meler, 2010:279) and it is important to put them in the analysis, too. In the processing of primary data using questionnaire, descriptive statistical analysis was used. Using descriptive analysis profile of the donors was created, and also the strength of correlation between blood donors and motivators by doing which hypothesis H would be accepted or rejected.

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<sup>6</sup> Decision of Zagreb City hall about social care from 28.09.06., and the Decision about changes of the decision about social care from 31.3.2009., act.5.

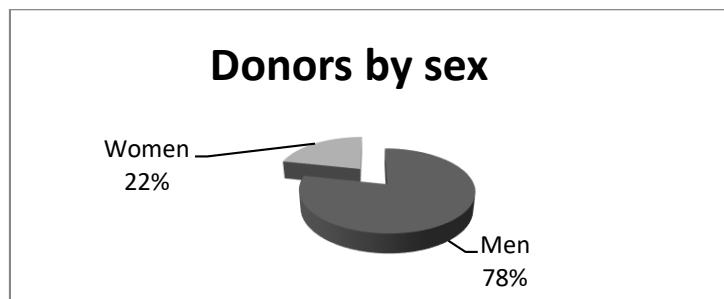
## 5. CHARACTERISTICS OF THE RESEARCH SAMPLE AND THE RESEARCH RESULTS

Primary intention of the done research was to gain insight in attitudes of voluntary blood donors and blood supplements. There were totally 2000 questionnaires. The data was acquired using method of personal questioning in organized actions of blood donating. The research lasted three months in order to avoid repetition of questioning the same donors who have already filled in the questionnaire (men can donate blood every three months, four times a year max.). The sample of research was intentional appropriate, and the structure of the sample is shown in the tables below. By filtrating the database are parsed age groups according to sex, but also according to number of blood donations which was the key segment for determining loyalty of donors. Subsequently, women after 25 donations and men after 35 donations according to database are sorted into groups of loyal blood donors.

*Table 1. Structure of the sample according to the sex of the examinees*

Sex	Frequency	Percentage	Cumulative percentage
<b>Men</b>	1565	0,7825	78%
<b>Women</b>	435	0,2175	100%
<b>Total</b>	2000		

*Picture 1. Structure of the sample according to the sex of the examinees*

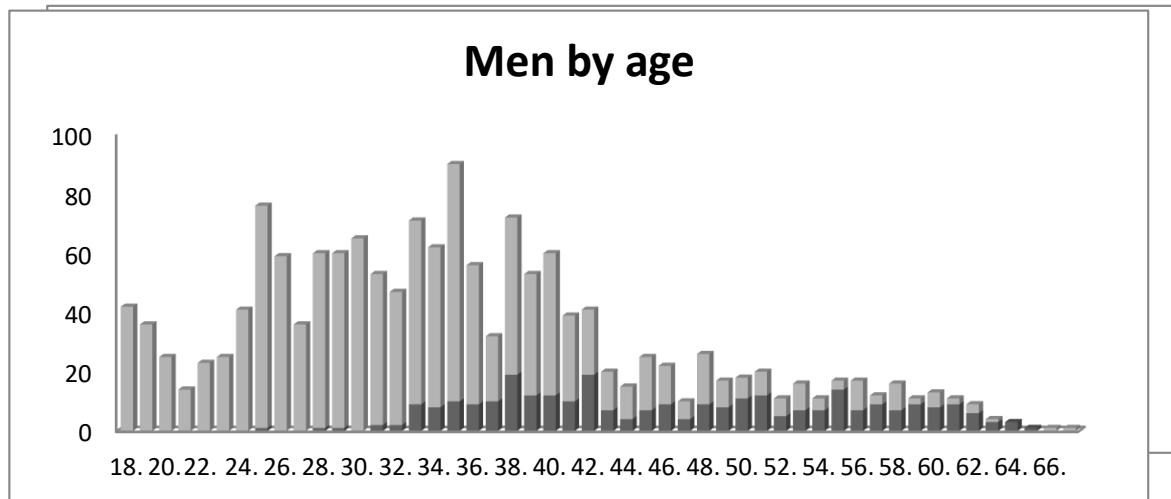


*Table 2. Structure of the sample according to their sex, age and the amount of donations (loyalty) of the examinees*

Age	Frequency	Women loyal	Women non-loyal	Women	Men loyal	Men non-loyal	Men
<b>18-20</b>	161		58	58		103	103
<b>21-25</b>	256		77	77	1	178	179
<b>26-30</b>	380	1	99	100	2	278	280
<b>31-35</b>	406	4	79	83	31	292	323
<b>36-40</b>	311	7	31	38	62	211	273
<b>41-45</b>	174	8	26	34	47	93	140
<b>46-50</b>	108	2	13	15	41	52	93
<b>51-55</b>	91	3	13	16	45	30	75
<b>56-60</b>	81	11	1	12	40	29	69
<b>61-</b>	32	2		2	22	8	30
<b>Total</b>	2000	38	397	435	291	1274	1565

Indicators obtained in the stated table are shown graphically below with because of more clarity.

*Picture 2. Structure of blood donors according to their age and amount of donations*



*Picture 3. Structure of blood donors according to their age and amount of donations*

It is interesting to state that 91% of non-loyal male donors is younger than 45, but comparatively with the stated data it is necessary to notice that 83% male donors is younger than 45 from which one can conclude that the basis of donors with men is within younger population and within non-loyal donors. In female population the problematics is highlighted more significantly. 90% of non-loyal donors are younger than 42, and even 50% of them are younger than 30. Over 90% of female donors are not loyal to the organization. According to stated review one can notice that the biggest number of donors is between 25 and 35 years of age and that the fluctuation within those ages is the clearest. During that one should state that those are mostly non-loyal donors. It is also interesting to notice after 42 years of age the number of donors suddenly falls even though in that period most donors manage to achieve number of donations according to which they become loyal donors – donors start receiving awards for multiple donations. The stated indicators show the need for additional analysis of the influence of motivators on blood donations. Hypothesis assumption is that there is a strong positive correlative connection between motivators and incipience of blood donations which is especially highlighted with non-loyal blood donors – donors that approach blood donating motivated by transactional approach by which the influence of motivators on motivation of blood donors to donate blood would be proven. Therefore a set of questions in the frame of questionnaire which was done with voluntary donors with the aim of discovering which motivators influenced blood donors to start with their first blood donation. The indicators are shown in the table below.

*Table 3. Motives for the first donation*

Motive for the first donation	frequency	percentage
Altruism	1272	64%
2 days of vacation	906	45%
Urging of close family member or a friend	182	9%
Military service	284	14%
Family member sickness	39	2%
Media invitation	194	10%
Health testing	332	17%
Other	51	3%

It is interesting to notice that 64% of the donors mentioned that altruism was the beginning motive for blood donation, which confirms assumption that the primary motive of blood donors is the realization that by that they are doing good and helping others. Still, even 45% of donors stated that their motive for first donation were two days of vacation, and 14% more stated that donating blood during military service while again their motive were days off. Following stated indicators, it is necessary to state that donors under other reasons mentioned motives such as “Physical Education completion signature, not going to school, avoiding exams, getting lunch and beer and similar to that”. From the previously stated it can be noticed that motivators have significant role for motivation of donors during their first donation. Stated connotations indicate strong influence of motivators on motivation for blood donating.

Therefore based on previously stated analyses one can conclude that influence of motivators for persuading donators to donate is extremely strong. Big significance of motivators for motivation of donors is expressed during first donation. Therefore the hypothesis of this research can be accepted.

## 6. CONCLUSION

The research for needs of this paper was based on the following question: can it be stated that the influence of motivators on behavior of donors is strong. The aim of the hypothesis H was to determine if there is a strong positive connection between motivators and motivation of voluntary blood donors to donate blood. According to stated results it can be noticed that blood donors significantly react to motivators, for which the hypothesis H can be confirmed. Therefore stated results of the research lead to new cognitions for understanding strategic behavior of non-profit organizations during establishing long term relationships with their donors, meaning that it can be concluded that transactional approach encouraged by motivator's influences motivation of blood donors for donations.

## LITERATURE:

1. Alfirević, N., Pavičić, J., Najev Čaćija, Lj., Mihanović, Z., Matković, J. (2013) *Osnove marketinga i menadžmenta neprofitnih organizacija*, Zagreb: Školska knjiga, Institut za inovacije.
2. Grbac, B., Meler, M. (2010) *Metrika Marketinga*, Rijeka: Sveučilište u Rijeci, Ekonomski fakultet Rijeka.
3. Helmig, B., Thaler, J. (2010) Nonprofit Marketing. In Taylor, R. *Third Sector Research: Nonprofit Marketing*. New York: Springer, 151-170
4. Judd, V. C. (2001) Toward a customer-orientation and a differentiated position in a nonprofit organization: Using the 5th P-People, *Journal of Nonprofit & Public Sector Marketing*, 9 (1-2), 5-17
5. Kara, A., Spillman, J. E. i DeSheilds, O. W., Jr. (2004) An empirical investigation of the link between market orientation and business performance in non-profit service providers, *Journal of Marketing Theory and Practice*, 12(2), 59-72.
6. Knowles, P. i Gomes, R. (2009) Building relationships with major-gift donors: A major-gift decision-making, relationship building model, *Journal of Nonprofit & Public Sector Marketing*, 21, 384–406
7. Kotler, P. i Andreassen, A. R. (1996) Strategic marketing for non-profit organizations. London: Prentice Hall.
8. Kumar, V. (2008) *Managing customers for profit: strategies to increase profits and loyalty*, New Jersey: Person Education
9. Meler, M. (2003) *Neprofitni marketing*, Osijek: Ekonomski fakultet Sveučilišta u Osijeku.

10. Mihanović, Z., Rosan, S. (2014) Developing a strategy of relations and cooperation of non-profit organizations with the local community, *European Scientific Journal*, 2, 181-192.
11. Mikić, M., Orsag, S., Pološki Vokić, N., Švaljek, S. (2011) *Ekonomski leksikon*, Zagreb: Leksikografski zavod Miroslav Krleža i Masmedia.
12. Najev Čaćija, Lj. (2013) Fundraising in the context of nonprofit strategic marketing: toward a conceptual model, *Management*, 18(1), 59-78
13. Oliver, R.L. (1999) Whence Consumer Loyalty, *Journal of Marketing*, 63(4), 33-44.
14. Pavičić, J. (2003) *Strategija marketinga neprofitnih organizacija*, Zagreb: Masmedia
15. Vranešević, T. (2014) *Tržišna istraživanja u poslovnom upravljanju*, Zagreb: Accent.

## IMPACT BONDS IN THE LATIN-AMERICAN CONTEXT: POLICY TRANSFER ANALYSIS FOR MEXICO, CHILE AND COLOMBIA

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### **ABSTRACT**

*Impact bonds are a recent mechanism to address social issues by involving the private sector, government, and nongovernmental organizations. Among the first candidate countries in Latin-America to implement such mechanisms are Mexico, Chile and Colombia. However, notwithstanding the several proposals and projects designed in these countries to alleviate internal social problems, no impact bonds have been implemented yet. This research attempts to identify the unique constraints within each country that hinders the implementation of impact bonds through the policy transfer approach. The findings show that the constraints are related to the politicization by interest groups in some areas (Mexico), the political cycles (Colombia), and the level of centralization (Chile).*

**Keywords:** *Development Impact Bonds, Pay for Success Contracts, Public Policy, Policy Transfer, Social Impact Bonds*

### **1. INTRODUCTION**

The pursuit of profits and solving social problems usually are considered as two opposing and irreconcilable objectives. While mainstream investors assume that it is the responsibility of governments and charities to tend to social issues, traditional philanthropic and civil society organizations reject the idea that for-profit businesses have the right to support organizations in promoting equality, justice, and defending social causes. In essence, it is assumed that creating economic value is best left to private companies and that improving social welfare best left to governments and nonprofit organizations (Bugg-Levine & Emerson, 2011). However, impact investments are proving that these two objectives - making profits and addressing social issues - can be achieved simultaneously, and that they are capable of creating a new investment market that improves social and environmental conditions.

Impact bonds are a kind of impact investment that are becoming a popular mechanism to tackle social issues and provide financial returns to investors. Impact bonds aim to address social issues using an innovative and preventative approach that brings together the private sector, nongovernmental organizations, and the government or a donor agency. These mechanisms are divided into Social Impact Bonds (SIBs) and Development Impact Bonds (DIBs).

The UK initiated the first SIB in 2010, and since then, more than 40 projects, primarily in developed countries, were established. In developing countries, DIBs provide an alternative for addressing social needs because DIBs do not require governments to pay for the proposed social outcome, therefore they avoid budgetary pressures from the government. India developed the first DIB in 2015 for improving school enrollment of girls. In Latin America and the Caribbean, the Inter-American Development Bank (IADB) started promoting SIBs with resources for technical assistance and feasibility studies through the Multilateral Investment Fund (MIF) to adopt this model. Mexico, Chile and Colombia are the first candidate countries in the region to

implement such mechanisms. However, despite several proposals and projects designed for these countries, neither the SIBs nor the DIBs have been applied.

The primary interest of this research is to assess and identify the potential constraints that hinder the implementation in these countries through the policy transfer framework developed by Benson (2009). In this context, we evaluate the possible limitations of the transfer process on the demand side, the programmatic characteristics of the impact bonds, the application constraints, and the contextual factors in the selected countries, in order to understand why no impact bonds have been implemented and what major obstacles exist for this mechanism in the region. In addition, the first SIB in the UK and the first DIB in India are used as benchmarks to analyze their transferability.

The organization of this research is as follows: The first section explains the concept of impact bonds. The second section provides the methodological framework to identify the potential constraints for the transfer of impact bonds in the selected countries. The third section interprets and analyzes the relevant findings to answer the research questions. Finally, the fourth section presents the possibilities and restrictions for each case individually.

## 2. UNDERSTANDING IMPACT BONDS

### 2.1 Social Impact Bonds

Social Impact Bonds (SIB) have a basic design that can be modified depending on the needs of the social issue and the contract agreements. SIBs includes five main stakeholders: investor(s), an intermediary, a service provider, an independent evaluator, and the outcome payer plus the target population (see Figure 1).

The process starts with the private investors, who provide the funding to a service provider with the necessary expertise to deliver a service that helps the target population. If the evaluator validates that the pre-agreed outcomes were fulfilled, the outcomes payer, repays the investors. In most cases, the intermediary is in charge of bringing together the different actors, discussing the details of the transaction and raising capital for the project (Goodall, 2014; Instiglio & Thomson Reuters Foundation, 2014; Liebman & Sellman, 2013).

In order to manage the resources and the contracts with the different stakeholders, a legal entity called a Special Purpose Vehicle (SPV), or Special Purpose Entity (SPE), can be created and included as part of the framework (Gustafsson-Wright et al., 2015; Mulgan et al., 2011). Although the SPV does not deliver any services, it acts as the lead organization, and carries out such tasks as receiving the capital from the private funders, ensuring the delivery of the intervention, passing the funding to the service provider, managing the contracts with the agencies and monitoring their performance, and receiving the outcome payments and transferring them to the investors. This entity is controlled either by the intermediary or the investors. After the investors are repaid, the remainders of the outcome payments are kept by the owner of the SPV.

Depending on the stakeholders, the context and the agreements for the intervention, the impact bond framework can vary. The contract relation with the outcome funder falls into one of the three types described by Goodall (2014) and Gustafsson-Wright et al. (2015): The first is the *managed impact bond structure*, in which the outcome payer makes a contract with the intermediary or a SPV controlled by the intermediary. The intermediary plays a leading role through the transaction process and is in charge of managing the performance of the service delivery. In the *intermediated structure*, the outcomes payer makes a contract with the investors or a SPV controlled mainly by investors. In this case, the intermediary is still responsible for most of the transaction and is contracted by the investors or SVP to supervise the performance of the service delivery. The last contract relation is the *direct structure*, in which the outcomes payer contracts directly with the service provider, while the outcomes payer has the leading role and manages the performance of the intervention.

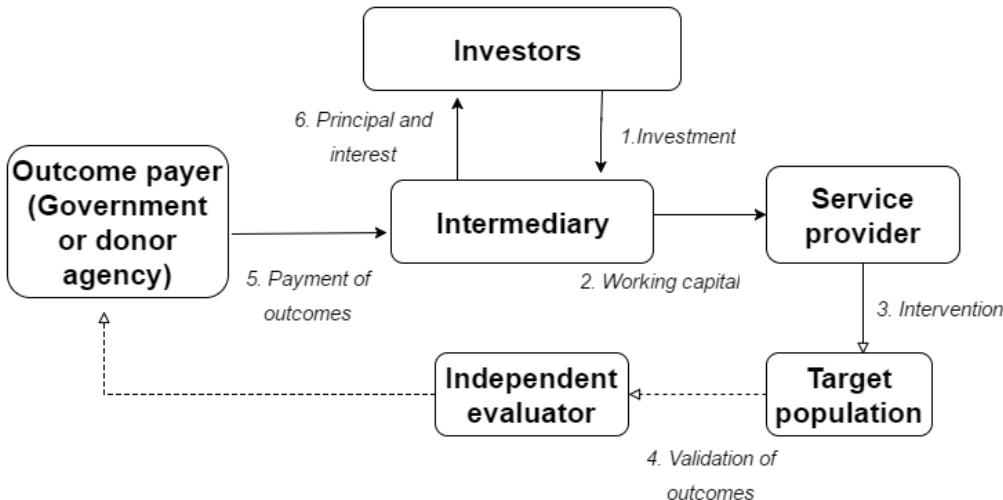


Figure 1. Basic social impact bond model (Authors).

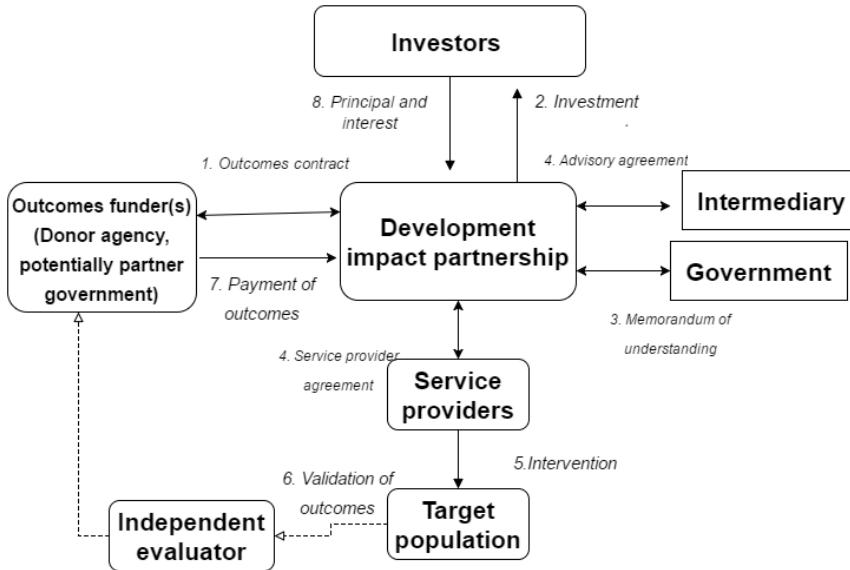
## 2.2 Development Impact Bonds

The Development Impact Bond (DIB) scheme is based on the same principles as the SIB. The main difference is in the roles the outcomes payer and government have in the structure. DIBs are designed to be implemented in lower and middle-income countries<sup>1</sup> in which a foundation, a donor agency, or an international organization (with the support of the host country), pays the investors fully or partially once the outcomes have been achieved and verified. According to the Center for Global Development & Social Finance, two basic models can be used for the DIBs: a direct contract between outcomes funders and service providers, or contracts via a new corporate entity or development impact partnership (2013).

In the first DIB model, there is a direct contract between outcomes funders and the lead service provider in which they detail the payment conditions in the case that the service provider achieves the agreed social outcomes (similar to Figure 1). Depending on the specific circumstances in the target country, a memorandum of understanding between the government and the service provider can be made to define the government's goals, and the way in which the service provider will help to meet them. Like the SIB model, the repayment to the investors depends on the level of success.

In the second DIB model, the contracts are held by a New Corporate Entity (NCE), called a Development Impact Partnership (DIP), which holds the investors funds and the contracts with the different parties: the outcomes funders, service providers, developing country government, investors and the intermediary. It is also responsible for the design and implementation of the strategy to deliver the outcomes. The outcomes funders and the NCE have to agree on the outcomes contract and establish the conditions of the payments to the NCE if the outcomes are achieved (see Figure 2). The donor agencies and partner governments can be involved as co-commissioners of outcomes. The investors and the NCE make an investment agreement regarding the amount of capital needed, the timeline, and terms of repayment. The investors' funds are transferred to the DIP which uses them to finance the service providers' delivery costs upfront. As in the first model, the government and the DIP can make a memorandum of understanding to define the government's goals and how the DIP can help to achieve them. The measurements and the validation of the outcomes are agreed upon by the outcomes funders and an independent organization that will audit the results reported from the intervention, known as a verification agent.

<sup>1</sup> The middle-income countries are classified in lower-middle-income economies with a per capita income from \$1,026 to \$4,035 USD, and upper-middle-income economies with a per capita income from \$4,036 to \$12,475 USD (UNIDO, 2014; World Bank, 2016a).



*Figure 2 DIB: Contract via New Corporate Entity / Development Impact Partnership  
 (Authors, based on Center for Global Development & Social Finance, 2013)*

### 3. THE POLICY TRANSFER FRAMEWORK

When a policy or a program seems promising, governments try to adopt it to achieve similar outcomes to those in the original model, which is precisely what happened with SIBs. In political science and public policy analysis, this process of adopting policies and programs from other public bodies is called “policy transfer”. It is understood as “the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political setting (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political setting” (Dolowitz & Marsh, 2000, p. 6).

The policy transfer process has four components distributed between the demand and the supply side. On the demand side, the policy demand represents the need for a policy or program for a specific issue. It can be satisfied by the policy-makers if they search for policies implemented in other places facing similar issues, and bring them to their country or jurisdiction. On the supply side, once a policy has been found to address the issue in question, understanding the conditions and characteristics in the exporter jurisdiction (where the policy or program was designed), is necessary to fulfill the supply. It is also required to have sufficient understanding of the importer jurisdiction in regards to the institutional, political, legal, social and economic context to assess whether it is feasible to transfer the policy, and if the necessary requirements to apply it, are present (Benson, 2009; Page, 2000; Rose, 1993, 2005).

Usually, it is assumed that the transfer process will lead to a successful policy implementation, (based on the success of the exporter country), it is not always the case (Dolowitz & Marsh, 2000; Rose, 1993). Possible constraints that can hinder the implementation are the complexity and uniqueness of the policy or programs (Rose, 1993), institutional and structural impediments, insufficient economic and political resources to implement the transferred policies (Dolowitz & Marsh, 2000), cognitive constraints in the pre-decision phase, environmental obstacles in the implementation, and the domestic public opinion (Evans, 2009). Constraints can be classified into four types: the demand side, the programmatic characteristics of the policy being transferred, contextual factors, and application constraints (Benson, 2009; Benson & Jordan, 2011). Based on the constraints and their classification, Benson proposes an analytical framework to examine the transferability of programs between contexts (2009). To identify and assess whether the policy transfer process had any constraints or not, he associated

a series of questions to the factors that could interfere with the adoption of a policy (See Table 1). If there are many, difficult constraints (high constraints), the chances of success for the policy transfer will diminish and a form of synthesis, emulation or influence of the original policy is more advisable to address the issue in question. If there are few, soft constraints (low constraints), then the transfer is more likely to be successful and a copy or adaptation form of the original policy can be implemented.

This theoretical framework will be used to assess whether the Social Impact Bonds (SIBs) and the Development Impact Bonds (DIBs) can be applied or not in the selected countries. This framework will help us understand why the impact bonds have not been implemented in this region, and it will also help identifying current and potential constraints in the adopting countries.

The benchmarks for the research are the SIBs in Peterborough, UK and the DIB in Rajasthan, India. The first one was chosen because it was the first project of this type to be implemented and because it was used as a reference to develop further SIBs within the UK and other countries. There is sufficient available information regarding the design, the role of the stakeholders and evidence of the outcomes from the intervention of the cohorts that were evaluated. In the case of the DIB, it was chosen because it is also the first project of this type to take place. Although the information available is not as abundant as in the case of the SIB in Peterborough, the analysis of its design and implementation process are relevant and useful to understand how developing countries can use the DIB model and the necessary conditions for adoption.

Mexico, Chile and Colombia were chosen as the adopting countries for this research. They were selected because the Multilateral Investment Fund (MIF) and the innovation lab for the Inter-American Development Bank group have considered them among the early candidates for the implementation of an SIB in Latin America, and because they already have SIBs projects in an advanced design stage (Levey, 2014). Since 2014, the MIF has been allocating resources to encourage the use of social impact bonds in the region. They focus on developing the right conditions for growing the market, identifying social needs and interventions, assessing the legal framework, and providing training and advisory support to the interested stakeholders in the model (Multilateral Investment Fund, 2014). In Mexico, the state of Jalisco analyzed the design of an intervention to move single mothers permanently out of poverty, while Instiglio conducted a feasibility study to reduce recidivism in Chile, and another to reduce school dropouts and teenage pregnancy in Colombia (Bloomgarden & Levey, 2015). Therefore, it is relevant to assess the potential constraints in the transfer process of these countries and whether there are conditions that allow them to adopt the impact bonds model.

To assess the demand factor, the income inequality shown in the Gini coefficient by the Organization for Economic Cooperation and Development (2014), the human development index (HDI) by the United Nations Development Program (2015) and the World Development Indicators (WDI) database by the World Bank (2016b), will be used. The WDI will be used to analyze specific issues as youth unemployment, primary and secondary school attendance, and the prevalence of diabetes. These social issues were chosen because they represent current conditions and basic needs that are not being met, and because there are potential impact bond projects that can address them.

The programmatic constraints will be assessed by analyzing the structure of the SIB and the DIB models themselves. For the contextual constraints, the following issues will be assessed: the existence or absence of legal frameworks in Mexico, Chile and Colombia that can enable the adoption of impact bonds; factors such as rule of law, control of corruption, political stability, and government effectiveness for the period 2009 – 2014 from the Worldwide Governance Indicators (WGI) created by the World Bank (2015); the political context and politicization of private interventions in social areas in Mexico, Chile and Colombia; the status

of public resources in social policies, the number of potential service providers, and potential investments. For the application constraints, the extent at which the selected countries have to change their current structures to adopt the impact bonds models will also be analyzed.

*Table 1 Factors constraining transferability (Authors, based on Benson, 2009)*

Factors constraining transferability	Key questions
<b>Demand side constraints</b>	
Policy demand	Is there a demand for the policy or program?
	Is there potential resistance to transfer?
<b>Programmatic constraints</b>	
Programmatic uniqueness	How unique is the program?
Programmatic complexity	How complex is the program?
<b>Contextual constraints</b>	
Path dependency	Are past policies restrictive or enabling?
Existing structures	Are existing structures restrictive or enabling?
Political context	Is politicization apparent?
Resources	Does the receiving context possess adequate resources for transfer?
<b>Application constraints</b>	
Institutional substitutability	Would new institutional structures be needed?
Scales of change	Is the anticipated scale of change large or small?
Programmatic modification	Are programmatic adjustments needed?

The methodological limitations for this research are related to the availability of comparable information among the exporting and adopting countries. For the first stage, there is much less information available with regard to the evaluation of the cohorts and outcomes for the DIB in India compared to the SIB in Peterborough.

#### **4. ASSESSING IMPACT BONDS THROUGH THE POLICY TRANSFER APPROACH**

##### **4.1 Demand side constraints**

The demand represents the social needs in a country, and if there are no social issues to be addressed by the impact bonds, it is not feasible to adopt them. The interest and willingness of the policy-makers to satisfy the demand for a policy is crucial to the implementation.

*Is there a demand for the program?* Yes. There is a demand for programs and policies that cover social needs in the three Latin-American countries. There is a large income inequality within their population. The Gini coefficient for Mexico is 0.47 and 0.50 for Chile, both have the highest income inequality measured by the OECD. The OECD average Gini coefficient is 0.31, while for the UK it is 0.34. In the case of Colombia, although it does not belong to the OECD, the last data available for its Gini coefficient is 0.53, which shows an even higher income inequality compared to Mexico and Chile (World Bank, 2016).

Comparing the conditions of youth unemployment, primary and secondary school attendance, and diabetes among the same countries, it is observed that the three Latin American countries have mixed conditions, in some cases they have similar conditions to the UK, but in others they are closer to the Indian context. The UK presents the second highest unemployment rate from the five countries, the mean rate from the period 2010 to 2014 was 7.5%, while the youth unemployment was on average 19.6%. India had on average 3.5% of unemployment and 10.4% youth unemployment for the same period. In Mexico, the average unemployment rate was 5% and the youth unemployment rate 9.6%. In Chile, the unemployment rate was 6.8% and the youth unemployment 16.9%. In Colombia, the average unemployment rate for that period was 10.6% and the youth unemployment rate 20.7%. There is a demand for action on this topic in

the five countries, the demand will be classified as medium-high for Colombia, the UK and Chile, while Mexico has a medium demand and India a medium-low demand.

In the education sector, the UK has the lowest rate of children not enrolled in primary school age. From the period 2010 to 2013, it was less than 1% on average, with a rate of unenrolled adolescents below 2%. Mexico has on average 3.2% of the children unenrolled in primary school, but a rate of 12.6% of adolescents out of school. In India, the rate of children unenrolled in primary school is 5.1%, but 23.2% of adolescents out of school. While Chile has the greatest percentage of unenrolled children in primary school at 6.1%, but the lowest rate of adolescents out of secondary school, 1.7%. For Colombia, the percentage of children out of primary school is 3.1% and has 0.9% of adolescents out of school, however the last available information in the database is from 2009. Except for the UK, there seems to be a demand in other countries. This is especially the case Chile and India regarding the primary school attendance, followed by Mexico and Colombia. While with regards to secondary school attendance India and Mexico have the higher demand.

In Mexico, 15.8% of the population has diabetes<sup>2</sup> prevalence, followed by Chile and Colombia, both with 10% for the year 2015. India has 9.3% of its population with diabetes, while the United Kingdom has the lowest prevalence of this disease, only 4.7%. The demand for a policy to treat and prevent this disease is present in these developing countries.

*Is there potential resistance to transfer the program?* No. There does not seem to be any resistance from the policy-makers neither in Mexico, Chile nor Colombia. The three countries have shown their interest in the use of SIBs, either by attending the meetings organized by the Multilateral Investment Fund (MIF) aiming to spread the use of these mechanisms since 2014 or by starting the design of a SIB as such. Mexico, Chile and Colombia have been considered as part of the main candidates to focus the resources and make agreements for the implementation (Levey, 2014).

#### 4.2 Programmatic Constraints

When a policy or a program presents a high degree of complexity, it is less likely to be transferred successfully to another country. In the case of the impact bonds, its complexity does not show in the concept, but rather in the details of the interventions themselves, which vary from one context to another.

*How unique is the program?* SIBs and the DIBs do not have elements of “uniqueness” in the sense that Rose describes. Their implementation is not restricted to a specific place and target population that only exists in a determined space and time (1993, 2005). SIBs have already been transferred and applied to various scenarios, in spite of the different contexts and the social issues in the adopting countries. The SIB structure can be transferred if the countries have similar stakeholders and the same degree of involvement. There needs to be a social issue or a vulnerable population that can be helped with a preventative and innovative approach. In addition, there must also be investors who are interested in financing the model, service providers that have the expertise, and a government that has the commitment and resources to pay for the outcomes.

When the budgetary capacity does not allow a government to be the outcomes payer, as in the SIB model, but there are socially motivated investors, service providers and a population with deep social needs, then the DIBs are a suitable option. Such features are commonly found in the low and middle-income countries (Center for Global Development & Social Finance, 2013). The element of uniqueness is not present in the impact bonds model; they are flexible and adjustable as long as the stakeholders and the legal and institutional frameworks within a country or jurisdiction enable its use.

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<sup>2</sup> This data includes diabetes type I and II (see: World Bank, 2016b)

*How complex is the program?* The degree of programmatic complexity, according to Rose, can be assessed based of the following features: multiple goals, a vague empirical focus, multiple causes for a desired outcome, unfamiliarity with the original design and unpredictability of the outcomes (1993, 2005). If these features are present, then the program has a high degree of complexity that makes it difficult to be transferred.

The understanding of the SIB model will depend on the information and knowledge that the adopting country has. In the case of Mexico, Chile and Colombia, the model is not unknown anymore because all of them have been involved in the meetings organized by the MIF in order to acquire the necessary knowledge and information regarding the SIBs model. Until February 2015, these countries have taken part in the communications strategy and SIB events organized by the MIF (Multilateral Investment Fund, 2015). The interventions have already proven their effectiveness to achieve expected outcomes, so unpredictable outcomes should be limited.

With respect to the DIBs model, the complexity of the model is similar to the SIBs, their differences are in the structure and the role of the outcomes payer. Like in the SIBs, the unpredictability factor is reduced due to the proven interventions by the social provider. In regard to the familiarity with the model, this model is not being explicitly disseminated in any of the selected countries.

#### **4.3 Contextual constraints**

A policy or a program might be unsuccessful if the context of the adopting countries restricts its functionality. Factors, such as a path dependency, the existing structure, the political context, and the availability of resources, can turn into obstacles if they do not match the conditions of the exporter country, or if they create new obstacles for the adoption of the new program. Mexico, Chile and Colombia show promising contexts for the adoption of impact bonds, and especially SIBs, but the constraints are to be related to the existing structure, the political cycle and the politicization context.

*Path dependency: Are past policies restrictive or enabling the transfer process?* Neither Mexico, Chile nor Colombia have a specific law that provides direct references to the impact bonds. However, these countries have laws on Public-Private Partnerships (PPPs) that can be used for the contracts and agreements between the government and the intermediary or service providers in an SIB (Honjiyo, 2015).

A review of the legal frameworks in developing countries made by Instiglio and Thomson Reuters Foundation shows that there is legal leverage in Mexico for all the stakeholders to develop and perform their functions as part of the SIB model (2014). The review of the Chilean legal structure shows that the political and administrative authorities have a relatively low autonomy to contract with third parties (*Ibid*). Due to its centralized governmental structure, any negotiation has to be made by the central government, i.e. executive power, so local governments act primarily as agents, and are not allowed to make their own policy decisions in comparison to the decentralized states (Gatica, 2015; Von Baer & Torralbo, 2012). In Colombia, although the SIBs are not specified in its legal framework, the current legislation allows contracts and agreements between the private and public sector, which can be used for the implementation of these impact bonds (Instiglio & Thomson Reuters Foundation, 2014).

*Existing structures: Are existing structures restrictive or enabling?* The performance of the institutions and the existing structures can hinder the transfer process of the impact bonds in the selected countries. This is assessed with the data from the Worldwide Governance Indicators (WGI): four factors were chosen to compare the performance of the existing structures in the selected countries with the benchmarks for the SIB and the DIB. These factors are the rule of law, control of corruption, political stability and absence of violence, and government effectiveness for the period 2009 - 2014. The data represent the percentile rank that indicates the country's rank among all countries covered by the WGI project, in which a percentile value

of 0 corresponds to lowest rank, and 100 to the highest rank, i.e. the greater the percentile rank, the better its performance.

The rule of law factor shows to what extent the agents have confidence in society and to what degree they abide by its rules, including the quality of contract enforcement, property rights, police, courts and the likelihood of crime. Mexico has a low performance, its average percentile ranked was 35.34, being the lowest rate if compared to the levels in the selected countries. Colombia has the second worst performance among these countries with a 43.47 average percentile rank, below India. Chile shows a high performance, its average percentile rank was 87.90, performing better than the rest, but under the 93.52 rank from the UK.

The control of corruption factor shows the perceptions of the people regarding the use of public power for private gain on both a small and large scale, and the degree to which the state is influenced by elites and private interests. In Mexico, the percentile rank was 40.59, which is slightly better than the one from India, 36.40, but still a very low performance compared to the 92.20 percentile from the UK. Colombia has an average percentile rank of 44.50 and performs better than Mexico, but it is still low compared to Chile and the UK. Chile has a high performance percentile rank of 90.37, which much similar to the conditions from the UK.

The political stability and absence of violence and terrorism factor measures the perceptions of how likely it is to have political instability events and/or politically motivated violence, as well as terrorist actions. Mexico shows a low performance with an average percentile ranking of 22.95, but performs better than India with a percentile rank of 12.12. Colombia has the lowest percentile rank of this period with 9.19, which is even lower than in India. While Chile has a medium performance ranking, it has an average percentile of 63.42, performing even better than the UK with a percentile ranking of 58.20.

The government effectiveness factor indicates the perceptions of the quality of public services, the civil service and its independence from political pressures, policy formulation, and implementation, as well as the credibility of the government's commitment to such policies. Colombia has an average percentile rank of 53.54, higher than the Indian percentile of 51.22, but far too low compared to the UK percentile. Mexico's average percentile was 61.75, which can be considered as a medium performance. In the case of Chile, its percentile rank is 85.74, a medium-high performance below the UK average percentile of 91.39.

The existing structures in Mexico and Colombia can restrict the transfer process, while in Chile they are more likely to enable it, due to their higher performance.

*Political context: Is there obvious politicization?* In this regard, the political issues and the perception of the population in the adopting country can hinder the transfer of the impact bonds. According to Marta Garcia, a director at Social Finance and leader of impact bonds projects in Latin America, the private interventions in the public sector can be politicized by interest groups, the political cycle or internal conflicts (personal communication, June 9, 2016). A SIB in the public healthcare system in Mexico did not take place because of the opposition of the National Union of Social Security Workers (SNTSS). In Chile and Colombia, SIBs were delayed due to political elections.

There has not been any attempt to use a DIB in Mexico, Colombia or Chile yet, but it can be assumed that there are fewer constraints in the political context for this model than in the SIB, since the government has a much smaller role in the scheme. In Mexico, the DIB does not seem to have obstacles unless there is some political interest group taking part in the provision on a social service. In Chile and Colombia, the political issues come from the government, rather than the private sector or the civil society organizations, a similar assumption can be made.

*Resources: Does the receiving context possess adequate resources for the transfer process?* The resources that the public sector and the investors can allocate will depend on the SIB agreements and budgetary capacity. For the DIB, the resources will also depend on the investors

and the outcomes payer. In both cases, the number of potential service providers is a relevant factor to ease the transfer of the projects.

The use of public resources shows the capacity and interest of governments to improve the living conditions of its population. The average public expenditure on education in Mexico is 5.1%, in Chile is 4.3% and in Colombia is 4.6% of its GDP, which are not far from 5.6% in the UK and 3.5% in India, the two reference points of the research. In regard to healthcare, from the total government expenditure Mexico allocates 11.4% and Chile 14.6%, which is less than the 16.2% allocated by the UK, while Colombia allocates 18.2% in this sector, exceeding the UK expenditure and the 4.5% allocated by India.

With respect to the investments needed to fund impact bonds, the attraction of impact and commercial investors plays a crucial role. In Latin America, impact investments are gaining traction and are an option for these projects. According to the Annual Impact Investor Survey, the region is one of the leading areas in terms of capital allocated, and investors have expressed strong interest to increase the amount invested in 2016 (GIIN, 2016). In addition, the region has 11% of the global impact investing assets under management, approximately US\$6.6 billion (*Ibid*).

Mexico, Chile and Colombia have a well-developed environment in regards to third sector organizations. According to the International Center for Not-for-Profit Law, the not-for-profit sector in Mexico is composed of 19,777 active civil associations and 3,135 private assistance institutions (2016). Chile had approximately 31,399 nonprofit organizations classified as NGOs, according to the National Register of Legal Entities (Ministerio Secretaría General de la Presidencia, 2013; Soto Coronado, 2013). According to the *Confederación Colombiana de ONGs*, in Colombia there are 71,789 nonprofit organizations in the country (2016). In these Latin-American countries, such organizations can be involved as service providers in the impact bonds scheme in different areas.

#### 4.4 Application constraints

Finally, the constraints in the application of the impact bonds could also hinder the success of the implementation. Nevertheless, for Mexico, Chile and Colombia, the scale of change, the substitutability of institutions, and the programmatic changes do not seem to be obstacles for the adoption of the impact bonds.

*Institutional substitutability: Would new institutional structures be needed?* For the SIBs, it would not be necessary to create new institutional structures that substitute the functions of the institutions used in a SIB, like in the UK. There is a current legal framework that can be used to implement the SIBs in Mexico that would be considered within the PPP scheme. Nevertheless, PPPs and SIBs are not the same, therefore a legal specification of this model would be more appropriate, since a modification in the regulations of the PPPs will directly affect this model. Similarly, in Chile, the framework for the PPS<sup>3</sup> can be used for the adoption of the SIB model, but a legal specification or even a specific law for the model would avoid future conflicts in its implementation. Colombia has the appropriate legal framework to introduce the SIBs, either as part of a direct assignation or a public tender process, while the constitution and two specific laws<sup>4</sup> on public-private agreements and contracts can be used to introduce such mechanisms. For the DIBs, besides the memorandum of understanding, there is no necessity to create any new institutional structure, since the agreement is between private entities in which the government does not take a leading role in the structure.

*Scales of change: Is the anticipated scale of change large or small?* The changes that can be expected with the adoption of a SIB are related to the governmental authorities and their

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<sup>3</sup> Public Procurement System of Chile (PPS), Sistema de Compras Públicas in Spanish

<sup>4</sup> See: Instiglio & Thomson Reuters Foundation (2014). Law 1150. Law 1508 on Public-Private Partnerships or Article 355 of the Colombian Constitution.

awareness and knowledge about the possibilities and functioning of the model. The MIF, together with Social Finance, are working on the capacity building of intermediaries and governments in order to provide information and training to make them aware of the benefits of this model and the different sectors in which they can be used. For the DIB, change at such scale is not anticipated, at least for the governments. Their main task is the memorandum of understanding with service providers and the evaluator (Marta Garcia, personal communication, June 6, 2016). In any case, the implementation of impact bonds can have an effect in the design of governmental programs policies, as the authorities may focus more on the outcomes and building alliances and cooperative agreements with the nonprofit and private sectors.

*Programmatic modification: Are programmatic adjustments needed?* The specific interventions as such cannot be copied, they have to be adapted and changed according to the conditions and the circumstances where they are implemented. An unaltered education DIB, like the one in India, will not have the same effect and outcomes in Mexico, Chile or Colombia, where the school dropout causes and conditions are different. However, the structure of the impact bonds is meant to be used without altering it, as long as there are stakeholders involved and interested in the models and conditions that enable the adoption of the framework. Hybrids or a mixture between the SIBs and the DIBs are also possible.

## 5. POSSIBILITIES AND RESTRICTIONS

As demonstrated in this research, impact bonds are capable of aligning financial rewards with social outcomes, and bringing together the expertise of the public, private and the third sector to work on the same goal, despite their different backgrounds and incentives. Among the benefits of impact bonds are the potential savings for the government, the stable access to resources for the third sector, and the financial and social motivation of the investors. Due to the preventative approach of SIB intervention models, the public sector can save resources because the program or policy will help mitigate the costs of ongoing social issues, thereby reducing public expenditure in the future to alleviate these problems. In the DIB model, although the government is not an outcome payer, it benefits from the improvement in the living conditions of its population. The third sector organizations obtain resources to perform their activities, and have the opportunity to reach their goal while they innovate social interventions. Lastly, the private sector obtains a rate of return and fulfills their desire to make a positive impact on the society.

In Latin America and the Caribbean, the Multilateral Investment Fund has promoted the use of SIBs, since it considers them more suitable for the region, meanwhile they have ignored the DIBs as an alternative or a possible hybrid, rather than a central project. In the cases of Mexico, Chile and Colombia, although their conditions do not present any restrictions for the DIBs and even though the government is not involved in the contract agreements, the implementation could be better, but there are no proposals or projects to apply this model in these countries yet. In general terms, the structure and features of the SIBs and the DIBs model can be used in Mexico, Chile or Colombia. The reasons and major obstacles for the impact bonds will be presented for each case individually.

**Mexico:** On the one hand, there are factors in Mexico that enable the transfer process of the impact bonds, especially the SIBs, but on the other hand, political factors can potentially restrict their adoption and successful implementation. As previously explained, the country has social needs that can be tackled through these mechanisms. The country has a high demand for policies and programs to support the population with diabetes, as well as a medium demand for actions addressing youth unemployment and school dropout from children and adolescents.

The factors enabling the transfer process of impact bonds in Mexico are: cooperation and interest from the government, adaptability of the models, legal structure, and the conditions and

resources from the potential stakeholders. There is no apparent resistance to the use of SIBs from the side of the government and most likely this also applies for the DIBs, since the government would spend less resources and be less involved as in the SIB model. There are no programmatic constraints within the structures of the impact bonds, the SIBs have been adopted in countries other than the UK, and also the DIBs could be in countries with similar needs as India as long as the stakeholders are interested. The legal framework of the Mexican law on PPPs enables the adoption and implementation of SIBs, and although it does not specify them by law, the contracts can be concluded. For the DIBs, the structure used would be a contract between private entities, with the recognition of such contract by the state and the memorandum of understanding accordingly. For the impact bonds in general, Mexico has a well-developed environment of third sector organizations that can take part as service providers. Impact investments are growing in the region and in the country as a whole, and those resources can be allocated to impact bonds projects to fund them. The government spends public resources in areas like education, healthcare and social policies.

The constraints for the transfer of impact bonds in Mexico are related to factors such as rule of law, control of corruption, political stability and absence of violence, in which it has a low performance. The low standard for the rule of law in Mexico implies that the conditions in the contract enforcement, property rights, courts and the police, can potentially hinder the performance and even the implementation of SIBs and DIBs. Furthermore, the recent violence in the country due to the war on drugs, can discourage the investors and service providers to work in some areas.

Besides the structural constraints, the politicization in Mexico in some areas plays a decisive role for the implementation of projects. Two of these areas are public healthcare and education, which both have the largest labor unions in Latin America, the SNTSS in the healthcare and social security sector, and two in the public education system, the National Educational Workers Union (SNTE) and the National Coordinator of Education Workers (CNTE).

The implications for impact bonds in politicized sectors are at a high risk of opposition from interest groups and the potential failure of implementation. In the event an impact bond is pursued and implemented in such sectors, the interest groups have to be informed about the process of the intervention and its goals in order to avoid any misunderstandings. However, impact bonds are not conceived as a substitute or replacement for the public services provision, but as a complementary preventative approach to the governmental functions. In the state of Chiapas, the performance-based contract designed by Instiglio to increase high school enrollment does not have any opposition because it does not compete with the teachers or the institutions. Also, the SIBs in the state of Jalisco have not faced any controversy because their goal is to lift single mothers out of poverty to complement a current governmental program in which they receive a direct transfer of resources.

**Chile:** The factors in the Chilean context enable the transfer of impact bonds in general, but the SIBs have been more heavily promoted and seem to be more suitable than the DIBs. This is due to the social needs of the country. Although Chile has the highest income inequality from the OECD countries, it has a HDI higher than all the Latin American countries, except for Argentina. Its demands and social conditions are more similar to those from developed countries than those from developing countries such as India. There is a medium-high demand for programs related to youth unemployment, children out of school, but a low demand for diabetes prevention actions and programs for adolescent out of school.

The factors that enable the transfer of impact bonds in Chile are the current legal structures, the legal frameworks and the apparent lack of political instability and application constraints. It has a high standard in regard to contract enforcements, property rights, and the public has a positive perception of the courts, police, and control of corruption and a low likelihood of crime. There is a perception of a medium-high quality with regard to the credibility of the government's

commitment to its policies, the public and civil services, the policy formulation, and the existence of freedom of expression and association. Furthermore, the perception of political stability and the absence of violence is higher than in the UK. The SIBs can be adopted through the Public Procurement System of Chile (PPS), although the PPS has not specified the use of SIBs, it can be used to enforce the contract between the public and the private sector. In case DIB implementation is pursued, it would not require the PPS framework, but rather a private contract between the investors and the outcomes payer, together with the memorandum of understanding accordingly.

Chile has suitable conditions for the implementation of SIBs, it seems that the biggest constraint has been the lack of commitment from the government and its demanding centralization. Although the feasibility study for a recidivism project started in 2014, there is no binding commitment from the central government to be more involved yet and the contracts and negotiations have been delayed due to electoral processes in 2016 and 2017. The implementation will likely not be until 2018. The local governments have no faculties to pursue these agreements, and only the central government, through the Ministry of Finance, is the appropriate entity to take part in a SIBs scheme, because it has a central role in the allocation of budgets and is responsible for the efficient execution of public resources (Gatica, 2015).

**Colombia:** The factors that enable the transfer of the impact bonds model in Colombia are the demand for programs and policies to solve social issues, the low resistance to these mechanisms and the legal framework that allows them to take place. There is a medium-high demand for actions to solve issues related to youth unemployment and a medium demand to reduce the number of children out of school. The country has a low-medium demand to attend the prevalence of diabetes. In regards to the prevalence of adolescents out of school, Colombia shows a low demand, since only 0.9% is in this situation. There is a low resistance to the introduction and proposal of SIBs, since the projects presented by Instiglio were considered by the national and the local government. The projects proposed are related to the improvement of children's education, unemployed youths, and youths in vulnerable situations, which is coherent to the demands shown in this research.

Although the country has a low-medium performance with regards to the rule of law and the control of corruption, it is better than the performance of Mexico and can enable the implementation of impact bonds. Also, the medium performance of the government's effectiveness is an enabling factor, since the investors can trust that the government will repay them if the pre-established outcomes are achieved.

The current legal framework allows the implementation of SIBs even though they are not specified in the legislation. The agreements and contracts between the public and private sector can take place as established by the PPPs regulation, the regulation on procurement with public resources and the direct contracting of nonprofit entities focused on activities of public interest and social development. However, similar to the cases of Mexico and Chile, the SIBs are strongly promoted in Colombia, and until now there are no proposals to introduce DIBs.

The restrictive factors identified in the case of Colombia are related to the political cycles that have delayed the implementation of the SIBs proposals and the potential instability as well as violence in the country. As in the case of Chile, the lack of commitment from the government has hindered the implementation and further conversations about SIBs projects. Projects to reduce teenage pregnancy and improve educational outcomes for adolescents in the region of Antioquia started in 2012, but have not yet been implemented. The project to improve the employability of vulnerable youths has not taken place either, although it has already proven its effectiveness through a pilot project that is expected to be scaled soon. Another potentially restrictive factor for Colombia is its low performance on political stability and absence of violence. Of the five countries analyzed, Colombia has the lowest rating, which could discourage investors and hinder the work of service providers, like in Mexico. However, the

country has shown great advances in security measures since the 1980s and 1990s. Furthermore, the peace treaty with the paramilitary and guerillas, currently in the final stages, can reduce the restrictive character of this factor.

## LITERATURE:

1. Benson, D. (2009). *Review article: constraints on policy transfer*. Centre for Social and Economic Research on the Global Environment (CSERGE). Retrieved from [http://www.watergov.org/documents/edm\\_2009\\_13%20policy%20transfer%20working%20paper.pdf](http://www.watergov.org/documents/edm_2009_13%20policy%20transfer%20working%20paper.pdf)
2. Benson, D., & Jordan, A. (2011). *What Have We Learned from Policy Transfer Research? Dolowitz and Marsh Revisited*. *Political Studies Review*, 9, 366–378. <http://doi.org/10.1111/j.1478-9302.2011.00240.x>
3. Bloomgarden, D., Eddy, M., & Levey, Z. (2014). *Social Impact Bonds & Education in Latin America*. Multilateral Investment Fund, Inter-American Development Bank Group, Instiglio.
4. Bloomgarden, D., & Levey, Z. (2015, July 15). *Social impact bonds are coming to the tropics*. Retrieved May 2, 2016, from <http://www.fomin.org/en-us/Home/FOMINblog/Blogs/DetailsBlog/ArtMID/13858/ArticleID/3077/Social-impact->
5. Bugg-Levine, A., & Emerson, J. (2011). *Impact investing : transforming how we make money while making a difference* (1st ed.). Jossey-Bass.
6. Center for Global Development, & Social Finance. (2013). *Investing in Social Outcomes: Development Impact Bonds* (pp. 3 – 116). Retrieved from [http://www.socialfinance.org.uk/wp-content/uploads/2014/03/cgd-sf-dibreport\\_online.pdf](http://www.socialfinance.org.uk/wp-content/uploads/2014/03/cgd-sf-dibreport_online.pdf)
7. Cohen, T. (2016, March 14). *RPT-Israel launches first social impact bond to prevent diabetes*. Reuters. Retrieved from <http://www.reuters.com/article/israel-diabetes-bonds-idUSL5N16M3NH>
8. Confederación Colombiana de ONG (CCONG). (2016). *Quiénes conforman el sector de las Entidades Sin Ánimo de Lucro- ESAL en Colombia*. Retrieved August 9, 2016, from [http://ccong.org.co/ccong/documentos/grafico-i:-quienes-conforman-el-sector-de-las-entidades-sin-animo-de-lucro--esal-en-colombia\\_616](http://ccong.org.co/ccong/documentos/grafico-i:-quienes-conforman-el-sector-de-las-entidades-sin-animo-de-lucro--esal-en-colombia_616)
9. Dolowitz, D., & Marsh, D. (2000). Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making. *Governance: An International Journal of Policy and Administration*, 3(1), 5–24.
10. Evans, M. (2009). Policy transfer in critical perspective. *Policy Studies*, 30(3), 243–268. <http://doi.org/10.1080/01442870902863828>
11. Gatica, S. (2015). *Bonos de Impacto Social. El contexto en Chile*. Santiago, Chile: Fondo Multilateral de Inversiones (FOMIN). Retrieved from <http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=40355565>
12. GIIN. (2016). *Annual Impact Investor Survey 2016*. Global Impact Investing Network (GIIN). Retrieved from [https://thegiin.org/assets/2016%20GIIN%20Annual%20Impact%20Investor%20Survey\\_Web.pdf](https://thegiin.org/assets/2016%20GIIN%20Annual%20Impact%20Investor%20Survey_Web.pdf)
13. Goodall, E. (2014). *Choosing Social Impact Bonds: A Practitioner's Guide*. Bridges Impact +. Retrieved from [http://bridgesventures.com/wp-content/uploads/2014/10/ChoosingSocialImpactBonds\\_APractitionersGuide.pdf](http://bridgesventures.com/wp-content/uploads/2014/10/ChoosingSocialImpactBonds_APractitionersGuide.pdf)
14. Gustafsson-Wright, E., Gardiner, S., & Putcha, V. (2015). *The Potential and Limitations of Impact Bonds: Lessons from the First Five Years of Experience Worldwide* (p. 145). Washington, D.C.: Global Economy and Development Program – Brookings.
15. Honjiyo, A. (2015, April 16). *SIBs and PPPs: Expanding cross-sector partnerships to solve social issues*. Retrieved May 2, 2016, from <http://www.fomin.org/en->

- us/Home/FOMINblog/Blogs/DetailsBlog/ArtMID/13858/ArticleID/2962/SIBs-and-PPPs-Expanding-cross-sector-partnerships-to-solve-social-issues.aspx
16. Instiglio & Thomson Reuters Foundation. (2014, November). *A legal road map for Social Impact Bonds in Developing Countries*. Thomsons Reuters Foundation. Retrieved from <http://www.instiglio.org/wp-content/uploads/2015/02/Legal-Road-Map-for-SIBs-in-Developing-Countries.pdf>
17. International Center for Not-for-Profit Law. (2016, June 6). *NGO Law Monitor - Mexico*. Retrieved June 27, 2016, from <http://www.icnl.org/research/monitor/mexico.html>
18. Levey, Z. (2014, March 21). FAQ – *Social Impact Bonds in Latin America and new MIF pilot program*. Retrieved May 3, 2016, from <http://www.fomin.org/en-us/Home/FOMINblog/Blogs/DetailsBlog/ArtMID/13858/ArticleID/2265/FAQ-%e2%80%93-Social-Impact-Bonds-in-Latin-America-and-new-MIF-pilot-program.aspx>
19. Liebman, J., & Sellman, A. (2013, June). *Social Impact Bonds: A Guide for State and Local Governments*. Harvard Kennedy School, Social Impact Bond Technical Assistance Lab. Retrieved from <http://govlab.hks.harvard.edu/files/siblab/files/social-impact-bonds-a-guide-for-state-and-local-governments.pdf?m=1419347623>
20. Ministerios Secretaría General de la Presidencia. (2013). *Personas Jurídicas Sin Fines de Lucro - Portal de Datos Abiertos*. Retrieved June 27, 2016, from <http://datos.gob.cl/dataset/9434>
21. Mulgan, G., Reeder, N., Aylott, M., & Bo'sher, L. (2011, March). *Social Impact Investment: the challenge and opportunity of Social Impact Bonds*. The Young Foundation. Retrieved from <http://youngfoundation.org/wp-content/uploads/2012/10/Social-Impact-Investment-The-opportunity-and-challenge-of-Social-Impact-Bonds-March-2011.pdf>
22. Multilateral Investment Fund. (2014, March 19). *MIF to test innovative Social Impact Bonds financing model in Latin America and the Caribbean*. Retrieved May 2, 2016, from <http://www.fomin.org/en-us/Home/News/PressReleases/ArtMID/3819/ArticleID/1097/MIF-to-test-innovative-Social-Impact-Bonds-financing-model-in-Latin-America-and-the-Caribbean-.aspx>
23. Multilateral Investment Fund. (2015). *Social Impact Bond Pilot Program for LAC. Project Status Report: January 2015 - June 2015* (No. MIF: Project Status Report ATN/ME-14332-RG). Inter-American Development Bank. Retrieved from <http://www.iadb.org/en/projects/project-description-title,1303.html?id=RG-M1244>
24. OECD. (2014). *Society at a Glance 2014: OECD Social Indicators*. Organization for Economic Cooperation and Development. Retrieved from [http://dx.doi.org/10.1787/soc\\_glance-2014-en](http://dx.doi.org/10.1787/soc_glance-2014-en)
25. Page, E. (2000, January 28). *Future Governance and the Literature on Policy Transfer and Lesson Drawing*. Retrieved from <http://personal.lse.ac.uk/Pagee/Papers/EdPagePaper1.pdf>
26. Rose, R. (1993). *Lesson-drawing in public policy. A guide to learn across time and space*. New Jersey: Chatham House.
27. Rose, R. (2005). *Learning from comparative public policy. A practical guide*. Routledge.
28. Soto Coronado, C. (2013, February 22). Registro Nacional de Personas Jurídicas avanza en dos años de vigencia, pero falta de recursos afecta a sus operadores. *El Mercurio*. Santiago de Chile, Chile. Retrieved from <http://www.elmercurio.com/legal/movil/detalle.aspx?Id=901840&Path=/0D/C2/>
29. United Nations Development Programme (UNPD). (2015). *Human Development Data (1980-2015)*. Retrieved July 5, 2016, from <http://hdr.undp.org/en/data#>
30. United Nations Industrial Development Organization (UNIDO). (2014). *List of Middle-Income Countries*. Retrieved July 5, 2016, from <http://micconference.org/mic/list-of-mics/>
31. Von Baer, H., & Torralbo, F. (2012). Chile descentralizado: más desarrollo, más democracia. In *95 propuestas para un Chile mejor. Fundamentos y propuestas para*

- construir una política de Estado en descentralización y desarrollo territorial en Chile.* Grupo Res Publica Chile. Retrieved from <http://95propuestas.cl/site/wp-content/uploads/2013/05/chile-descentralizado-y-desarrollado-heinrich-von-baer-y-felipe-torralbo.pdf>
32. World Bank. (2015). *Worldwide Governance Indicators*. Retrieved June 6, 2016, from <http://info.worldbank.org/governance/wgi/index.aspx#reports>
33. World Bank. (2016a). *Middle Income Countries Overview*. Retrieved July 5, 2016, from <http://www.worldbank.org/en/country/mic/overview#1>
34. World Bank. (2016b). *World Development Indicators*. Retrieved June 6, 2016, from <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>

## EPRIVACY AND NEW EUROPEAN DATA PROTECTION REGIME

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### **ABSTRACT**

*The new EU General Data Protection Regulation (GDPR) ensures that personal data can only be gathered under strict conditions and for legitimate purposes. Organisations that collect and manage personal data must also protect it from misuse and respect certain rights.*

*From this point of view, the GDPR presents an essential step to strengthen citizens' fundamental rights in the digital age and facilitate business by simplifying rules for companies in the Digital Single Market in European union. In order to establish the digital single market, one of the important steps to develop the strategy, is the review of the ePrivacy Directive in order to provide the legal framework to ensure digital privacy for EU citizens.*

*The ePrivacy Directive builds on the EU telecoms and data protection frameworks to ensure that all communications over public networks maintain respect for fundamental rights, in particular a high level of privacy, regardless of the technology used. At this moment, digital privacy of citizens is protected with the ePrivacy Directive (Directive on Privacy and Electronic communications) which was last updated in 2009 to provide clearer rules on customers' rights to privacy.*

*A revision of the Directive is currently under in the process, in particular, according to the new requirements which were introduced on data such as "cookies" and on personal data breaches. In accordance with that, the author of this paper will give an overview of actualities in the challenges of ePrivacy in surrounding of new data protection regime as well as recommendations for a model of information data governance in order to comply the businesses to new legislation regulations set to May 2018 in global market surroundings.*

**Keywords:** digital privacy, data governance, data protection, digital single market, directive, ePrivacy, General data protection regulation

### **1. INTRODUCTION**

Information privacy, or data privacy (or data protection), is the relationship between collection and dissemination of data, technology, the public expectation of privacy, and the legal and political issues surrounding them. (Boban, 2014.p 116) Privacy, by its definition, concerns exist wherever personally identifiable information or other sensitive information is collected, stored, used, and finally destroyed or deleted – in digital form or otherwise. Improper or non-existent disclosure control can be the root cause for privacy issues. Data privacy issues can arise in response to information from a wide range of sources, such as healthcare records, criminal justice investigations and proceedings, financial institutions and transactions, biological traits, such as genetic material, residence and geographic records, ethnicity, privacy breach, location-based service and geolocation, web surfing behavior or user preferences using persistent cookies. The challenge of data privacy in digital single market is to utilize data while protecting individual's privacy preferences and their personally identifiable information. The fields of computer security, data security and information security design and utilize software, hardware and human resources to address this issue. (Hasty, Nagel, Subjally, 2013)

As the laws and regulations related to Privacy and Data Protection are constantly changing, it is important to keep abreast of any changes in the law and continually reassess compliance with data privacy and security regulations. In this matter, ePrivacy has often been defined as the right of individuals to determine for themselves when, how and to what extent information about themselves is communicated to others. Assuming that the 'E' refers to electronic communication

and thus propose the ePrivacy is widely defined as privacy in the electronic age. (Huie, Laribee, Hogan, 2002), If we accept the above definitions then we have to accept that 'e-privacy' covers a wide range of e-communication which are threatened by electronic devices such as the Internet, mobile phones including email communication, social networking and blog sites, closed circuit television (CCTV) surveillance, phone tapping, hacking, camera phones, etc. (Kotzker, 2003) It is regulated in European Union by Directive 2002/58/EC on Privacy and Electronic Communications, otherwise known as E-Privacy Directive, is an EU directive on data protection and privacy in the digital age. It presents a continuation of earlier efforts, most directly the Data Protection Directive dealing with the regulation of a number of important issues such as confidentiality of information, treatment of traffic data, spam and cookies. This Directive has been amended by Directive 2009/136, which introduces several changes, especially in what concerns cookies, that are now subject to prior consent and also the new EU General Data Protection Regulation (GDPR) (GDPR, 2016) ensures that personal data can only be gathered under strict conditions and for legitimate purposes. From this point of view, the GDPR presents an essential step to strengthen citizens' fundamental rights in the digital age and facilitate business by simplifying rules for companies in the Digital Single Market in European union. Organisations that collect and manage personal data must also protect it from misuse and respect certain rights and in order to establish the digital single market, one of the important steps to develop the strategy, is the review of the ePrivacy Directive in order to provide the legal framework to ensure digital privacy for EU citizens. (Blackmer, 2016.) This proposed change will be carried on through to the legislation's final approval on 14 April 2016, potentially affecting entities around the world. The Regulation will apply to processing of data outside the EU that relates to the offering of goods or services to data subjects (individuals) in the EU or the monitoring of their behavior but it is questionable whether European supervisory authorities or consumers would actually try to sue US-based operators over violations of the Regulation. (Blackmer, 2016.) Additional changes will include stricter conditions for consent, broader definition of sensitive data, new provisions on protecting children's privacy, and the inclusion of "rights to be forgotten". (GDPR, 2016.)

## 2. THE RIGHT TO PRIVACY

The right to privacy is a highly developed area of law in Europe. All the member states of the European Union (EU) are also signatories of the European Convention on Human Rights (ECHR). Article 8 of the ECHR provides a right to respect for one's "private and family life, his home and his correspondence", subject to certain restrictions.(Boban, 2012, p 577) The European Court of Human Rights has given this article a very broad interpretation in its jurisprudence. Since the mid-1970s, the Organization for Economic Cooperation and Development (OECD) has played an important role in promoting respect for privacy as a fundamental value and a condition for the free flow of personal data across borders. In an effort to create a comprehensive data protection system throughout Europe, OECD in the year 1980, issued its first version of "Recommendations of the Council Concerning Guidelines Governing the Protection of Privacy and Trans-Border Flows of Personal Data".(OECD, 1980) The seven principles governing the OECD's recommendations for protection of personal data were:

- Notice—data subjects should be given notice when their data is being collected;
- Purpose—data should only be used for the purpose stated and not for any other purposes;
- Consent—data should not be disclosed without the data subject's consent;
- Security—collected data should be kept secure from any potential abuses;
- Disclosure—data subjects should be informed as to who is collecting their data;
- Access—data subjects should be allowed to access their data and make corrections to any inaccurate data; and

- Accountability—data subjects should have a method available to them to hold data collectors accountable for not following the above principles. (OECD, 1980)

The OECD Guidelines, however, were nonbinding, and data privacy laws still varied widely across Europe. The United States, meanwhile, while endorsing the OECD's recommendations, did nothing to implement them within the United States. However, all seven principles were incorporated into the EU Directive. (Shimanek, 2001, p 462).

The cornerstone of OECD work on privacy is its newly revised Guidelines on the Protection of Privacy and Transborder Flows of Personal Data named OECD 2013. Privacy Guidelines (OECD Privacy framework). (OECD, 2013) These new Guidelines constitute the first update of the original 1980 version that served as the first internationally agreed upon set of privacy principles. Actually, two themes run through the updated Guidelines:

- A focus on the practical implementation of privacy protection through an approach grounded in risk management, and
- The need to address the global dimension of privacy through improved interoperability.

The expert group also produced a report which identifies a number of issues that were raised but not fully addressed as part of the review process and which could be considered by candidates for possible future study. Also, a number of new concepts are introduced, including:

- National privacy strategies. While effective laws are essential, the strategic importance of privacy today also requires a multifaceted national strategy co-ordinated at the highest levels of government.
- Privacy management programmes. These serve as the core operational mechanism through which organisations implement privacy protection.
- Data security breach notification. This provision covers both notice to an authority and notice to an individual affected by a security breach affecting personal data. (OECD, 2013)

Also, it is important to note that in 1981 the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data was negotiated within the Council of Europe. This convention obliges the signatories to enact legislation concerning the automatic processing of personal data, which many duly did. The European Commission realised that diverging data protection legislation amongst EU member states impeded the free flow of data within the EU and accordingly proposed the Data Protection Directive.

### **3. DATA PROTECTION AND DIGITAL SINGEL MARKET**

The General Data Protection Regulation, as one of the greatest challenges of digital single market and strategy Digital Agenda for Europe, is adopted in April 2016, will supersede the Data Protection Directive and be enforceable starting on 25 May 2018. (GDPR, 2016) The Data Protection Directive (officially Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data – further DPD) was a European Union directive adopted in 1995 which regulates the processing of personal data within the European Union. It is an important component of EU privacy and human rights law. The directive was regulating the processing of personal data regardless of whether such processing is automated or not. Although GDPR regulation will supersede the Data Protection Directive and be enforceable starting on 25 May 2018 the most important legal definitions of personal data are still in force:

*Personal data* are defined as "any information relating to an identified or identifiable natural person ("data subject"); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity;" (art. 2 a DPD, 1995) This definition is meant to be very broad. Data are "personal data" when someone is able to link the information to a person, even if the person holding the data cannot make this

link. Some examples of "personal data" are: address, credit card number, bank statements, criminal record, etc.

The notion *processing* means "any operation or set of operations which is performed upon personal data, whether or not by automatic means, such as collection, recording, organization, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, blocking, erasure or destruction;" (art. 2 b DPD, 1995).

The *responsibility for compliance* rests on the shoulders of the "controller", meaning the natural or artificial person, public authority, agency or any other body which alone or jointly with others determines the purposes and means of the processing of personal data; (art. 2 d, DPD, 1995)

The data protection rules are applicable not only when the controller is established within the EU, but whenever the controller uses equipment situated within the EU in order to process data. (art. 4 DPD, 1995) Controllers from outside the EU, processing data in the EU, will have to follow data protection regulation. In principle, any online business trading with EU residents would process some personal data and would be using equipment in the EU to process the data (i.e. the customer's computer). As a consequence, the website operator would have to comply with the European data protection rules. The directive was written before the breakthrough of the Internet, and to date there is little jurisprudence on this subject. (DPD, 1995)

The data subject has the right to be informed when his personal data is being processed. The controller must provide his name and address, the purpose of processing, the recipients of the data and all other information required to ensure the processing is fair. (art. 10 and 11 DPD, 1995)

Data may be processed only if at least one of the following is true (art. 7): when the data subject has given his consent; when the processing is necessary for the performance of or the entering into a contract; when processing is necessary for compliance with a legal obligation; when processing is necessary in order to protect the vital interests of the data subject; processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller or in a third party to whom the data are disclosed; processing is necessary for the purposes of the legitimate interests pursued by the controller or by the third party or parties to whom the data are disclosed, except where such interests are overridden by the interests for fundamental rights and freedoms of the data subject.

The data subject has the right to access all data processed about him. The data subject even has the right to demand the rectification, deletion or blocking of data that is incomplete, inaccurate or isn't being processed in compliance with the data protection rules. (art. 12, DPD, 1995)

The above given definitions were given by Data Protection Directive which has been a ground for doing business until April 2016 and adoption of GDPR. The European Comission has set a compliance date of 25 May 2018, giving resonable period for legal adoption into the national legislation as well as to business sector to prepare for new legal ePrivacy framework.

#### **4. ELECTRONIC PRIVACY REGULATION**

The Electronic Privacy Directive (further EPD) has been drafted specifically to address the requirements of new digital technologies and ease the advance of electronic communications services.[1] The Directive complements the Data Protection Directive and applies to all matters which are not specifically covered by that Directive. In particular, the subject of the Directive is the “right to privacy in the electronic communication sector” and free movement of data, communication equipment and services. (Fromholz, 2000, pp 471-472)

The Directive does not apply to Titles V and VI (Second and Third Pillars constituting the European Union). Likewise, it does not apply to issues concerning public security and defence, state security and criminal law. The interception of data was however covered by the EU Data Retention Directive, prior to its annulment by the Court of Justice of the European Union.

Contrary to the Data Protection Directive, which specifically addresses only individuals, Article 1(2) makes it clear that E-Privacy Directive also applies to legal persons. (art 1(2), EPD, 2009) The EU parliament has been discussing ePrivacy Directive and regulations around people's activities and behaviour being tracked online the past years. On May 25th 2011 it went into force. The new revised version was named the »EU Cookie Directive« because of its »cookies« definition which is amended privacy legislation designed to increase consumer protection. The Directive required websites to obtain informed consent from visitors before they store information on a computer or any web connected device. This storage is mostly done by cookies, which can then be used for tracking visitors to a site. The previous privacy legislation required websites to give users information on how they could remove or opt-out of cookies, which was commonly placed in privacy policies that were mostly unread. With the EU Cookie Directive the user of a site has been required to opt-in when using a website containing cookies. So the website has to block cookies, until visitors have given their informed consent to their use. On the legal status it is important to note that so called EU Cookie Directive (Directive 2009/136/EC of the European Parliament and of the Council) is an amendment of the Directive 2002/58/EC, which concerns the protection of data and privacy on the web. The most important paragraph in the Directive 2009/136/EC. (EPD, revised, 2009)

The first general obligation in the Directive is to provide security of services (art 29, Data Protection Working Party Opinion, 2/2010) The addressees are providers of electronic communications services. This obligation also includes the duty to inform the subscribers whenever there is a particular risk, such as a virus or other malware attack. (art 29, Data Protection Working Party Opinion, 16/2011) The second general obligation is for the confidentiality of information to be maintained. The addressees are Member States, who should prohibit listening, tapping, storage or other kinds of interception or surveillance of communication and “related traffic”, unless the users have given their consent or conditions of Article 15(1) have been fulfilled. The full history of decision making is presented at COM (2000) 385: Proposal for a Directive of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector. (COM, 2000)

## 5. TRANSITION TO THE GENERAL DATA PROTECTION REGULATION

On 25 January 2012, the European Commission (EC) announced it would attempt to unify data protection law across a unified European Union via proposed legislation called the "General Data Protection Regulation." The Objectives Of The European Commission's proposal will give EU companies a competitive advantage globally, as the Regulation would provide for:

- the harmonization of 27 national data protection regulations into one unified regulation;
- the improvement of corporate data transfer rules outside the European Union; and
- the improvement of user control over personal identifying data. (m law group, 2012.)

The package includes a draft "General Data Protection Regulation" (the "Regulation") that will be directly applicable in all member states of the European Union ("EU") replacing the patchwork of different data protection laws currently in force in the different member states. The proposed new EU data protection regime extends the scope of the EU data protection law to all foreign companies processing data of EU residents. It provides for a harmonization of the data protection regulations throughout the EU, thereby making it easier for US companies to comply with these regulations; however, this comes at the cost of a strict data protection compliance regime with severe penalties of up to 2 % of worldwide turnover.

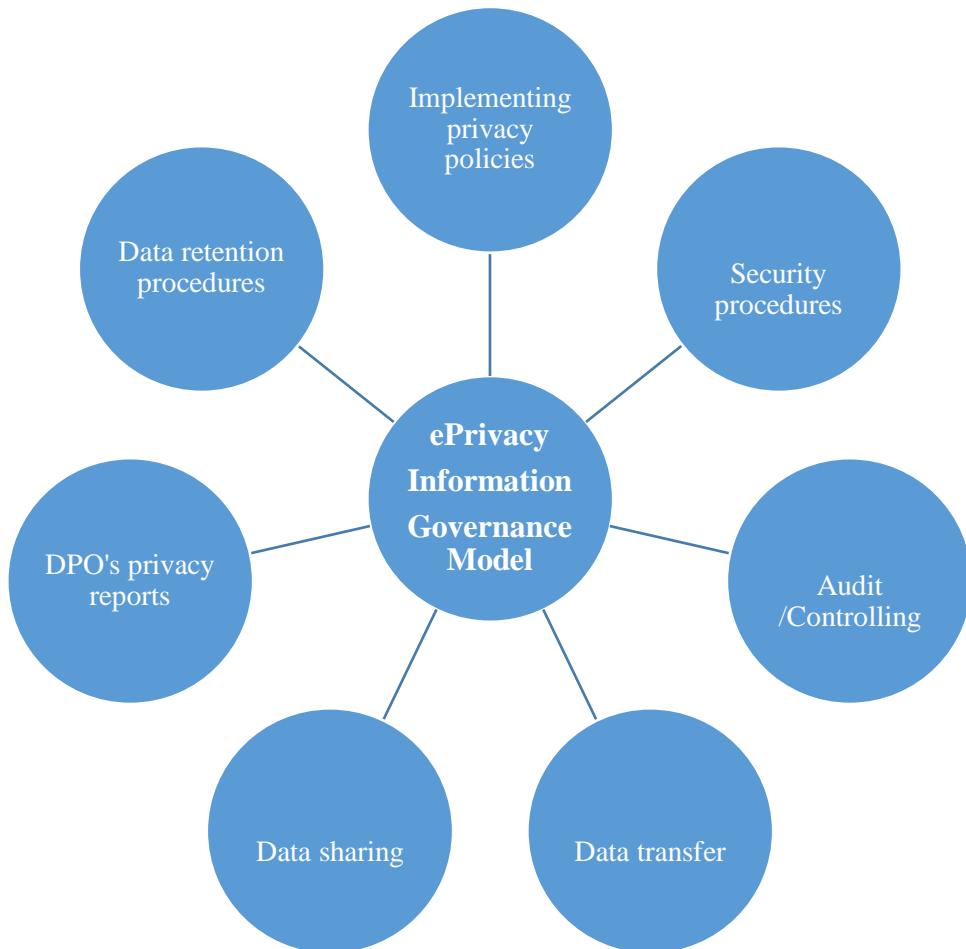
Proposed Changes To The Data Protection Law are highlighted in the draft Regulation we find the following remarkable changes to the data protection regime currently in force in Germany and the EU:

- a) The EU data protection regulation will also apply for all non-EU companies without any establishment in the EU, provided that the processing of data is directed at EU residents. This may force for example US companies not only to comply with EU law, but also to establish a data protection management, for example by appointing an “European” data protection officer.
- b) As a general rule, any processing of personal data will require providing clear and simple information to concerned individuals as well as obtaining specific and explicit consent by such individuals for the processing of their data (Opt-in), other than in cases in which the data protection regime explicitly allows the processing of personal data.
- c) The Regulation will make a safe transfer of data outside of the EU (including the procession of data in clouds) easier in the event that the parties involved commit themselves to binding corporate rules.
- d) New privacy rights, including data subject's "right of portability" and the "right to be forgotten", will be established in the EU. The "right of portability" will allow a transfer of all data from one provider to another upon request, for example transfer of a social media profile or email, whereas the "right to be forgotten" will allow people to wipe the history clean.
- e) The processing of data of individuals under the age of 13 will in general require parental consent, which will make it more difficult for companies to conduct business which is aiming at minors.
- f) All companies will be obligated to notify EU data protection authorities as well as the individuals whose data are concerned by any breaches of data protection regulations or data leaks without undue delay, that is within 24 hours.
- g) A harsh sanction regime will be established in case of breach of the unified EU data protection law allowing data protection authorities to impose penalties of up to 2 % of a company's worldwide turnover in case of severe data protection breaches. (GDPR, 2016.)  
The original proposal also dictated that the legislation would in theory "apply for all non-E.U. companies without any establishment in the E.U., provided that the processing of data is directed at E.U. residents," one of the biggest changes with the new legislation.  
The compliance date set for May 2018 is giving businesses around the world a chance to prepare for compliance, review data protection language in contracts, consider transition to international standards, update privacy policies, and review marketing plans.

## **6. INSTEAD OF CONCLUSION: PROPOSAL OF MODEL OF INFORMATION GOVERNANCE**

The goal of European legislators was to harmonise the current legal framework, which is fragmented across Member States. A 'Regulation' (unlike a Directive) is directly applicable and has consistent effect in all Member States, and GDPR was intended to increase legal certainty, reduce the administrative burden and cost of compliance for organisations that are active in multiple EU Member States, and enhance consumer confidence in the single digital marketplace. (Boban, 2016)

Establishing an effective information governance framework across the organization presents the best way of preparing for compliance and managing risk. Ideally this framework should adopt compliance 'building blocks' that reflect the key features of the Regulation, in order to comply the business preparation for the GDPR, as shown on diagram 1.



*Diagram 1: Proposal of ePrivacy Information Governance Model based on GDPR*

The main idea of the ePrivacy Information Governance Model is that GDPR is built on grounds of ePrivacy and data protection policies and strategies with compliance from the start of any new project - ensuring that privacy risk is identified and managed from the very earliest design-phase when creating new products and services. All procedures should include privacy impact assessments as a matter of routine, especially when considering new arrangements that may involve handling sensitive data fields, or large volumes of personal data following new GDPR regulations.

#### LITERATURE:

1. Blackmer, W.S. (2016). "GDPR: Getting Ready for the New EU General Data Protection Regulation", Information Law Group, InfoLawGroup LLP. (Retrieved 22 September 2016.)
2. Boban, M. (2012), Right to privacy and freedom of information in the modern information society. Proceedings of the Faculty of Law, Split.Vol 49 (2012), No 3 (105); pp 576-577
3. Boban, M. (2015), Covergence of technological innovation, global media, culture and economics in information society, Global Media and Socially Responsible Business, Collection of Scientific Papers of International Scientific Conference Media and Economy, pp 114 – 129
4. Boban, M., Digital single market and EU data protection reform with regard to the processing of personal data as the challenge of the modern world“, Proceedings of 16th International Scientific Conference ESD 2016., „The legal challenges of modern world“, Split, 2016.
5. Data Protection Working Party Opinion (16/2011), available at [http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2011/wp188\\_en.pdf](http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2011/wp188_en.pdf) ((Retrieved 22 September 2016)

6. Data Protection Working Party Opinion (2/2010), available at [http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/2010/wp171\\_en.pdf](http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/2010/wp171_en.pdf) ((Retrived 22 September 2016)
7. European communities - Electronic communications networks and services - privacy and electronic communications regulations (ECNS), (2011), available at <https://www.dataprotection.ie/documents/legal/SI336of2011.pdf> (Retrived 23 September 2016)
8. Fromholz, J.M. (2000), The European Union Data Privacy Directive, 15 Berkeley Tech. L.J., pp 471-472
9. General Data Protection Regulation- GDPR, (2016), OJ L 119, 4.5.2016, p. 1–88 (2016), Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, retrived 10. 08. 2016. from [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2016.119.01.0001.01.ENG&toc=OJ:L:2016:119:TOC](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.119.01.0001.01.ENG&toc=OJ:L:2016:119:TOC)
10. Harvey, D.W., White, A.(2002), The Impact of Computer Security Regulation on American Companies, 8 Tex. Wesleyan L. Rev. 505
11. Hasty, R., Nagel, T.W., Subjally, M. (2013), Data Protection Law in the USA. (Advocates for International Development, Available at [http://a4id.org/sites/default/files/user/Data%20Protection%20Law%20in%20the%20USA\\_0.pdf](http://a4id.org/sites/default/files/user/Data%20Protection%20Law%20in%20the%20USA_0.pdf) (Retrived 22 September 2016)
12. Huie, M.C., Laribee, S.F., Hogan, S.D. (2002), »The Right to Privacy and Person Data: The EU Prods the U.S. and Controversy Continues, Comp. & Int'l L., Tulsa, pp 391-441
13. Kotzker, J., (2003), »The Great Cookie Caper: Internet Privacy and Target Marketing at Home and Abroad«, 15 St. Thomas L. Rev., pp 727-748
14. m law group, »New draft European data protection regime also to apply to all US companies processing data of European residents«, 2012., pdf available at [http://mlawgroup.de/news/publications/pdf/2012\\_02\\_01-EU\\_data\\_protection.pdf](http://mlawgroup.de/news/publications/pdf/2012_02_01-EU_data_protection.pdf) (Retrived 25 September 2016.)
15. Moshell, R.,...And Then There was one: The Outlook for a Self-Regulatory United States Amidst a Global Trend Toward Comprehensive Data Protection, 37 Tex. Tech. L. Rev. 357, 358;
16. Procedure 2000/0189/COD, COM (2000), 385: Proposal for a Directive of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector, available at <http://eur-lex.europa.eu/procedure/EN/158278>, (Retrived 25 September 2016)
17. Shimanek, A.E. (2001). "Do you Want Milk with those Cookies?: Complying with Safe Harbor Privacy Principles". Journal of Corporation Law. 26 (2), pp 462–463.
18. The Organization for Economic Co-Operation and Development- OECD Privacy framework (2013), available at [http://www.oecd.org/sti/ieconomy/oecd\\_privacy\\_framework.pdf](http://www.oecd.org/sti/ieconomy/oecd_privacy_framework.pdf) (Retrived 23 September 2016.)
19. The Organization for Economic Co-Operation and Development, OECD (1980) Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, <http://www.oecd.org/internet/ieconomy/oecdguidelinesontheprotectiionofprivacyandtransborderflows ofpersonaldata.htm> (Retrived 25 September 2016.)
20. Zaidi, K.(2003), Harmonizing U.S.-EU Online Privacy Law: Toward a U.S. Comprehensive Regime For the Protection of Personal Data, 12 Mich.St. J. Int'l L. 169

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## TOURISM MODELING: A NEW APPROACH TO TOURISM

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### **ABSTRACT**

*Tourism brings obvious economic benefits. Therefore, it is no surprise that tourism is an important economic activity in many parts of the world. Given the importance of the industry, the aim of the paper is the tourism modeling. The paper is divided into four parts. The first part of the paper outlines the evolution of the tourism industry, while the second part outlines the model with pure and mix strategies and in each part discusses the results obtained from those models by example, the third part outlines the relationship between the GDP of Armenia and the incomes of tourism for annual data and quarterly data and the fourth part outlines the evaluation of the effectiveness of tours by using DEA (Data envelopment analysis).*

**Keywords:** Armenia, economy, game model, GDP, tourism modeling

### **1. INTRODUCTION**

In the modern world tourism is one of the largest and dynamically developing sectors of external economic activities. Its high growth and development rates, considerable volumes of foreign currency inflows actively affect various sectors of economy, which positively contributes to the development of own tourist industry. The share of tourism in international gross national income is 6%, in world investments 7%, in world customary expenditures 11%, as well as it accounts for every 16th work place. Tourism is one of world integration processes factor and tourism industry is now becoming a more important sector of economy.

For example: Tourism in Mauritius is an important component of the Mauritian economy as well as a significant Source of its foreign exchange revenues. The tourism industry is also a major economic pillar on the island of Rodriguez.

According to the WTTC (World Travel and Tourism Council), by 2014, India's travel and tourism sector is likely to generate over \$90 billion in revenues and close to 28 million jobs. There is no doubt that tourism will be one of the key drivers of Indian's economy in the 21st century[1].

The importance of tourism in the world is permanently increasing so consistently increases the influence of tourism on country's economies[2].

To have a sustainable and profitable tourism we need to perform detailed calculations. Only after this the local businessmen will be sure that tourism is the sphere where they can do less investment and get more profit. And here modeling is coming to help us.

### **2. GAME MODEL WITH PURE STRATEGIES**

#### ***The players***

In this paper We have presented tourism as a game between three players [3]. The first player is the tourist company, the second player a tourist and the third player is a local habitant who works in Tourist Company.

## **The model**

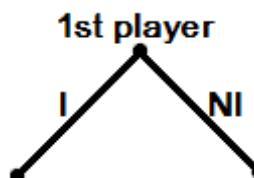
*Each player has two strategies. The tourist company's strategies are to invest and not to invest, and we will present it like this {I, NI}. The strategies of tourist are to stay a long time in that place and to stay a short time which will present {LT, ST}. And the local habitant strategies are to work fully with Tourist Company and to work partly with Tourist Company {F, P}.*

And each player has its own interest. Accordingly the 1st, 2nd and 3rd players' interests functions are  $H_1(X_1, X_2, X_3)$ ,  $H_2(X_1, X_2, X_3)$ ,  $H_3(X_1, X_2, X_3)$ , where  $X_1 \in \{I, NI\}$ ,  $X_2 \in \{LT, ST\}$ ,  $X_3 \in \{F, P\}$ . The tourism company interest is the profit which he can get. For tourists it is the total amount of the attractiveness factors (look at the table 1), which becomes the reason for tourists to pass a long time in that place. This table created the basis of the analysis of the tourists' survey results.

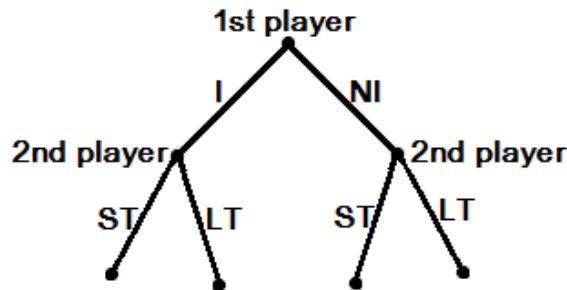
Table 1

	the attractiveness factors	unit
1.	Clean air	5
2.	Ecologically clean food	3
3.	Pure nature	4
4.	The hospitable attitude of local inhabitants	2
5.	Historical and cultural monuments in the vicinity	6
6.	Existence entertainment programs	1
7.	Availability of low costs	7

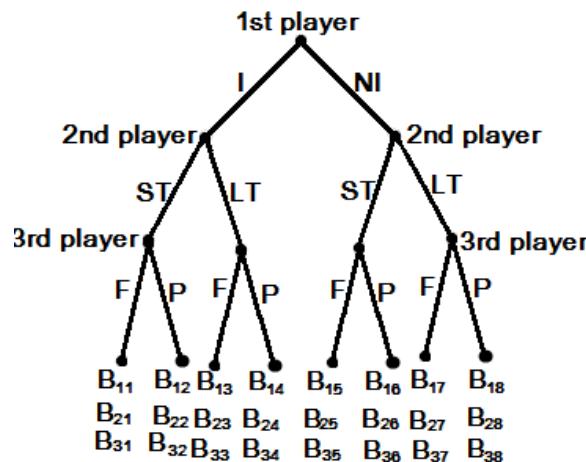
And local habitant's interest is the benefit. In this paper the game between three players is presented as a binary tree. Game starts the first player and chooses between two tree branches - to invest or not to invest.



The next player - tourist also chooses between two strategies - LT or ST and it will look as this binary tree.



At last, the last player makes his move- choosing between two F or P strategies.

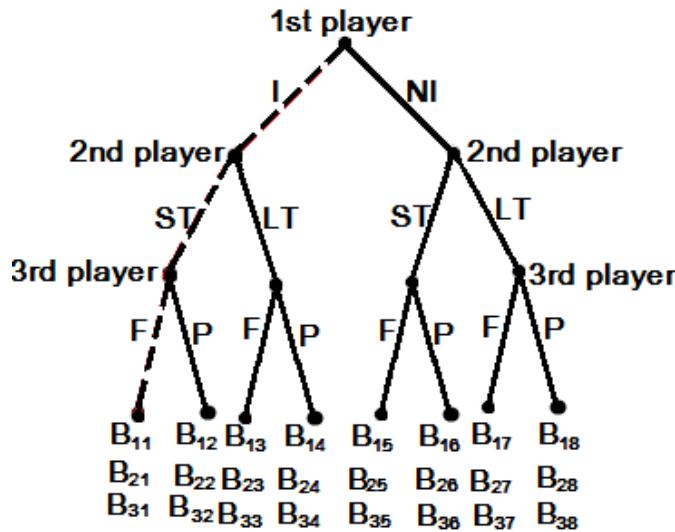


This binary tree shows all game's possible situations, where  $B_{ij}$ ,  $i=\{1,2,3\}$ ,  $j=\{1,2,3,\dots,8\}$  the benefits of players in the respective situations and  $B_{ij}$  are real numbers. We can present the binary tree in the table 2.

Table 2

situations	$H_1(X_1, X_2, X_3)$	$H_2(X_1, X_2, X_3)$	$H_3(X_1, X_2, X_3)$
(I,ST,F)	$B_{11}$	$B_{21}$	$B_{31}$
(I,ST,P)	$B_{12}$	$B_{22}$	$B_{32}$
(I,LT,F)	$B_{13}$	$B_{23}$	$B_{33}$
(I,LT,P)	$B_{14}$	$B_{24}$	$B_{34}$
(NI,ST,F)	$B_{15}$	$B_{25}$	$B_{35}$
(NI,ST,P)	$B_{16}$	$B_{26}$	$B_{36}$
(NI,LT,F)	$B_{17}$	$B_{27}$	$B_{37}$
(NI,LT,P)	$B_{18}$	$B_{28}$	$B_{38}$

For example the first situation (I, ST, F) is the same as the branch of the tree by the dotted lines.



For each player we are searching solution by using Nash equilibrium[4].

Nash equilibrium, named after John Nash, is a set of strategies, one for each player; so that no player has incentive to unilaterally change her action [5]. Players are in equilibrium if a change in strategies by any one of them would lead that player to earn less than if she remained with her current strategy[6].

### 2.1.1 THE USE OF THE MODEL

In this table We have used the model on the basis of the data of Armenian X tourist company (table 3).

Table 3

No	situations	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>
1	(I,ST,F)	30	3	4
2	(I,ST,P)	30	5	3
3	(I,LT,F)	60	7	6
4	(I,LT,P)	60	6	4
5	(NI,ST,F)	0	7	2
6	(NI,ST,P)	0	10	1,5
7	(NI,LT,F)	-75	5	1
8	(NI,LT,P)	-75	3	1

We'll present the game solution by using the oriented graph.

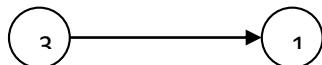
In mathematics, a graph is a representation of a set of objects where some pairs of the objects are connected by links. The interconnected objects are represented by mathematical abstractions called vertices, and the links that connect some pairs of vertices are called edges [7].

In graph theory, an orientation of an undirected graph is an assignment of a direction to each edge, making it into a directed graph.

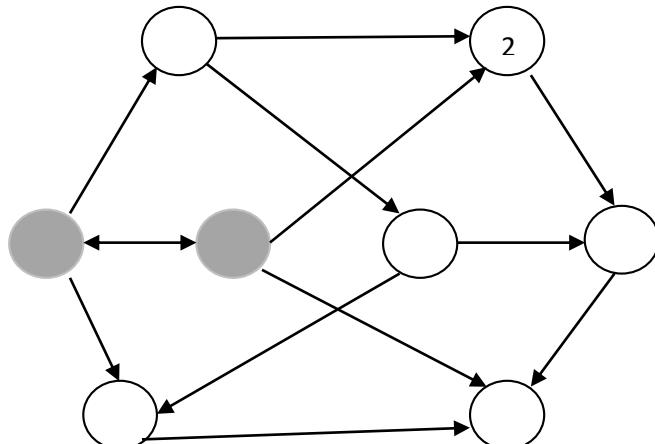
Oriented graphs are in one-to-one correspondence with complete directed graphs (graphs in which there is a directed edge in one or both directions between every pair of vertices).

For this oriented graph the game situations, which we are numbering from 1 to 8 serve as vertices. And the links that connect two strategies which differ from each other only by one strategy serve as the edges of the oriented graph (for example (I,ST,F) and (I,LT,F)).

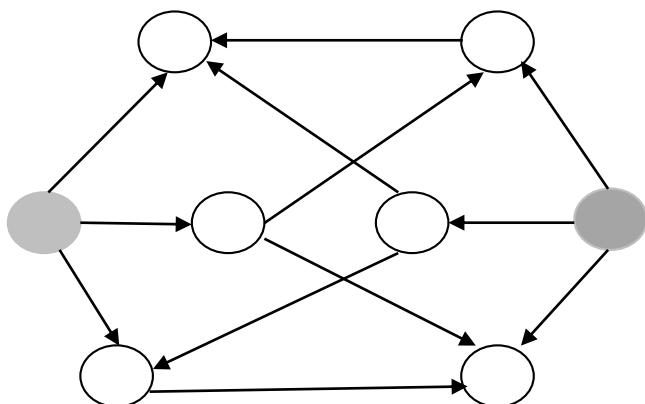
The edge starts from the vertices' which  $B_{ij}$  more than the other and going into to the vertices which has the less  $B_{ij}$  (for example  $H_1(I,ST,F)=30$  and  $H_1(I,LT,F)=60$  it will be like this



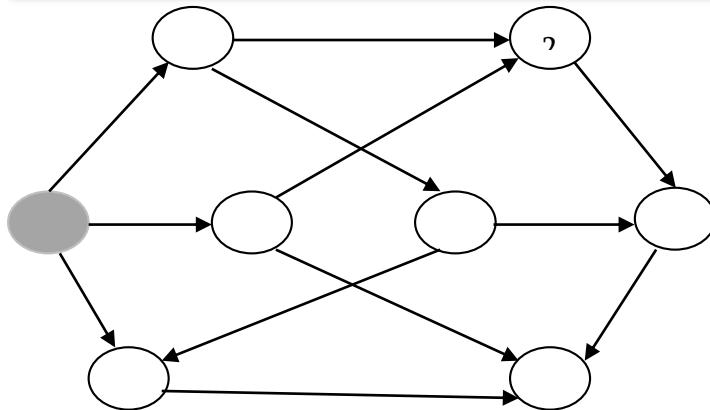
For each player the best situation will be those vertices from which all edges are only starting. This situation which all players prefer is the decision of the game. So we built for each player one oriented Graph. As the graph shows for the first player the best situations are 3 and 4.



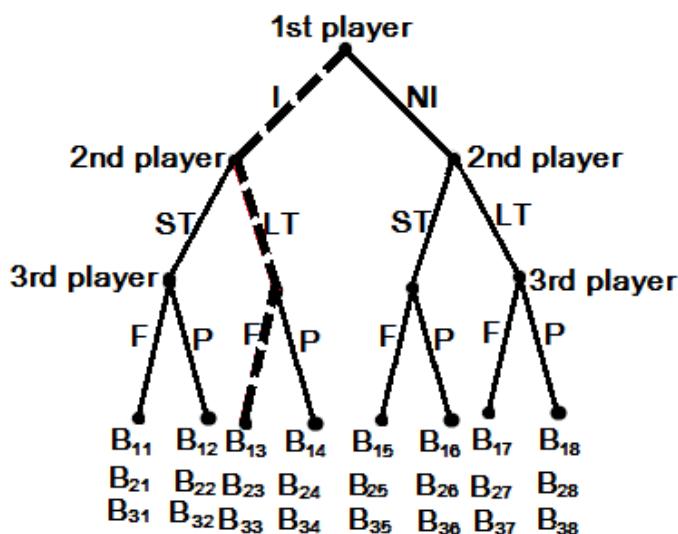
For the second player the best situations are 3 and 6.



And for the third player the best situation is 3.

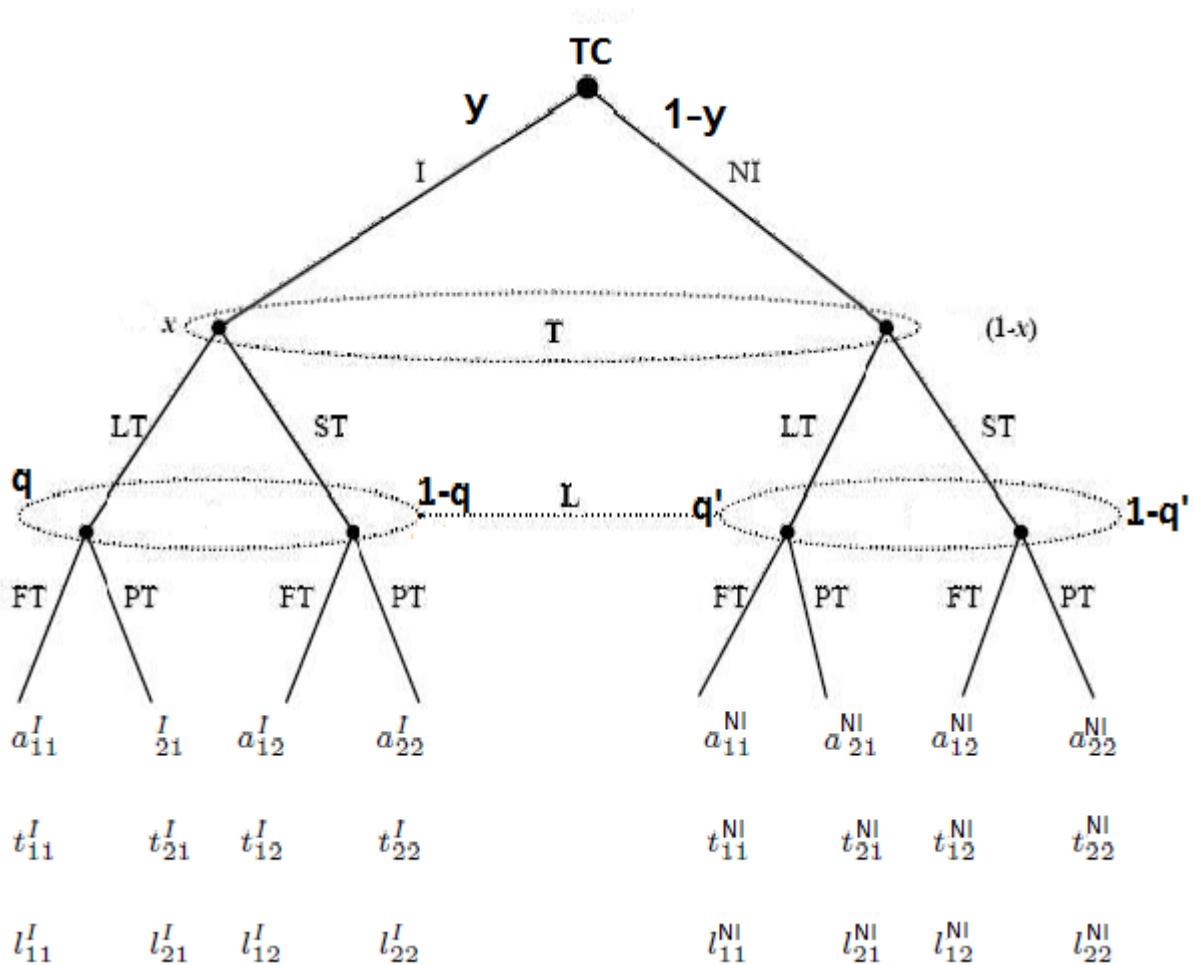


So for the game the Nash equilibrium solution is 3. This is the same as the branch of the tree represented by the dotted lines.



## 2.2 GAME WITH MIX STRATEGIES

Here We have presented tourism as a game between three players with mix strategies. The first player is a tourist company (TC), the second player is a tourist (T) and the third player is a local habitant (L) who works in a tourist company. TC chooses in the root of the tree between two strategies, with probability  $y$  to invest ( $I$ ) and with probability  $(1-y)$  not to invest ( $NI$ ). With probability  $x$  tourists believe that the tourist company made the investment. And with probability  $1 - x$  they believe that the tourist company did not make any investment. They have two pure strategies: *to stay a long time (LT) in that place and to stay a short time (ST) which are presented as {LT, ST}* and the third player is a local habitant who works in the tourist company. *And the local habitant strategies are to work fully with the tourist Company and to work partly with the tourist Company {FT, PT}*. The game between three players is presented as a binary tree. Game starts the first player and chooses between two tree branches- to invest or not to invest. When the player T's turn to move, and when doing so she is not informed whether player TC choose  $I$  or  $NI$  is a fact indicated in the figure by the dotted circle. And with probability  $x$  she chooses the branch  $I$ , and with  $(1 - x)$  the branch  $NI$ .



This binary tree shows all game's possible situations, where  $a$ ,  $t$ ,  $l$  are the real numbers of players' benefits in the respective situations. The game can be represented by the matrices  $A^I$  and  $A^{NI}$

respectively to the election I and NI.

Election I and Election NI (1)

$A^I =$		LT	ST
	FT	$a^I_{11}, t^I_{11}, l^I_{11},$ $l^I_{21},$	$a^I_{12}, t^I_{12}, l^I_{12},$ $a^I_{21}, t^I_{21}, l^I_{21},$
	PT	$a^I_{22}, t^I_{22}, l^I_{22},$	

$A^{NI} =$		LT	ST
	FT	$a^{NI}_{11}, t^{NI}_{11},$ $l^{NI}_{11},$	$a^{NI}_{12}, t^{NI}_{12},$ $l^{NI}_{12},$
	PT	$a^{NI}_{21}, t^{NI}_{21},$ $l^{NI}_{21},$	$a^{NI}_{22}, t^{NI}_{22},$ $l^{NI}_{22},$

Where  $a^i_{hk}$ ,  $i \in \{I, NI\}$ ,  $h, k \in \{1, 2\}$  represent the payoff of the TC corresponding to the different strategy profiles. Analogously  $t^i_{hk}$  and  $l^i_{hk}$  represent the payoffs corresponding to the tourists and inhabitants. With probability  $x$  tourist will play the game given by  $A^I$  and probability  $1 - x$  the game given by  $A^{NI}$ . So, given the strategies  $(q, 1 - q)$ ,  $0 \leq q \leq 1$  &  $(q', 1 - q')$ ,  $0 \leq q' \leq 1$  followed for the inhabitants whether TC did the investment or not respectively, the expected value that the tourists assign to the strategy LT is:

$$E_T(LT/(q, q')) = x[qt^I_{11} + (1-q)t^I_{21}] + (1-x)[q't^{NI}_{11} + (1-q')t^{NI}_{21}] \quad (2)$$

and the corresponding value for the strategy ST is

$$E_T(ST/(q, q')) = x[qt^I_{12} + (1-q)t^I_{22}] + (1-x)[q't^{NI}_{12} + (1-q')t^{NI}_{22}] \quad (3)$$

So, they choose LT, if  $E_T(LT/(q,q')) \geq E_T(ST/(q,q'))$ , in other case they choose ST, It follows that this election depends on the values assigned to x. So, the tourist will choose this strategy in the case if  $x \geq x(q,q')$ , where:

$$x(q, q') = \frac{q'(t_{12}^{NI} - t_{11}^{NI}) + (1-q')(t_{22}^{NI} - t_{21}^{NI})}{q(t_{11}^I - t_{21}^I) + (1-q)(t_{21}^I - t_{22}^I) - q'(t_{11}^{NI} - t_{12}^{NI}) - (1-q')(t_{21}^{NI} - t_{22}^{NI})} \quad (4)$$

(4) is the least value of x such that the tourist chooses LT. This value depends, in his turns, on the values of q and q'.

c is the investment for the advertising. To raise tourists beliefs has a cost for the tourist company, we assume that this cost is linear and equal to cx. The level of credibility x if the tourists choose this option, satisfy the inequality of  $E_{TC(I)} \geq E_{TC(NI)}$ , where:

$$E_{TC}(I) = y[x[P_x(LT)[qa_{11}^I + (1-q)a_{21}^I] + P_x(ST)[qa_{12}^I + (1-q)a_{22}^I] - cx]] \quad (5)$$

$$E_{TC}(NI) = (1-y)[(1-x)\left[P_x(LT)\left[q'a_{11}^{NI} + (1-q')a_{21}^{NI}\right] + P_x(ST)\left[q'a_{12}^{NI} + (1-q')a_{22}^{NI}\right]\right]] \quad (6)$$

$P_x(LT)$  represents the probability that the tourist plays his strategy LT given that he believes that with probability x the TC made the investment (analogously  $P_x'(LT)$  with probability 1-x for NI),  $P_x(ST) = 1 - P_x(LT)$  these values could be positive in that case if  $x = x(q,q')$  because only in this case that the tourists follow a mixed strategy to make a sense.

So, the tourist company will choose this strategy in the case if  $E_{TC(I)} \geq E_{TC(NI)}$ , where:

$$y =$$

$$\frac{cx + P_x(LT)[q'a_{11}^{NI} + (1-q')a_{21}^{NI} - q'a_{12}^{NI} - (1-q)a_{22}^{NI}] + q'a_{12}^{NI} + (1-q')a_{22}^{NI}}{P_x(LT)[qa_{11}^I + (1-q)a_{21}^I + q'a_{11}^{NI} + (1-q')a_{21}^{NI} - qa_{12}^I - (1-q)a_{22}^I - q'a_{12}^{NI} - (1-q')a_{22}^{NI}] + qa_{12}^I + (1-q)a_{22}^I + q'a_{12}^{NI} + (1-q')a_{22}^{NI}} \quad (7)$$

So the tourists choose LT if and only if they assign a value given by (8).

$$P_x(LT) \geq \frac{cx - qa_{12}^I + (q-1)a_{22}^I + q'a_{12}^{NI} - (q'-1)a_{22}^{NI}}{qa_{11}^I - qa_{12}^I + a_{21}^I - qa_{21}^{NI} - a_{21}^I - a_{22}^I + qa_{22}^I - (q'-1)a_{22}^{NI} - q'a_{11}^{NI} + q'a_{12}^{NI} + q'a_{21}^{NI}} \quad (8)$$

This means that x must be sufficiently large like so that the tourists decide to come for a long time and sufficiently small like so that the cost of obtain this value does not surpass the benefits associated with this level of credibility.

On the other hand, tourist prefer good services, this means that their decisions also depends on the election done by the inhabitants.

### 2.2.1 The Nash equilibria of the tourism game

Now we can obtain the values of q, q' and  $P_x(LT)$  such that the strategy

$$S^*(x) = ((1,0); (P_x^*(LT), P_x^*(ST)); (q^*, 1-q^*, q'^*, 1-q'^*))$$

is a Nash equilibrium.

The best scenario is that one in which the tourist company invest, the population have an intense participation in the tourist activities, and the tourists came for a long time(LT).

The worst scenario, at least from the environmental point of view is those where the tourist company choice is not to do the investment, and the tourists came for a long time. It can happen that the local population decides to work in a such strong way in the activities related to the tourism, that even in case when the central planner does not make the investment, the tourists have interest in remaining in the place by a long period. These possibilities can be represented by means of the following payoffs:

Consider for the tourist company the following payoffs in  $A^I$  and  $A^{NI}$  given in (1). Where P is the profit of the tourist company,

$$a_{11}^I = I - cx, \quad a_{12}^I = P - cx, \quad a_{21}^I = I - cx, \quad a_{22}^I = P - cx \\ a_{11}^{NI} = -P, \quad a_{12}^{NI} = 0, \quad a_{21}^{NI} = -P, \quad a_{22}^{NI} = 0 \quad (9)$$

The following relations between the payoffs for the tourists and for the local inhabitants are naturals:

$$\begin{aligned} t_{11}^I &> t_{12}^I, t_{21}^I > t_{22}^I \\ t_{11}^I &> l_{12}^I, l_{11}^I > l_{21}^I, l_{12}^I < l_{22}^I, l_{21}^I < l_{22}^I \\ t_{11}^{NI} &< t_{12}^{NI}, t_{21}^{NI} < t_{22}^{NI} \\ l_{11}^{NI} &< l_{12}^{NI}, l_{11}^{NI} > l_{21}^{NI}, l_{12}^{NI} < l_{22}^{NI}, l_{21}^{NI} < l_{22}^{NI} \end{aligned} \quad (10)$$

It is possible to obtain the values for  $q$  and  $q'$  such that the tourists prefer to come for a long time independently of the value of  $x$  that happens if  $q \geq q^*$  and  $q' \geq q'^*$  where  $q^*$  and  $q'^*$  verify the equation

$$E_{Tx}(LT) - E_{Tx}(ST) = 0.$$

This is the case if:

$$0 \leq q^* = \frac{t_{21}^{NI} - t_{22}^{NI}}{t_{11}^{NI} - t_{21}^{NI} - t_{12}^{NI} + t_{22}^{NI}} \leq 1 \quad \text{and} \quad 0 \leq q'^* = \frac{t_{21}^{NI} - 2t_{22}^{NI} + t_{12}^{NI}}{t_{11}^I - 2t_{21}^I + t_{22}^I} \leq 1$$

It means that if the settlers prefer to work hard, then the tourists can obtain a high level of pleasure independently of the action followed for the tourist company. These are no necessarily good news, because if the TC choose does not to invest and the tourists came for the country for a long time then the environmental can suffer damage. In this case the local population can obtain profits in the short time and then to improve its social welfare however, this situation can revert in the long period, because if the central planner does not invest in environmental protection the welfare of the population can decrease with the lost in environmental quality.

### 2.2.2 THE USE OF THE MODEL

Considering the inequalities of (10), the corresponding payments are given by:

	LT	ST
FT	4, 3, 3	2, 2, 1
PT	4, 2, 2.5	2, 1.5, 2

	LT	ST
FT	-5, 1/2, 2	0, 1, 3
PT	-5, 1/2, 1	0, 2/3, 4

With these payments, we obtain the probabilities with which a worker decides to work full time in tourist activities, this is:

$$q^* = \frac{t_{21}^{NI} - t_{22}^{NI}}{t_{11}^{NI} - t_{21}^{NI} - t_{12}^{NI} + t_{22}^{NI}} = \frac{1}{2} \quad \text{lu} \quad q'^* = \frac{t_{21}^{NI} - 2t_{22}^{NI} + t_{12}^{NI}}{t_{11}^I - 2t_{21}^I + t_{22}^I} = \frac{1}{3}$$

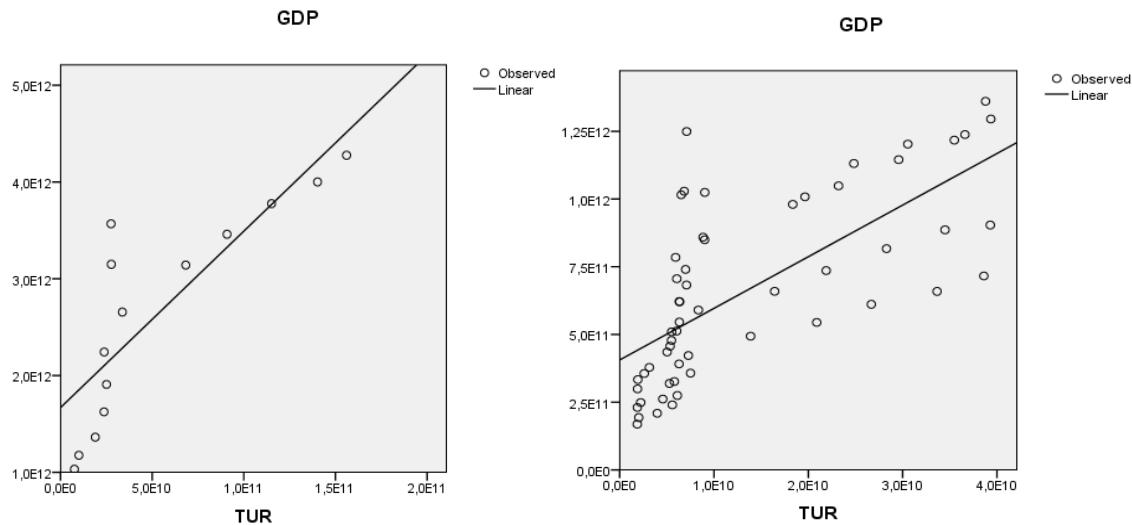
The value of  $q^*$  means that workers will be in charge of full time in tourist activities with a bigger probability or equal to 1/2 if there is a tourist investment policy. But when it didn't have the investment, with a probability of 1/3 the workers will be in charge of full time in tourist activities.

On the other hand, as we saw tourists stay long time the case if the way considering (4) and with the obtained values  $q$  and  $q'$ , we can obtain the probability that the tourists assign to that TC decides to invest, this is  $x(q, q^I) = 0.22$  so they play its strategy LT. Also considering (8), the probability that the tourists play LT since they believe with probability  $x(q, q^I) = 0.22$  that TC made the investment is  $P_x(LT) = \frac{0.22c-2}{7}$ . In this numerical example  $c$  will be bigger at 10 and smaller than 45, this way, the value of  $x$  assures that the tourists prefer to make vacations for a long time ( $10 < c < 45$ ):

### 3. THE RELATIONSHIP BETWEEN THE GDP OF ARMENIA AND THE INCOMES OF TOURISM

Given the importance of the tourism industry, this part of article shows the relationship between the GDP of Armenia and the incomes of tourism for annual data and quarterly data, the relationship between the GDP of Armenia and the number of tourists from different parts of the world are given by regression model.

The relationship between GDP of Armenia and the incomes of tourism for annual data is  $y=1668,7+18,233x$ ,  $R^2=0.687$  and for quarterly data is  $y = 405,9 + 19.055 \cdot x$ ,  $R^2=0.482$  it means that when the incomes of tourism is growing by 1 unit then GDP will grow by 19,055. Clearly that the results of the annual and quarterly coefficients are very close:  $4x 405,9=1623,6$  closer to 1668,7.



The relationship between the GDP of Armenia and the number of tourists from different parts of the world has the form  $y=919900+0,182X_1+3,917X_2+14,25X_3+0,949X_4$ ,  $R^2=0.982$ . Where  $X_1$  is the number of tourists from the CIS,  $X_2$  are tourists from the European Union,  $X_3$  are tourists from the US and  $X_4$  are tourists from other countries. Having this relationship we can say that the change of the number of tourists from European Union and the US has large impact on GDP of the country. And the most noteworthy thing is that the sum of the coefficients are equal of 19,29 which is about the same as in the first regression model 19,055.

### 4. DEA (DATA ENVELOPMENT ANALYSIS)

**DEA (Data Envelopment Analysis)** is a mathematical programming based method to measure empirically the efficiency and productivity of operating units using multiple inputs to secure multiple outputs. Typically the inputs and the output are incommensurate.

We are using DEA for evaluation of the effectiveness of tours. Where input1 is the cost of tour, input2 is the number of tourist who chose the tour and the output is the income from tour.

*Table following on the next page*

	Input1	Input2	Output	U	V1	V2	efficiency
Tour1	<b>32</b>	<b>100000</b>	<b>26600</b>	0,025000373	<b>0,824764924</b>	0,006386179	100%
Tour2	<b>40</b>	<b>88000</b>	<b>24000</b>	0,018749845	<b>0,418419407</b>	0,004923401	100%
Tour3	<b>38</b>	<b>75000</b>	<b>11000</b>	0,012499353	<b>0,999567396</b>	0,001326792	75.6%
Tour4	<b>25</b>	<b>50000</b>	<b>8750</b>	0,00937434	<b>0,999587257</b>	0,001140717	67.8%
Tour5	<b>10</b>	<b>45000</b>	<b>4000</b>	0,006248385	<b>0,999797493</b>	0,000333234	50.8%
Tour6	<b>8</b>	<b>50000</b>	<b>4000</b>	0,004685427	<b>0,999852785</b>	0,000214857	67.3%
Tour7	<b>20</b>	<b>40000</b>	<b>6000</b>	0,006249011	<b>0,99957476</b>	0,000437564	55%
Tour8	<b>2</b>	<b>39000</b>	<b>1000</b>	0,002335109	<b>0,99995007</b>	0,00000859506	60.2%

## LITERATURE:

1. Prasanna Kumar (2010) “Marketing of Hospitality” and Tourism Services, New Delhi.
2. World Tourism Organization UNWTO
3. Fundenberg, D. and J. Tirole (1991). *Game Theory*. The Mit Press.
4. Van Damme, E. (1991), Stability and Perfection of Nash Equilibria. New York:Springer Verlag.
5. Г. Оуэн, Теория игр, Изд. “Мир”, Москва 1977г
6. Дж. Фон Нейман, О. Моргенштейн, Теория игр и экономическое поведение,Изд. “Наука”, 1970г
7. M. Sahakyan, H. Sargsyan, S. Sargsyan, R. Tonoyan "Mathematical Methods of Economy Analysis", Yerevan, 1997,(arm. language):
8. Elvio Accinelli, Juan G. Brida, Edgar Carrera, “A good policy of sustainable tourism”, *Journal of Management, Finance and Economics*, vol. 2, 2008.
9. Shogher Ghazaryan, “Tourism as a game”, International Center for Research and Development , Sri Lanka, 2013.

## CROSS-BORDER TRANSFER OF COMPANY'S SEAT AND EXIT TAXATION IN THE EUROPEAN UNION

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### **ABSTRACT**

*Company's cross-border transfer of seat represents a controversial issue in the EU because of the differences in Member States' national legislation on conflict-of-laws and substantive issues. Therefore, the ECJ has dealt with the problem of company's cross-border transfer of real seat in its judgments. ECJ's case law distinguishes cases of immigration from the cases of companies' emigration. EU secondary legislation regulates cross-border transfer of registered seat of supranational companies and cross-border mergers of companies. Further obstacle to corporate mobility originates from the application of exit taxes in some Member States, which induces significant costs for cross-border mobility of companies. While exit taxation is regarded as a tool for protection of fiscal sovereignty of home Member States, a question arises as to whether exit taxes are compatible with the freedom of establishment in EU internal market. The ECJ dealt with this problem in the famous National Grid Indus case (C-371/10). It held that the imposition of the exit tax was justified by the overriding reasons of public policy (preservation of the allocation of taxing powers between Member States). On the other hand, it also held that a Member State should offer corporate taxpayers a choice between immediate taxation and tax deferral, whereby it is necessary to take into account subsequent decreases in value. Main aim of this paper is to analyse the limitations that primary and secondary EU legislation place upon Member States' domestic provisions regulating cross-border transfer of seat, including relevant tax provisions. Particular attention is also given to the legal framework in the Republic of Croatia, newest EU Member State.*

**Keywords:** company law, cross-border transfer of seat, EU law, exit taxes

### **1. INTRODUCTION**

The Treaty on the Functioning of the EU (TFEU) provides freedom of establishment as one of fundamental freedoms of the EU. Its realization enables functioning of the internal market of the EU. The freedom of establishment is defined by Articles 49 and 54 of the TFEU. It includes the right to take up and pursue activities as self-employed persons and to set up and manage undertakings, in particular companies or firms, within the internal market. Primary establishment means the right to set up a new company in another Member State<sup>1</sup> or to transfer the seat of already established company in another Member State. Secondary establishment means the right to set up agencies, branches or subsidiaries by already established companies in other Member States.<sup>2</sup> Beneficiaries of the freedom of establishment are natural persons who

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<sup>1</sup> This is the case of launching the economic activities of a company from beginning.

<sup>2</sup> This is the right to maintain more than one place of business within the EU.

are nationals of Member States and legal persons (companies or firms) formed in accordance with the law of a Member State and having their registered office, central administration or principal place of business within the EU. While the registered office of the company signifies the place of its registration, determined by its articles of association, head office of the company denotes the place where it has its central administration or principal place of business. The registered and head office of the company do not need to be located in same place, unless this is prescribed by the law of the Member State where the company is incorporated.

Companies are faced with obstacles in their cross-border transfers of seat in the internal market of the EU because of the differences in national conflict and substantive rules of the EU Member States. National conflict rules determine the nationality of company and applicable national law for company (company statute). Member States apply incorporation theory or real seat theory in determination of the company statute, which may result in difficulties in cross-border transfer of registered and/or head office of the company. National substantive rules regulate the procedure for transfer of company's seat abroad and the continuity of the legal identity of the company in such case (de Sousa, 2009, pp. 3-4, Mucciarelli, 2008, pp. 273-274). Furthermore, tax obstacles to cross-border seat transfers may arise, since some states may impose the so-called exit taxes (see below, chapter 6).

## **2. IMPACT OF NATIONAL CONFLICT AND SUBSTANTIAL RULES OF MEMBER STATES ON CROSS-BORDER TRANSFER OF COMPANY'S SEAT**

Key issues arising in the cross-border transfer of registered and/or head office of the company are: a) whether the company which transfers its seat abroad is regarded as having been wound up by the country of incorporation and b) whether the transfer of the company's seat abroad results in change of its company statute. The first issue is answered by the national substantial rules of the country of incorporation and of the country to which the company transfers its seat. Therefore, the company maintains its legal identity only if it is allowed by the substantial rules of both countries, no matter what conflict rules are applied. The second issue is answered by the national conflict rules of the country of incorporation and country whereto the company transfers its seat. Therefore, the company statute is changed only if the company transfers the connecting factor according to national conflict rules of both countries (Mucciarelli, 2008, pp. 273-274).

Seat of the company is important for determination of nationality of the company and its company statute. This is regulated by national conflict rules of each country. The applicable national law governs legal position of the company since its establishment and until its dissolution.<sup>3</sup> As already mentioned above, Member States apply the incorporation theory or the real seat theory, which brings about differences in determination of the applicable national law and creates obstacles for the transfer of company's seat from one Member State to another (Werlauff, 2003, p. 4).

In Member States which apply the incorporation theory, applicable national law for the company is the law of country where the company is incorporated and where it has its registered office.<sup>4</sup> These Member States enable transfer of company's head office to another Member State applying the incorporation theory. Such transfer does not change the applicable national law for the company and it is allowed to keep its legal identity. On the other hand, if the company intends to transfer its head office to Member State which applies the real seat theory, this is not possible because that Member State requires incorporation of a new company according to its national law. If the company intends to transfer its registered office to another Member State,

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<sup>3</sup> For example its legal personality, form and internal organization, rights, duties and liabilities of its organs and shareholders, representation of the company, its dissolution etc.

<sup>4</sup> This theory is accepted in the UK, Denmark, the Netherlands, Sweden, Czech Republic, Slovakia, Finland, Hungary, Bulgaria, Croatia, Ireland, Malta and Cyprus.

applicable national law is changed. This is possible only with winding-up of the company in the country of its incorporation and incorporation of a new company in the country in which the registered office is transferred. The incorporation theory takes into account the will of founders of a company who choose applicable national law. Accordingly, this theory promotes cross-border business activities of companies and regulatory competition between Member States. On the other hand, its main deficiency is incorporation of letterbox companies which cannot be effectively supervised by the country of incorporation, because they perform their business activities abroad (Barbić, 2008, p. 378, Commission of the EC, 2007, p. 9, Mucciarelli, 2008, pp. 283-284., Ballester, del Monte, 2012, p. 12-13).

In Member States which apply the real seat theory, the applicable national law for the company is the law of country where the company has its head office. These Member States demand that registered and head office of the company must be in same Member State.<sup>5</sup> Accordingly, founders of the company are disabled in choosing the applicable national law. In these Member States transfer of the head office of the company is legally impossible or it is limited by conditions set by the country of incorporation. The transfer of the registered seat is forbidden, except if the company simultaneously transfers registered and head office in another country. This leads to winding-up of the company in the country of its incorporation and incorporation of a new company in the country in which registered and real seat is transferred (Barbić, 2008, p. 378, Commission of the EC, 2007, p. 9, Mucciarelli, 2008, p. 283). While the real seat theory guarantees the application of national substantive rules of the country of incorporation related to the protection of minority shareholders, creditors and employees of the company, it creates an obstacle for corporate mobility and involves practical difficulties in determining the head office of multinational companies. Under the influence of the ECJ judgements some Member States introduced a mixed system, which combines incorporation and real seat theory (de Sousa, 2009, pp. 10-11, Mucciarelli, 2008, pp. 286-287, Ballester, del Monte, 2012, p. 12).<sup>6</sup>

### 3. CASE LAW OF THE ECJ ON THE FREEDOM OF ESTABLISHMENT

Considering the above-mentioned differences between Member States' domestic rules, the ECJ's case law has dealt with the cross-border transfer of company's head office. The ECJ has held that the company validly incorporated in one Member State (home Member State) must be recognised in another Member State (host Member State) to which it transfers its head office. Case law of the ECJ tries to fill legal gaps that appear because of legislative inactivity of EU organs. Its judgements solve problems on a case-by-case basis and indicate the need for secondary legislation on regulation of the cross-border transfer of seat with preservation of company's legal identity (Ballester, del Monte, 2012, pp. 18-19, Commission of the EC, 2007, p. 10). It is important to acknowledge that the jurisprudence of the ECJ makes the difference between immigration and emigration of companies.

In immigration cases the ECJ takes a more liberal approach. In cases *Centros*,<sup>7</sup> *Überseering*<sup>8</sup> and *Inspire Art*<sup>9</sup> the ECJ deals with certain restrictions which may be imposed by host Member State to which the company transfers its head office without changing of the company statute. The ECJ's judgements concern following issues: a) original distinction between the registered and head office of the company in home Member State in cases *Centros* and *Inspire Art* and b)

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<sup>5</sup> This theory is accepted in Belgium, France, Germany, Spain, Luxembourg, Portugal, Greece, Lithuania, Poland, Estonia, Norway, Austria, Slovenia, Romania and Latvia.

<sup>6</sup> Mixed system is introduced in Portugal, Spain and Italy.

<sup>7</sup> Case C-212/97, *Centros Ltd v Erhvervs- og Selskabsstyrelsen* [1999], ECLI:EU:C:1999:126.

<sup>8</sup> Case C-208/00, *Überseering BV v Nordic Construction Company Baumanagement GmbH (NCC)* [2002], ECLI:EU:C:2002:632.

<sup>9</sup> Case C-167/01, *Kamer van Koophandel en Fabrieken voor Amsterdam v Inspire Art Ltd* [2003], ECLI:EU:C:2003:512.

transfer of the head office in host Member State after incorporation of company without changing of the company statute in case *Überseering* (Mucciarelli, 2008, p. 277). In these judgements the ECJ takes position that company may transfer its head office in host Member State without cross-border conversion if the company does not transfer the connecting factor according to national conflict rules of the home Member State. The host Member State must recognise its legal identity without imposing further restrictions. However, it may impose additional requirements only if they are proportionate and justified on grounds of the public order (Ballester, del Monte, 2012, p. 18, Mucciarelli, 2008, p. 277, de Sousa, 2009, pp 19-22). The freedom of establishment requires that host Member State must accept distinction between the registered and head office of the company validly incorporated in home Member State.

The ECJ takes different approach in emigration cases (cases *Daily Mail*,<sup>10</sup> *Cartesio*<sup>11</sup> and *Vale*<sup>12</sup>). In such cases the ECJ does not prevent home Member State to place certain restrictions on the cross-border transfer of company's head office. In these judgements the ECJ takes the view that companies are creatures of national law and Member States independently determine connecting factor that points to the company statute which governs its incorporation and retention of its legal identity. Member States may apply the incorporation theory or the real seat theory. Therefore, home Member State may condition cross-border transfer of head office of company by obtaining previous approval or may forbid such transfer if the company wishes to retain its legal identity according to national law of that Member State. On the other hand company may transfer its seat abroad through cross-border conversion while retaining its legal identity. In such case both Member States must not discriminate between domestic and cross-border conversions. A company that wishes to transfer its seat abroad must be brought into line with national law of host Member State (Ballester, del Monte, 2012, pp. 20-21, Mucciarelli, 2008, p. 277, de Sousa, 2009, pp. 34-38).

#### **4. SECONDARY LEGISLATION OF THE EU ON CROSS-BORDER TRANSFER OF COMPANY'S REGISTERED OFFICE**

TFEU and case law of the ECJ guarantee to companies only the right to transfer head office in another Member State with preservation of legal identity, while national rules of Member States regulate transfer of registered office of company. Transfer of registered office causes winding-up of company in the country of its incorporation and incorporation of a new company in the country in which the registered office is transferred. Because of this the European Commission proposed the Fourteenth Directive on the cross-border transfer of registered office in 1997 (Werlauff, 2003, p. 94). Aim of this Proposal was to enable cross-border transfer of registered office with preservation of company's legal identity. This should be beneficial to companies for easier adjustment of place of business activities and internal organization according to market changes and selection of the most favourable applicable law for companies. Member States should allow to domestic companies cross-border transfer of registered office in accordance with national provisions on amending the articles of association. Decision of the general meeting on transfer of the registered office and its consequences should be published. A company should convert its legal form according to national law of host Member State. The Proposal do not interfere with national conflict rules of Member States. If national law of host Member State require that the company's registered office and head office must be in same place, the decision to transfer the registered office should also cover the transfer of the head office. Host Member State could not refuse to register the company which satisfies the essential

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<sup>10</sup> Case C-81/87, *The Queen v H. M. Treasury and Commissioners of Inland Revenue, ex parte Daily Mail and General Trust plc* [1988], ECLI:EU:C:1988:456.

<sup>11</sup> Case C-210/06, *CARTESIO Oktató és Szolgáltató bt* [2008], ECLI:EU:C:2008:723.

<sup>12</sup> Case C-378/10, *VALE Építési kft* [2012], ECLI:EU:C:2012:440.

substantive and formal requirements for the registration of national companies. Member States should cooperate in supervision of the cross-border transfer of registered office of the company. Registration in host Member State should result in losing company's legal identity and being removed from the register in home Member State. Transfer of the registered office should not result in the company being wound up and it should not affect the company's legal relationships with third parties. Home Member State could ensure special protection of rights of minority shareholders and creditors, in accordance with the principle of proportionality laid down by the ECJ. Employee participation rights should be governed by the national law of host Member State. If those rights are more favourable for employees by the national law of home Member State, they should be maintained or negotiated (Werlauff, 2003, pp. 94-95). In 2007 the European Commission decided to withdraw the Proposal because of lack of interest of Member States. On the other hand, business community still emphasize the need for regulation of the cross-border transfer of registered office on the EU level. Finally, the Proposal affected the provisions on cross-border transfer of registered and head office of supranational legal entities in relevant EU regulations (Ballester, del Monte, 2012, p. 9). EU law enables indirect cross-border transfer of company's registered office with preservation of legal identity through incorporation of supranational legal entities (EEIG, SE and SCE) or through cross-border mergers of companies from different Member States (Ballester, del Monte, 2012, pp. 13-14, Mucciarelli, 2008, pp. 275-276). National company may convert itself into an SE in home Member State if for at least two years it has had a subsidiary governed by the law of another Member State. The SE then transfers its registered and head office to host Member State. Finally, the SE may be converted into a national company according to national law of host Member State. No decision on conversion may be taken before two years have elapsed since its registration or before the first two sets of annual accounts have been approved (Ballester, del Monte, 2012, pp. 24-25). Procedure for cross-border transfer of registered office of an SE is governed by Article 8 of the Council Regulation (EC) No 2157/2001 of 8 October 2001 on the Statute for a European company (SE). A Member State may adopt provisions designed to ensure appropriate protection for minority shareholders who oppose a transfer and SE's creditors. The registered office of an SE must be in the same Member State as its head office. The SE shall be liquidated if its registered and head office are placed in different Member States. Therefore, it is necessary to transfer the registered and head office of the SE together. This avoids the incorporation of letterbox companies but also endangers the corporate mobility. An SE may be formed by limited number of companies which must perform cross-border business activities. Cross-border mergers of companies are possible by the Directive 2005/56/EC of the European Parliament and of the Council of 26 October 2005 on cross-border mergers of limited liability companies. National company may merge with already incorporated subsidiary in host Member State or may incorporate a new subsidiary in host Member State for cross-border merger (Ballester, del Monte, 2012, pp. 26-28). This mechanism offers a wider possibility for cross-border mobility of companies in the EU internal market, especially for SMEs. These mechanisms for indirect cross-border transfer of company's registered office are time-consuming and complicated. They impose additional costs for companies wishing to transfer their registered office abroad (Ballester and del Monte, 2012, p. 26).

## 5. CROSS-BORDER TRANSFER OF COMPANY'S SEAT IN CROATIAN LAW

Croatian law applies the incorporation theory for determination of the company statute. A company may change its seat in the manner defined in the articles of association. If this procedure is not defined in the articles of association, company's general meeting brings decision on transfer of seat in accordance with national provisions on amending the articles of association. According to the Croatian Companies Act (CCA), registered and head office of company may be settled in different places. In such case registered office shall be regarded as

the seat of company. On the basis of an application submitted by a company, the transfer of the seat shall be entered into the court register. The transfer of the seat of the company abroad shall be subject to the prior approval of the Ministry of Finance because of the change of tax residence. The CCA does not provide special protection of rights of minority shareholders and creditors of a company which transfers its seat abroad. If a company intends to transfer its registered office abroad, this changes the applicable national law. This is possible only by winding-up of a company and its deletion from the court register in Croatia (Barbić, 2008., pp. 371-375). Croatian law provides mechanisms for indirect cross-border transfer of company's registered office through incorporation of an SE or through cross-border mergers of companies.

## **6. EXIT TAXATION OF COMPANY'S SEAT TRANSFERS: EU LAW PERSPECTIVE**

It is well established that corporate mobility within the EU internal market may be hindered by the tax implications of the envisaged transactions (Pistone, Szábo, Sørensen, 2014, p. 1). When it comes to the transfer of the company's seat, biggest tax-related issue is the possibility that the home Member State imposes the so-called “exit tax” on the company in question. In the context of seat transfers, exit tax takes the form of a tax on capital gains accrued, but not yet realized, by the company before the moment of transfer. Since the state of emigration will normally not be allowed, under the current rules of international tax law, to tax such gains upon realization, this state may extend a “final” tax claim towards the emigrating company, in respect of a variety of items that have enjoyed the benefit of tax deferral in previous periods (Panayi, 2011, pp. 246-247; Terra, Wattel, 2012, p. 955). Before proceeding with the analysis of exit taxation from the EU law perspective, it is important to note how exit taxes are tied to the very foundations of international tax system. More specifically, such state practice is a natural corollary of the territoriality principle, which provides legal underpinning for the imposition of income tax by sovereign states (Schön, 2010, p. 554). Corporate taxpayers are encompassed by this paradigm in such a way that states reserve the right to tax their income either with reference to their “tax residence” – i.e. the place where economic life of a company is centred (Couzin, 2002, p. 41) – or with reference to different places in which their business activities take place, i.e. to “territorial sources” of pertinent income. Against this backdrop, exit taxation of transfer of company's seat is essentially a corollary of the fact that the territorial link between the state of emigration and the company, taking the form of tax residence, will be terminated upon the seat transfer, consequently placing pertinent income outside the ambit of that state's tax jurisdiction. Whereas states usually make sovereign decision not to tax unrealized capital gains – and rightly so, from the policy perspective – even if international tax law permits them to do so, they are also at liberty to impose tax on this taxable object at the moment it “leaves” their territory. Imposition of exit tax is not only lawful from purely public international law perspective, but also *prima faciae* reasonable since it ensures fiscal coherence, at least from the viewpoint of tax system of the state of emigration (Terra, Wattel, 2012, p. 955-956). Moreover, it tackles potential corporate tax schemes, aimed at exploiting low or no-tax regimes in states of immigration (Panayi, 2011, p. 246; Sendetska, 2014, p. 230). On the other hand, it is apparent – and also confirmed in the ECJ's case law (see below) – that exit taxes constitute restriction of free movement of companies guaranteed by the TFEU, because they make intra-EU corporate mobility less attractive.

### **6.1. Brief summary of ECJ jurisprudence on exit taxation of corporate migrations**

Having in mind the company law essentials explored in previous sections of this paper, it is useful to take a step back and acknowledge that the position of EU Member States wishing to impose exit tax on transfers of company's seat fundamentally differs depending on whether they apply incorporation theory or real seat theory in their national company law. Real seat Member States are generally allowed under the EU law – subject only to *Cartesio*-like scenarios

– to act in a manner extremely unfavourable for the internal market and demand dissolution of a company if it transfers its real seat in another Member State; subsequently these countries are allowed to tax all previously unrealised capital gains, now in the hands of company shareholders (Terra, Wattel, 2012, p. 964; Sendetska, 2014, p. 230). Conversely, exit tax imposed on seat transfers, in its pure form, constitutes an EU law problem only in cases of companies emigrating from Member States applying the incorporation theory. These countries, as already noted above (section 2), allow companies incorporated under their company law to retain legal personality when they transfer their head office – i.e. „place of effective management“, in the language of international tax law – to another Member State (Kok, 2011, p. 63). Accordingly, the question arises as to whether incorporation Member States are allowed under EU law to impose an exit tax on such transactions, under the aforementioned rationale of tax base integrity protection and/or tax avoidance prevention. The ECJ had the chance to settle the matter already in *Daily Mail* since, from a factual perspective, this was essentially a “tax case” (Terra, Wattel, 2012, pp. 962-963). However, the Court therein decided to give primacy to the question of company’s entitlement to freedom of establishment, which was a matter of national company law, and not to address the issue of permissibility of the imposition of capital gains tax triggered by the event of transfer of company’s real seat from a Member State applying the incorporation theory (Weber, 2003, pp. 350-352). Subsequent ECJ’s case law concerning exit taxation of individuals changing tax residence from one Member State to another provoked speculations as to analogous application of its main findings to the cases of corporate mobility. The matter was finally settled in 2011, when ECJ delivered its landmark decision in *National Grid Indus* case<sup>13</sup>. Main findings of the Court may be summarized as follows (Terra, Wattel, 2012, pp. 968-973; Világi, 2012, pp. 353-354): (i) imposition of exit tax in cases of companies transferring their place of effective management constitute a restriction that is in principle prohibited by the Treaty provisions on freedom of establishment, in the light of different tax treatment between cross-border and internal company relocations; (ii) however, such tax measure is justified on the grounds of overriding reasons in the public interest, namely by the objective of ensuring the balanced allocation of powers of taxation between the Member States, in accordance with the principle of territoriality linked to a temporal component; (iii) in assessing the proportionality of exit tax regime, a distinction must be drawn between the establishment of the amount of tax (tax assessment) and the recovery of the tax (tax enforcement); (iv) from the viewpoint of tax assessment, it is proportionate to definitively determine the tax due on unrealized gains at the moment of seat transfer; (v) from the viewpoint of tax recovery, immediate taxation of unrealized capital gains is not allowed, if the taxpayer is not presented with alternatives, such as the option to defer the payment until realisation of capital gains; (vi) it is proportionate for Member States to provide tax deferral option under the condition of imposing additional administrative burdens on companies in relation to asset tracing, as well as requiring security for later payment. Proportionality of other tax collection aspects of Member States’ exit tax regimes was further clarified in later ECJ case law. Notably, in its *DMC* decision<sup>14</sup> the Court confirmed that it is compatible with fundamental freedoms to make tax deferral benefit conditional upon the requirement that due payment is spread over the period of five years prior to realization event (Sendetska, 2014, p. 234). The ECJ further explained that the requirement of providing bank guarantee as a security for later payments is disproportionate on a general basis – thus reiterating its position laid out in previous case law concerning intra-EU migration of individuals – but may be imposed in relation to the actual risk of non-recovery of taxes due in every individual case (Sendetska, 2014, p. 236).

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<sup>13</sup> Case C-371/10, National Grid Indus [2011] ECLI:EU:C:2011:785.

<sup>14</sup> Case C-164/12, DMC Beteiligungsgesellschaft mbH v Finanzamt Hamburg-Mitte [2014] ECLI:EU:C:2014:20.

## **6.2. Desirability of exit taxes in the light of the global fight against multinational companies' tax avoidance: European Commission raises the stakes**

It is beyond the scope of this paper to delve into a deeper analysis of the promises and pitfalls that ECJ's jurisprudence on exit taxation of companies has on the tax policy in EU. It is important, however, to draw parallels between the reasoning of the Court and current state of play in international tax arena, instigating a new initiative of the European Commission with regard to exit taxes. On the one hand, it was explicitly recognized by the ECJ that unrestrained corporate mobility within internal market may incentivize taxpayers to relocate their assets and liabilities in a way that minimizes overall tax burden. Accordingly, measures intended to protect the tax base that is – or at least was, at one moment – within the jurisdictional reach of a Member State, such as exit tax, can be justified against the background of “balanced allocation of taxing powers”, which in itself is in no way a revolutionary concept but merely a recognition of the architecture of international tax law (Schön, 2015, p. 285). On the other hand, this line of ECJ's reasoning perfectly fits the ongoing debate on the future of international tax system, led primarily by the G20 and the OECD, and known simply as the “base erosion and profit shifting (BEPS) project” (OECD, 2013). Namely, justification of Member States' tax measures that are otherwise discriminatory or restrictive on the basis that they pursue the goal of “balanced allocation of taxing rights” is well attuned to the main aim of the BEPS project – prevention of practices that artificially segregate places where income is reported for tax purposes from the locations of real economic activities, thus eroding the tax base of a number of states. In this regard an exit tax regime may be regarded as a measure that prevents tax base erosion in the state from which a company is emigrating or moving its assets from (European Commission, 2016, pp. 7-8). This line of thinking was apparently picked up by the European Commission in its new anti-tax avoidance agenda. Namely, the newly drafted Proposal for a Directive (hereinafter: the Proposal) aimed at uniform implementation of BEPS-related instruments across the EU also contains detailed rules on exit taxation of corporate taxpayers. Providing that the Proposal is met with unanimous approval in the Council, every Member State would have to implement these rules in its national tax law, which is of particular importance to those countries that haven't had experience with exit tax thus far. Objective scope of the exit tax regime proposed by the Commission is prescribed in Art. 5(1) of the Proposal, laying down three main scenarios in which a Member State may tax the difference between the market value and the book value of the transferred assets (Navarro, Parada, Schwarz, 2016, p. 120): (i) cross-border transfer of assets between taxpayer's head office and its permanent establishment (PE); (ii) cross-border transfer of assets between taxpayer's PEs located in different countries; (iii) transfer of taxpayer's tax residence or a PE out of a Member State. Other provisions deal with the technical issues of exit tax collection, essentially incorporating main findings of ECJ's jurisprudence in this area. Accordingly, the issues of tax deferral, charging of interest on deferred payments, provision of security of payment are regulated. The Proposal shows more ambition in addressing the problem of potential double taxation, obliging the “Member State of destination” to step up the basis of the transferred assets (Art. 5(5) of the Proposal). It is interesting to note that the rules on exit tax regime envisaged in Art. 5 of the Proposal diverge from the general *de minimis* character of the Proposal, explicitly referred to in Art. 3. Put simply, while Member States are generally at liberty to adopt stricter rules in their domestic legislation in comparison to those contained in the Proposal, adoption of a more stringent exit tax regime would, as evidenced by the previous case law of the ECJ, in all likelihood run afoul of the EU law (Navarro, Parada, Schwarz, 2016, p. 121).

## **7. CROATIAN TAX LAW PERSPECTIVE**

Croatia does not impose exit tax on emigration of corporate taxpayers to other Member States or third countries, i.e. in cases where taxpayers lose their Croatian tax residency status under

relevant domestic and/or tax treaty provisions. This is a natural consequence of the unfriendly approach of Croatian company law to outbound transfers of company's seat, as explored above (section 5). In other words, if a company incorporated under Croatian law is *de facto* prevented to transfer its real seat to another country – due to the fallacies of current regulatory framework (Akšamović, 2014, p. 103) – rationale for the imposition of exit tax is clearly missing (Klemenčić, 2016, p. 551). Therefore, even the adoption of an exit tax regime in the line with European Commission's Proposal would have very limited impact unless the company law framework is previously upgraded.

## 8. CONCLUDING REMARKS

Company law and tax law aspects of cross border transfers of company's seat within the European Union provoke many controversies and dilemmas, particularly in the light of Article 49 of the TFEU, which guarantees the freedom of establishment in the internal market. While the gaps arising as a consequence of the legislative inactivity at the EU level are often filled by the ECJ's case law, there is a marked need for further secondary legislation in this area.

In Member States which apply the incorporation theory, applicable national law for the company is the law of the country where the company is incorporated and where it has its registered office. These Member States enable transfer of company's head office to another Member State applying the incorporation theory. Such transfer of the seat does not change the applicable national law for the company and it keeps its legal identity. On the other hand, if the company intends to transfer its head office to a “real seat Member State”, this is not possible because that Member State requires incorporation of a new company according to its national law. If the company intends to transfer its registered office to another Member State, this changes the applicable national law. Against the backdrop of the differences between Member States' domestic rules, the ECJ dealt with the cross-border transfer of company's head office and has held that the company validly incorporated in home Member State must be recognised in the host Member State. Biggest tax-related issue in this context is the risk of exit tax imposition. While exit taxation of seat transfers is lawful from a public international law perspective, it constitutes an EU law problem in cases of companies emigrating from Member States applying the incorporation theory. Compatibility of exit taxes with the UFEU was settled in 2011, when the ECJ lastly delivered a landmark decision in *National Grid Indus* case.

It seems that the new developments in this area are linked with the pursuit for a politically more desirable system of multinational companies' taxation. Namely, exit tax is perceived as an important instrument in the light of the global and European fight against large-scale tax avoidance of multinational companies. Thus, one can note the occurrence of “new waves” in the EU tax law. Finally, exit taxation of seat transfers does not seem to be a particularly important issue for Croatia. As a consequence of its domestic company law rules, Croatia does not impose exit tax on emigration of corporate taxpayers to other Member States or third countries. Accordingly, adoption of an exit tax regime in the line with the above-mentioned “new waves” in the EU would have severely limited impact.

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## LITERATURE:

1. Akšamović, D. (2014). Je li Europa konačno spremna osigurati preduvjete za punu slobodu kretanja poslovnih subjekata? – Implikacije na hrvatsko pravo. *Zbornik Pravnog fakulteta u Zagrebu*, 64(1), (pp. 81-110).
2. Ballester, B., del Monte, M. (2012). *Directive on the cross-border transfer of a company's registered office (14th Company Law Directive)*. EAVA, 3/2012. Brussels: EAVA
3. Barbić, J. (2008). *Pravo društava, Knjiga prva: opći dio*. Zagreb: Organizator.

4. Commission of the EC (2007). *Commission Staff Working Document – Impact assessment on the Directive on the cross-border transfer of registered office*. Brussels.
5. Couzin, R. (2002). *Corporate residence and international taxation*. Amsterdam: IBFD.
6. De Sousa, A. F. (2009). *Company's Cross-border Transfer of Seat in the EU after Cartesio*. Jean Monnet Working Paper 07/09. New York: NYU School of Law. Retrieved 07.01.2017 from <http://jeanmonnetprogram.org/wp-content/uploads/2014/12/090701.pdf>.
7. Klemenčić, I. (2016). Porez na izlazak trgovačkih društava iz zemlje. *Zbornik Pravnog fakulteta u Zagrebu*, 66(4), (pp. 527-554).
8. Kok, R. (2011). Compatibility of exit taxes and Community law. *EC Tax Review*, 20(2), (pp. 62-74).
9. Mucciarelli, F. M. (2008). *Company „emigration“ and EC freedom of establishment: Daily Mail revisited*. In R. Kulms (ed.), *European Business Organization Law Review*, 2008, 9(2), 267-303. Cambridge: Cambridge University Press.
10. Navarro, A., Parada, L. and Schwarz, P. (2016). The Proposal for an EU Anti-Avoidance Directive: Some Preliminary Thoughts. *EC Tax Review*, 25(3), (pp. 117-131).
11. Organisation for Economic Co-operation and Development. (2013). *Addressing base erosion and profit shifting*. Paris: OECD Publishing. Retrieved 20.04.2016. from [http://www.oecd-ilibrary.org/taxation/addressing-base-erosion-and-profit-shifting\\_9789264192744-en](http://www.oecd-ilibrary.org/taxation/addressing-base-erosion-and-profit-shifting_9789264192744-en).
12. Panayi, C. HJI (2011). *Exit Taxation as an Obstacle to Corporate Emigration from the Spectre of EU Tax Law*. In K. Armstrong (ed.), *Cambridge Yearbook of European Legal Studies*, 2010-2011, 13, 245-281. Cambridge: Cambridge University Press.
13. Pistone, P., Szábo, D. and Sørensen, K. (2014). Mobility of companies in the European Union: a jigsaw of company law and tax law, case law and secondary law falling into place? In A. P. Dourado (ed.), *Movement of persons and tax mobility in the EU: Changing winds* (pp. 135-187). Amsterdam: IBFD.
14. Proposal for a Council Directive laying down rules against tax avoidance practices that directly affect the functioning of the internal market. (2016). COM(2016) 26 final 2016/0011(CNS), Retrieved 20.06.2016. from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2016%3A26%3AFIN>.
15. Schön, W. (2010). Persons and Territories: On the International Allocation of Taxing Rights. *British Tax Review*, 6, (pp. 554-563).
16. Schön, W. (2015). Neutrality and Territoriality — Competing or Converging Concepts in European Tax Law? *Bulletin for International Taxation*, 69(4/5), (pp. 271-293).
17. Sendetska, O. (2014). ECJ Case Law on Corporate Exit Taxation: From National Grid Indus to DMC: What Is the Current State of Law?. *EC Tax Review*, 23(4), (pp. 230-237).
18. Terra, B. J. M. and Wattel, P. J. (2012). *European Tax Law* (6th ed.). Alphen aan den Rijn: Kluwer Law International.
19. Világi, R. (2012). Exit taxes on various types of corporate reorganizations in light of EU law. *European Taxation*, 52(7), (pp. 346-354).
20. Weber, D. (2003). Exit taxes on the transfer of seat and the applicability of the freedom of establishment after Überseering. *European Taxation*, 43(10), (pp. 350-354).
21. Werlauff, E. (2003). *EU Company Law – Common business law of 28 states*. Copenhagen: DJØF Publishing.

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## THE LEGAL ASPECTS OF ADVERTISING IN THE SLOVAK REPUBLIC WITH THE SPECIAL FOCUS ON THE PROMOTION OF CHOSEN PRODUCTS

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### **ABSTRACT**

*The topic of the paper that is anchored in the area of marketing offers the outstanding overlaps into the area of constitutional and administrative law. It directs to multidisciplinary research of the issue whose concept and legal regulation remains to a large extent, after years of professional and amateur discussions (not only) in the slovak legal environment unfinished. Advertising as a part of products' marketing, promotion of pharmaceuticals and protection of consumer against inappropriate influences of this advertising should represent the main aim of legal regulation in this area of law. The essential legal enactments except the Constitution of the Slovak Republic are mainly Law no. 167/2001 of Journal of Laws about advertising subsequently amended, Law no. 308/2000 of Journal of Laws about broadcasting and retransmission and about the change of Law no. 195/2000 of Journal of Laws subsequently amended.*

*The aim of this paper is to analyze the chosen issues with the help of scientific methods, that society has to deal with when it regulates the acceptance of information in connection with products' advertising and promotion.*

**Keywords:** advertising freedom of speech, marketing, protection of consumer, right to information

### **1. INTRODUCTION**

Advertising is an important part of commercial communication enabling mainly businessmen to promote products, services or other products that are objects of business activities for consumers or entrepreneurs and it is the important source of information. It enables better orientation and decision making on the market when choosing products and services.

The Slovak Republic is according to the enactment of Article 1, paragraph 1 of the Constitution of the Slovak Republic, a sovereign, democratic and legally consistent state, where is the Constitution the basic law source, that is superior to other sources of law. The keystones of legal regulation from the point of view of advertising are mainly the two articles of the Constitution of the Slovak Republic – Article 26 and Article 55. Advertising has the indisputable meaning from the point of view of informing consumer. It is one of the forms of application of freedom of speech and realization of the right to information. It is one of performances that fulfills the Article 26, paragraph 1 of the Constitution of the Slovak Republic which says that „*freedom of speech and right to information are guaranteed.*“ It is possible to restrict these rights guaranteed by the Constitution only to prevent unfair competition and propagation, untruthful and misleading information. In the states where advertising operates in

stable, liberal market economy, the form of ethical advertising codes was fixed for the regulation of advertising ethics. These codes are respected by legal subjects running businesses in the area of advertising even though these codes are not legally binding. Respecting these codes is guaranteed by the authority of special societies where entrepreneurs doing business in the area of advertising are organized. (Milošovičová, Nováčková, 2014, pp 88-99)

## **2. ADVERTISING IN GENERAL**

The original basis of legal enactment of general requirements for advertising of some products or for advertising spread by some distinctive means of communication as well as of supervision over advertising was enacted in the Law of National Council of the Slovak Republic no. 220/1996 of Journal of Laws effective from 30th of April 2001. Its four-year application has shown many imperfections in the definition of advertising itself, in the restrictive regulations in advertising of some products, as well as in the execution of supervision of obeying the law. For example, if law in provision of § 4 of par.2 banned the spreading of advertising by means of electronic computer network, but this ban was being breached in general and its breaching was not controlled or sanctioned by any supervisory authorities. After the law entering into the force, other important directives were adopted that regulate misleading and comparative advertising, as well as advertising about tobacco products. That was the reason why it was necessary to implement these directives into legal systems of the Slovak Republic in the interest of accession process of the Slovak Republic to the European Union. From this reason, it was also more convenient to make the new legal regulation that by the complicated restatement of the law of the National Council of the Slovak Republic no.220/1996 of Journal of Laws as subsequently amended.

In the new legal enactment, the legislator comes out from the four basic regulations that are legitimacy, honesty, truthfulness and politeness. In these terms, the general requirements for advertising are formulated. For the advertising of some products as pharmaceuticals, nursing substances, alcoholic beverages, tobacco products, weapons and munition, it was necessary to define special conditions and restrictions. The law on advertising does not aim to regulate all area of advertising in complex and leaves in validity the legal enactment of some products or spreading advertising in the certain media for special laws, as for example the legal enactment of the advertising of groceries to the law no.152/1995 of Journal of Laws about groceries or spreading advertising in radio and television broadcasting according to law no.195/2000 of Journal of Laws about telecommunications.

The competencies of the supervisory authorities are in connection with acceptability of comparative advertising completed with authorisation of supervisory authorities to require from the sponsor of advertising, i.e. from the person that ordered advertising or the person to whose benefit is advertising spreading, to submit evidences about the accuracy of the information that advertising includes. (Nováčková, Milošovičová, 2011, p 84)

If the sponsor of advertising does not bear the burden of truth about the accuracy of information spread by means of advertising, advertising is regarded as misleading or inadmissible comparative advertising. The law includes penalties that supervisory authority can impose for breaching the act provisions. In connection with the adaptation to the definition of misleading advertising as it is understood in the European Union, it is also necessary to change the definition of misleading advertising in §45 of Commercial Code. As the comparative advertising enables to spread the accuracy of the information about products and conditions of other contestant, that are in some sense able to cause harm to other contestant, the comparative advertising can not be considered as detracting according to §50 of Commercial Code, that is necessary to fill in this provision.

As the National Council of the Slovak Republic approved law no.308/2000 of Journal of Laws about broadcasting and retransmission and about the change of law no. 195/2000 of Journal of Laws about telecommunications, where it is regulated the broadcasting of advertising in radio and television in the way that there are not followed all intentions of the harmonization of law with the law of the European Union in this area, it was necessary to solve the relation of law no.308/2000 of Journal of Laws to law on advertising. By the adoption of this law no requirements to state budget were arisen as well as to creation of new jobs in public administration.

This law is fully in accordance with the Constitution of the Slovak Republic and international treaties, that the Slovak Republic is bound with, and it is fully compatible with the European Union laws where is this issue regulated for example in Directive of Council 84/450/EHS dated 10th of September 1984 that tackles misleading and comparative advertising in Directive 97/55/ES, Directive 92/28/EHS on advertising of human pharmaceuticals, Directive 91/321/EHS on groceries for alimentation of infants and small children.

The law, with its content belonged to the preferred areas of approximation of law in Article 70 of European Agreement, in the part of consumer protection and belongs to the priorities recommended in the preparation of the associated countries of central and eastern Europe for integration into the domestic market of the Union.

The Directive 84/450/EHS subsequently amended in the Directive 97/55/ES in the interest of consumer protection, economic competition and public, bans spreading misleading advertising and regulates conditions of spreading comparative advertising. The Directive imposes to the member states of EU to accomodate courts or administrative supervision bodies with competencies that enable them to require the evidence of accuracy of information in advertising, to ban spreading of advertising and to publicize decisions. The Directive 92/28/EHS on advertising of human pharmaceuticals regulates, regarding the specifics of relationships of consumers to pharmaceuticals, advertising determined for public and professionals. The directive bans advertising of non-registered pharmaceuticals and regulates the performance of propagators of advertising. The Directive 91/321/EHS on groceries for alimentation of infants and small children regulates mainly the conditions for composition and marking of these products and regulates also some conditions of its advertising.

The aim of the law is defined in four areas: regulation of general requirements for advertising, regulation of conditions for advertising of some business products, regulation of legal protection against the effects of misleading advertising and comparative advertising in the form that is inadmissible and regulation of competencies of public authorities in obeying the enactments of law. The advertising spread in radio and television broadcasting is regulated in the special law no.308/2000 of Journal of Laws on telecommunications subsequently amended. Law enactment of §2 specifies the basic terms that are from the content point of view the most important for the legal regulation. The term advertising is defined in the way that the legal enactment in the Slovak Republic would be similar to the legal enactment valid in EU.

The definition of this term according to already non-effective law no.220/1996 of Journal of Laws on advertising subsequently amended is not according to the Directive 84/450/EHS amended in the Directive 97/55/ES on misleading advertising. In relation to the definition according to the actual legal enactment, advertising does not have to have the character of public information, but it can be spread as addressing legal act. The term of advertising is narrowed down only to the presentation of business products and not to the presentation of any values of tangible and intangible character. It does not relate nor to political advertising. The presentation of business products is any form of demonstration, presentation or approximation of business products with the aim to catch the attention of potential consumers. Product is all the result of business activities, as well as rights and liabilities of intangible character connected to any

business activity. The counting of data and performances that are not considered as advertising should also help to the precising of the term advertising. (Masár, D. 2013, p 52)

The basic requirements for advertising come from legally binding rules of economic competition, ethical principles and consumer protection. First of all, advertising must not be misleading. Misleading advertising is not a special type of advertising. Falseness of advertising is considered from the point of view of its content, all its data, characters and information in relations to persons, to whom is determined or who affects and which in the result of its misleading content misleads these persons or can mislead them and thus it will influence their economic behaviour on the market by inconvenient manner or it can even damage them.

The definition of misleading advertising is in the enactment of §45 of law no.513/1991 of Commercial Code subsequently amended. However, originally this definition did not fit to definition of misleading advertising according to legal acts of EU, that is why its definition has changed. Advertising restricts itself by its content that breaches the values protected by legal order. It deals with the protection of human life, health, environment, freedom, conscience, morale respected by the society, protection of assets etc. The influence of advertising to minors is especially emphasized. The restrictions of advertising come out of the traditions and experience gained in the course of development of advertising. They have the common international standard, that is also codified in the Slovak Republic in Ethical advertising Code that was published by advertising agencies association and its body – Advertising Council.

The surreptitious advertising for the purposes of radio and television broadcasting is defined in the provision of §32 part 13 of law no.308/2000. The surreptitious advertising is the advertising whose aim is the purpose and effect of advertising composed to the content of other information that is not advertising. The distinction of surreptitious advertising should not make any problems in practice, if the content of the spread information has all definition characters of advertising.

According to Article 4, part k) of law on advertising, advertising must not include personal information, information about assets of persons without their prior acceptance. Sending advertisement to the specific addressee is not in contradiction to this provision, as the necessary personal information serving for advertising delivery to addressee are not the part of the content of advertising in terms of its definition and it is only attached to advertising.

The prior acceptance of users is necessary for the spreading advertising by certain media, for example by automatic phone calling system, telefax or by e-mail. The purpose of this restriction is to prevent inadequate molestation and invasion of privacy or property rights of advertising addressee. Advertising must not be spread to the addressee by other communication means if the addressee of advertising refuses the delivery of advertising before. The refusal of advertising delivery is not defined in law and can be done by any relevant legal act, for example by marking the post box by the way that postman can not put advertising there or by written announcement to postman, advertising agency or other marketing company. (Stoličná, 2012. p 24)

In the legal order of the Slovak Republic, comparative advertising was banned till 2001. It came from the rule that it is not polite if someone without any special motive and without compulsion by special conditions of the case deals with the conditions of other businessman and interferes in his interests in economic competition. The release of comparative advertising is a serious breaching of this rule that is in interests fo harmonization of law with the law of EU, according to which the comparative advertising is allowed. As it is the sensitive area of economic competition, comparative advertising has special requirements and conditions that means that comparative advertising is allowed only by law and other comparative advertising is not allowed at all. Comparative advertising does not have to compare products of two competitors directly, it is considered comparative when it presents other competitor or his products.

### **3. ADVERTISING OF PHARMACEUTICALS**

Pharmaceuticals are products that considerably influence peoples' health. That is why advertising of pharmaceuticals requires special arrangement. The strictly restricting measures of advertising tackle only some groups of pharmaceuticals, those that need a medical prescription or are paid from health insurance or are not registered in the Slovak Republic. Pharmaceuticals can not be presented in advertising in a way that would force people to use them excessively or without the need of medical examination.

Advertising of pharmaceuticals involves any form door-to-door information, agitation performance or instigation directed to the support of prescription, selling or consumption of pharmaceuticals. (Capandová, 2015, pp 1-8)

Advertising of pharmaceuticals is defined by law as advertising of pharmaceuticals aimed to the public, advertising of pharmaceuticals aimed to persons authorized to prescribe pharmaceuticals and to persons authorized to dispense and sell pharmaceuticals i.e. physicians and pharmacists, visit of the person authorized to prescribe pharmaceuticals and the person authorized to dispense pharmaceuticals to commercial representatives of holder of decree about pharmaceutical's registration, i.e. medical representative, whose aim is to promote pharmaceuticals, provision of samples of pharmaceuticals to the public, persons authorized to prescribe pharmaceuticals and persons authorized to dispense pharmaceuticals, to provide incentives directed to prescription or dispensation of pharmaceuticals as gifts, offers or promises of whatever inducements or extraordinary financial or material reward with the exception of those, whose value is insignificant, sponsoring of promotional events where are persons involved who are authorized to prescribe pharmaceuticals or persons authorized to dispense pharmaceuticals, sponsoring of scientific conferences, where are persons involved who are authorized to prescribe or dispense pharmaceuticals, including the paying the travelling and accommodation expenses, which are connected to the participation in that event.

The legal order of the Slovak Republic bans advertising of pharmaceuticals that are not registered in the Slovak Republic, that involves narcotic drugs and substances, whose dispensation is bound to medical prescription or veterinary medical prescription or whose dispensation is not bound to medical prescription but they are paid on the basis of public health insurance according to law no.577/2004 of Journal of Laws on the range of healthcare paid on the basis of public health insurance and on the payments for services related to the provision of healthcare subsequently amended. However, this ban is not related to vaccination campaigns organized by the holder of the decision about pharmaceutical registration or by the deputy of the holder of the decision about pharmaceutical registration if they are permitted by Ministry of Health of the Slovak Republic and for advertising determined to the persons authorized to prescribe pharmaceuticals and persons authorized to dispense pharmaceuticals.

Except of measures above mentioned, it is not allowed to distribute pharmaceuticals directly to the public for the purpose of advertising, to perform, with the aim of the promotion of pharmaceuticals, visits of the people authorized to prescribe pharmaceuticals during their office hours and it is also not allowed for the persons authorized to prescribe human pharmaceuticals to have during their office hours visits of pharmaceutical representatives with the aim to promote human pharmaceuticals. (Srebalová, 2008, p. 61)

Advertising of pharmaceuticals determined to public must not involve any item, which for example makes impression that medical examination or operation is not necessary, offers diagnosis or way of treatment by means of correspondence, makes impression that effects of pharmaceuticals are guaranteed and are not accompanied by any adverse effects or are better or equal to the effects of other pharmaceuticals or treatment, indicates that a good health condition of the person could improve by taking the pharmaceuticals, indicates that a good health condition of person could be influenced by not taking pharmaceutical, this ban is not related to the above mentioned vaccination campaigns, addresses exclusively or mainly children etc.

#### **4. THE SUPERVISION AND PENALTIES FOR BREACHES OF LAW**

The special authorities are not set up for the supervision of the enforcements of the provisions of advertising law, but this activity is given to public administrative authorities, that are set up according to special laws and supervise the market in the area of corresponding products, goods and services. Under the control of advertising of pharmaceuticals, this responsibility is given to State Institute for Drug Control, Institute for state control of veterinary bioproducts and medicines under the advertising of veterinary medicines, Institute of public health of the Slovak Republic etc.(Vačok, 2014, p 34) The special actions of supervision authorities are in measures which these organs can impose for ensuring correction. It deals with the decision about the prohibition of spreading advertisement, about the authorization to require from buyer of advertising to submit the evidence about the truthfullness of information in case of suspicion of misleading advertisement or impermissible comparative advertising and the possibility of imposing the obligation to buyer of advertising to publicize the decision of supervision authority. By breaching the law, the legally protected interests are endangered, that is why, in the interest of reaching the correction and precautionary effect, there are also penalties imposed for the arrangement of correction as well as obligations imposed to the person responsible. If supervision authorities find out breaching of this law, they are allowed to ban spreading of advertising. It is necessary to emphasize that they have this possibility also in the case when there is danger of breaching the regulation of §4 part 3 of law on impermissible comparative advertising. In the decision about the ban of spreading of advertising, the supervisor authority can impose the obligation to publicize this decision or its part and the obligation to publicize this announcement in mass telecommunication medias.

#### **5. CONCLUSION**

With the entry of market economy, development of society informatization, advertising has become rooted also in the Slovak Republic. It deals with the industry that is dynamically developing also thanks to many important advertising agencies that have been established on the slovak market. The support and promotion of pharmaceuticals can not and is not out of the attention regarding the profit of pharmaceutical industry. Within this context, it is necessary to strengthen and point out the role of public authorities to regulate advertising and impose sanctions to infringers of law restrictions by means of legislation and controlling mechanisms, as legal directives enable and impose them.

#### **LITERATURE:**

1. Masár, D. (2013) *Problémy marketingu vo verejném sektore*, Sládkovičovo : Vysoká škola v Sládkovičove
2. Srebalová, M., (2008) *Rýchlosť správneho konania a nečinnosť správneho orgánu*, Bratislava, Univerzita Komenského v Bratislave
3. Vačok, J., (2014) *Vybrané inštitúty ochrany zákonnosti v prvostupňovom správnom konaní* Bratislava : Univerzita Komenského v Bratislave
4. Milošovičová, P., Nováčková D., (2014) *Uplatňovanie práva EÚ na Slovensku*, Plzeň: Aleš Čeněk
5. Nováčková D., Milošovičová P., (2011) *Medzinárodné ekonomickej právo*, Bratislava: Eurounion
6. Capandová P., (2015) *Selected Issues of Legislation with regard to Operating Pharmacies in the Slovak Republic*, In : Acta Facultatis Pharmaceuticae Universitatis Comenianae, Bratislava: Univerzita Komenského v Bratislave
7. Stoličná Z., (2012) *Vývoj hospodárskej politiky SR od transformačného obdobia roku 1989 až po súčasnosť*, Bratislava: Kartprint

## THEORETICAL OVERVIEW OF SOCIAL MEDIA-VALUE (CO)CREATION BOND

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### **ABSTRACT**

*The ultimate purpose of this paper is to inquire on eventual role of social media in value co-creation relationships in a marketing. Lately we have been witnessing the importance of social media in achieving general marketing goals. Moreover, concept of value co-creation implies management initiative to develop closer and mutually beneficial interactive relationships between company and customers in order to further jointly co-create acceptable outcome for parties involved. Hereby theoretical overview of potential portrayal of social media as a communicational channel/tool and its eventual footprint on value co-creation is going to be given. What are the social media marketing and management elements useful to shape and influence the process of value co-creation? How did the academic public approach and elaborate this consanguinity? The research performed is theoretical, secondary-desk analysis. Publicly available sources of literature have been utilized. As a general conclusion, academia shares contrasting attitudes when it comes to potential roles of social media in value co-creation. A group of analyzed authors strongly supports this statement, whilst we have another cluster of authors who are severely opposing and claim that no solid findings are possible until more primary researches are performed.*

**Keywords:** social media, S-D logic, relation, interaction, value co-creation

### **1. INTRODUCTION**

It is the turbulent, precarious and hard-to-forecast environment that makes individuals and companies to improvise and detour from already established ways of acting and doing a business. It is exactly in periods of economic crisis when companies do their very best to come up with something extraordinary, in a way to deliver proper outcome to their clients, customers or stakeholders. To certain extent, academia and public are to benefit from the fact that great financial crisis stroke back in 2008. From the pure academic standpoint of view we are able to observe and forecast trends, elaborate on the recent developments, make further predictions and set a firm foundations for further more extent researches for a given scientific area.

In context of marketing and of particular importance for this paper, are appearance, strong focus and researches on two promising nowadays and upcoming trends. First one is the sharp increasing development trend of S-D (service dominant) logic and (co)creation of value as a crucial and distinctive category within. The second one is appearance and unforeseen blast of social media. The blast that completely distorted marketing world we were aware of previously and burst that completely reshapes the way companies intent to engage and communicate with clients.

Worth mentioning is that both concepts go very much hand by hand and the room for further advancements, evolution and development is beyond our specialized skills and scope of our

terminology to express. What is of even greater importance for the science and industry itself, is the potential amplitude of synergy that is to be expected.

One might ask why to focus on potential role of social media onto value (co) creation process at all. One of the answers is that social media are affordable, easy to manage, customization ready and extremely trendy these days. These supporting bricks should be backbone in ascertainment that in troubling economic times proper deploying of social media is positively affecting processes of value (co)creation.

Therefore following hypothesis has been generated: H0: *Social media does positively influence process of value co-creation.*

For the sake of testing the hypothesis following research goals are set in place:

- Profound screening of literature (SD logic and social media in particular);
- Defining the research frontier regarding relation and influence between value co-creation and social media;
- Drawing a conclusion based on the findings.

## **2. METHODOLOGY**

The research in question is solely theoretical, secondary-desk analysis. For the purpose of gathering relevant inputs publicly available sources have been used (google scholar and discovery.muni.cz). Primarily based on those, further elaborations have been formed. The work contributes to the marketing and management disciplines, increasing knowledge focusing the research on different aspects and perspectives in actors' relationships using social media as a marketing tool.

In total, forty five relevant articles have been deeply screened for suitable information. However, citation from only twenty seven of them have been used.

Browsing have been ultimately funneled by three criteria: keywords, abstract analysis and date of publishing. Time span of approximately last eleven years (2005-2016) have been targeted in order to get updated and meticulous material, based on which proper .

Given combination of methodology, sources and time stamps has been employed since it does not require enormous organizational and financial resources to acquire proper information.

## **3. SERVICE DOMINANT LOGIC AND VALUE (CO)CREATION CONCEPT**

To be able to fully understand the eventual bond between social media as such and value co-creation on the other side, firstly the definition and analysis of what public (scholars and practitioners) knows about concept of service dominant (hereby S-D) logic so far. This is primarily needed since the process of value (co)creation is considered to be an ultimate backbone of S-D logic nowadays.

Vargo and Lusch (2006, p. 113) think that within S-D logic, companies must not focus their efforts solely on products. But should and have to focus to the offerings in relation to the services they can come up with in front of customers.

Payne, Storbacka and Frow (2008, p. 83 - 96) strongly believe that S-D logic in marketing particularly pushes and shifts our focus away from “simple” creating a value for customers towards new concept of co-creating value with our customers. Furthermore, they (Payne, Storbacka, Frow; 2008, p. 83 - 96) convey their thoughts that value should be understood as something that ‘*resides not in the product purchased, not in the object possessed, but rather in the consumption experience*’. To put in a simple way, companies must strive to co-create consumption experience in order to generate higher levels of values for all parties involved.

Another standpoint by Rihova, Buhalis, Moital and Gouthro (2014, p. 356) is that S-D logic strongly and equivocally focuses on customers' proactive input in co-creating value and valuable experiences with the service organization. Again, we can see that these two definitions are overlapping in a conclusion that experience is one of the crucial concepts to support value

(co)creation and that active participations of all involved is simply a must. This goes in line with Vargo' and Lusch' (2008, pp. 1-10) statement that S-D logic does not elaborate on differences between company and clients, instead it is based on relationship between all actors that are active on the market.

There are abundant number of definitions and attempts to get deeper and more profound into the core of S-D logic and, more narrowly, value (co)creation. As many authors concluded value (co)creation is a nerve of S-D logic (Vargo, Lusch, 2006, p. 113). The nerve that might limit or embold development of S-D logic. Therefore, special attention has been dedicated to analyze definitions of value (co)creation.

First of all, value is considered to be a jointly created phenomena that emerges in interaction between the entities, organizations and consumers through the integration of resources (Piligrimiene, Dovaliene, Virvilaite; 2015, p. 452 - 460).

Carrubo, Bruni and Antonucci (2014; p. 513 - 519) found that in order for each actor in value creation to maximize its contribution, the ultimate need of highlighting the relations among the most influential stakeholders is a must. From here we could partially see that value (co)creation is the concept based on interactive relations with strong spotlight on mutual benefits that are to be expected. One way to enhance this relationship network is emerging social media. The same authors believe that there are two sorts of aims: internal (through tactics to generally improve product and services) and external (structural growth in terms of skills, opportunities etc.).

Value (co)creation performs very significant role as more and more customers/clients tend to interact and communicate with companies more frequently (Piligrimiene, Dovaliene, Virvilaite; 2015, p. 452 - 460). By doing so they do define and create value. Important point stressed by these authors is that value (co)creation does not necessarily imply the tangible transactions, since companies and clients might be exchanging the whole range of different sort of resources. Completely in context of 21st century such an intangible transactions are made possible by introduction of modern communication technologies/platform. As a direct support to Piligrimiene, Dovaliene and Virvilaite beliefs, comes a thought shared by Katzan (2008, p. 1 - 22). He states that value is extrapolated from mutually beneficial process of coproduction, co-design, and co-marketing. This level of collaboration is possible by engaging multiple efforts from different parties, primarily thanks to the two-way sharing (information, resources, skills, risks, needs etc.).

Listed in table down below are some of the definitions that are being developed in approximately last ten years that are found significant for the relevance of this paper. For the better understanding of value (co)creation and how different parties, researches and individuals understand concept Table 1 has been prepared. However, the list is far from exhausted.

*Table following on the next page*

Table 1. Various Definitions of Value (co)Creation in Period from 2008 to 2016

Authors	Year	Definition
<b>Vargo, Maglio, Akaka (p. 145-152)</b>	2008	Value co-creation occurs through the integration of existing resources with those available from a variety of service systems that can contribute to system well-being as determined by the system's environmental context. Each service system accesses resources from other service systems through exchange. These systems include internal, private and market-facing systems and resources. Value-exchange is a negotiated measurement offered and received among exchange partners.
<b>Gebauer,Johnson, Enquist (p. 511)</b>	2010	Value co-creation thus involves the customer and the provider in joint problem definition and joint problem solving within an experience environment in which consumers are engaged in active dialogue as they co-construct personalized experiences.
<b>Spohrer, Maglio (p. 238 - 246)</b>	2010	Value co-creation is the preferred change realized as a result of communication, planning and/or other purposeful interactions among multiple entities.
<b>Gronroos, Ravid (p. 5)</b>	2011	Co-creation of value is defined as joint activities by parties involved in dyadic direct interactions aimed at contributing to the value that emerges for one or both parties, or all parties in a larger network.
<b>Ballantyne,Williams, Aitken (p. 179)</b>	2011	Value co-creation refers to the involvement of customers in the creation or delivery of products or services; value co-creation implies an element of inseparability of the customer from the enterprise.
<b>Lambert &amp;Enz (p. 13 – 14)</b>	2012	Value co-creation is an economic and social process in which individuals have established roles that condition their behaviors and perceptions.
<b>Alves (p. 671)</b>	2013	Joint creation of value by the company and the customer'. Both clients and suppliers create value (co-create): suppliers apply their knowledge and skills in the production and branding of the product, and the clients apply their knowledge and capacities in their daily utilization.
<b>Choi &amp;Burnes (p. 35)</b>	2013	A collective process whose stakeholders include diverse businesses and consumers. Under the second condition, 'value develops and emerges over time, rather than being a discrete event.
<b>Grönroos (p. 113)</b>	2013	Co-creation is the joint, collaborative, concurrent, peer-like process of producing new value, both materially and symbolically. There is an ongoing debate in the literature about the differences between co-creation and co-production and the need to distinguish between them.
<b>Sansone, Moretta Tartaglione, Bruni (p. 58)</b>	2015	The value co-creation process is fulfilled when strategic compatibility between enterprises and place occurs and, in particular, when every subject choose the same path of value generation independently.

There are several important conclusions that are to be drawn from the above listed interpretations. In far the greatest number of the notations, the importance of two-way proactive relations and functional bonds between parties is the number one step - in order to expect some value to be created/added. This, primarily, having in mind that these relations imply full and unambiguous sharing of both tangible and intangible resources.

Moreover, process of value (co)creation has its foundations in synergy to be expected at a later stage. This is the primary goal of all parties participating in this relationship - interest.

Thirdly, some would put this point at the beginning, but for the purpose of this paper and its structure it might be better to be listed as a last one. Communication. Without smooth, coordinated, comprehensive, effective communication, value cannot be created and this particular case - (co)created.

#### **4. CONCEPT OF SOCIAL MEDIA**

In continuation, as noted in previous paragraph – proper communication is an indispensable. This is the point where all benefits of social media might be exploited on unprecedented scale. Nowadays, people witness massive and remarkable social media expansion, peaking in last ten years. Expansion on such a scale that almost every aspect of daily life has been affected to certain extent. Remarkable amount of information have been pushed and pulled every single day through various social media (Krajina, Mladenović, 2015, p. 638). It does not take much to conclude that such a rapid and viral development has not been recorded so far in the marketing world, at any development stage throughout history.

The advancements in internet in recent years have made new systems available to businesses: social media, such as online communities being a good example (Hajli, 2014, p. 101 - 114). Hajli further believes that with rise of social media customers/clients share information and resources on an immense scale. Let us briefly recall definition by Piligrimiene, Dovaliene and Virvilaite (2015, p. 452), where they say that value (co)creation process must be strongly supported by exchanging of both tangible and intangible resources. A very decisive mark in a puzzle named S-D logic.

However, social media and its marketing footprint is now becoming increasingly important for academia (Gummesson, 2004, p. 412). Primarily by investigating what relations and in what capacity social media influences marketing performance, and in our case value (co)creation as an end goal.

Social media sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd, Ellison, 2007, p. 210). Here we see that social media as such represents a huge potential for companies to jump in and act. Moreover, some very visible and catchy advantages of social media (besides its unique viral and somewhat open source features (Krajina, Mladenović, Kunze, Ratilla, 2016, p. 1681) could be listed as following (Gilbert, Karahalios, 2011):

1. Free of charge (in most of the cases);
2. Easily affordable and manageable;
3. Very popular;
4. Viral fluctuations of all sorts of information;
5. Provide opportunities for businesses to become more attractive universally (Füller, Mühlbacher, Matzler, Jawecki, 2009, p. 71 - 102) etc.

Very interesting approach has been enforced by Caleb, Carr and Hayes (2015; p. 46-65). Namely, they strongly support statement that digital technologies emphasize user-generated

content or interaction (which is of tremendous importance for value generation). The very same group of authors represent a cutting-edge attitude that social media are primarily internet-based communication channel that made possible for users/companies to opportunistically interact and selectively self-present, with both broad and narrow audiences who derive value from user-generated content. Several points are important to be derived from last explanation. Firstly, social media represents amply field for value (co)creation. Secondly, exchange of user-generated content appears as a firm foretoken for future mutual value generation. And, least but not last, it strongly enforces communication and exchanges of experiences in many forms. Such conclusions have been previously supported by Howard, Parks (2012, p. 359 - 362). They believe that social media are:

1. Information infrastructure/tools used to produce and distribute content;
2. Content that takes digital forms;
3. People, organizations and industries that produce and consume digital content.

However, the question might arise what does social media defined by information infrastructure/tool has to do with value (co)creation. What does shareable digital content has to do with experiences and relationships between customers and companies?

## **5. SOCIAL MEDIA AND VALUE (CO)CREATION – WHAT WE KNOW SO FAR?**

Hajli (2014, p. 101 - 114) believes that consumers create added value through collaboration and social interactions on the internet (reviews, advices, experiences, impressions etc.). This is very strong and straight forward statement. Moreover, they (consumers) support business through the co-creation of value via their social interactions. One of the ways to interact and exchange resources/experiences in context of 21st century is via social media. Consumers are now tremendous content generators. This represents a full overlap with Howard and Parks (2012, p. 359 - 362) logic that individuals and organizations produce and consume digital content (content might be equal to both tangible and intangible resources). From the strategic marketing perspective, social media offers various benefits: enhanced brand image, facilitating of word-of-mouth, sales increase, managing data and information and general social support for clients/customers.

As well, Füller, Mühlbacher, Matzler and Jawecki (2009, p. 71 - 102) share the opinion that by using social media, companies can and do create content and offer invaluable information and advices to others. They even go step forward by claiming that social media provide a company's solid opportunity for future value (co)creation. This statement is primarily based on collaborative efforts and sharing mindset.

Social media can be considered as a conditional intermediary between companies and clients. It could be of remarkable significance since it is a channel throughout which communication is taking place recently (Lewis, 2010, p. 23). From here it is straight forward that social media could be observed as an entry point of a kind, whereby both companies and customers can communicate and share their experiences.

## **6. CONCLUSION**

All in all, as a direct result of the conducted research, first conclusion is that more on-field researches are required in order to handle properly the relationship between social media and process of value (co)creation. One of the greatest limitations of this paper is that it took only one-sided theoretical approach in explaining and elaborating potential footprint of social media on value generation. Although time span of eleven years have been covered and total of forty five relevant articles have been screened, result is somewhat inconclusive and vague.

Scientific public has already been aware of link between social media and S-D logic. On one side, we have affluent number of authors who were researching value (co)creation so far. Whilst

on the other hand, there is increasing but rather modest number of articles that have something to do with social media and their impact on collaborative value generation. As a generic remark, we do not possess overreaching literature that deeply elaborates the link between social media and process of value (co)creation.

From the sources that are publicly available it is visible that few authors have been investigating the issue more than others. To different extent they all agree and share opinions that social media deploying is to be translated into enhanced and mutually beneficial value creation in the future.

On the contrary, hard-liner portion of scientific public is skeptical toward these findings and are claiming that way more researches are needed in order to have a solid base for such a claims (see previous paragraphs).

**Table 2. List of authors and their attitudes in respect of H0**

<b>Author/s</b>	<b>Approve H0</b>	<b>Disapprove H0</b>	<b>Remarks</b>
<b>Hajli (2014, p. 102)</b>	X		
<b>Füller, Mühlbacher, Matzler, Jawecki (2009, p. 81)</b>	X		
<b>Howard, Parks (2012, p. 359)</b>	X		
<b>Krajina, Mladenović, Kunze, Ratilla (2016, p. 1681)</b>	X		
<b>Ballantyne, Williams, Aitken (2011, p. 179)</b>	X		
<b>Lewis (2010, p. 23)</b>	X		
<b>Katzan (2008, p. 22)</b>	X		Strong skepticism.
<b>Piligrimiene, Dovaliene, Virvilaite (2015, p. 452)</b>	X		Primary research is needed.
<b>Spohrer, Maglio (2010, p. 238)</b>	X		Lack of primary research considering the topics.
<b>Rihova, Buhalis, Moital, Gouthro (2014, p. 356)</b>	X		So far no tangible proof (lack of statistically backed up conclusions).
<b>Lamber, Enz (2012, p. 1588)</b>	X		Neglectable influence of social media on value creation. (No solid proof for this claim)

In closing, we must conclude that academia shares contrasting attitudes when it comes to potential roles of social media in value co-creation. A group of analyzed authors strongly supports this statement, whilst we have another cluster of authors who are severely opposing and claim that no solid findings are possible until more primary researches are performed.

## **LITERATURE:**

1. Alves, H.; (2013); Co-creation and innovation in public services; Service Industries Journal; 33; 7-8, pp. 671-682. ISSN: 0264-2010
2. Ballantyne, D., Williams, J. Aitken, R.; (2011); Introduction to service-dominant logic: from propositions to practice; Industrial Marketing Management; 40, 2, pp. 179-180; ISSN: 0019-8501.

3. Boyd, D. M., & Ellison, N. B.; (2007); Social network sites: Definition, history, and scholarship; *Journal of Computer-Mediated Communication*, 13, pp. 210-230; ISSN: 1083-6101;
4. Caleb T. Carr. Rebecca A. Hayes; (2015); Social Media: Defining, Developing, and Divining; *Atlantic Journal of Communication*, 23: pp. 46–65; ISSN: 1545-6870
5. Carrubbo L., Bruni R., Antonucci E.; (2014); Analyzing Place Boundaries Using the Service Science Paradigm; *Business Systems Review*; pp. 513 – 519; ISSN: 2280-3866;
6. Choi, H. & Burnes, B.; (2013); The internet and value co-creation: the case of the popular music industry; *Prometheus - Critical Studies in Innovation*, 31, 1; pp. 35-53; ISSN: 1470-1030;
7. Gilbert, E. and Karahalios, K.; (2011); “Predicting tie strength with social media”, [online], ACM Library; <http://leonidzhukov.net>; Urbana-Champaign; University of Illinois; November 2011; Available from; <http://leonidzhukov.net/hse/2011/seminar/papers/chi09-tie-gilbert.pdf>;
8. Gebauer, H., Johnson, M. &Enquist, B.; (2010); Value co-creation as a determinant of success in public transport services: a study of the Swiss Federal Railway operator (SBB); *Managing Service Quality*; 20, 6; pp. 511-530. ISSN: 0960-4529;
9. Gummesson, E.; (2004); From one-to-one to many-to-many marketing; *Proceedings of the QUIS 9 Symposium*; Karlstadt University. Iss: 2, pp.133 – 134; ISSN: 0956-4233
10. Grönroos, C. &Ravald, A.; (2011); Service as business logic: implications for value creation and marketing; *Journal of Service Management*; 22, 1; pp. 5-22; ISSN: 1757-5818
11. Grönroos, C., and Voima, P. (2013), Critical service logic: making sense of value creation and co-creation, *Journal of the Academy of Marketing Science*, Vol. 41, No. 2, pp. 133-150; ISSN: 0092-0703;
12. Grönroos, C., and Voima, P. (2013), Critical service logic: making sense of value creation and co-creation, *Journal of the Academy of Marketing Science*, Vol. 41, No. 2, pp. 133-150; ISSN: 0092-0703;
13. Howard, P. N., & Parks, M. R.; (2012); Social media and political change: Capacity, constraint, and consequence; *Journal of Communication*; 62, pp. 359–362; ISSN: 1460-2466;
14. Füller, J., Mühlbacher, H., Matzler, K. Jawecki C.; (2009); Consumer empowerment through internet-based co-creation; *Journal of Management Information Systems*; 26, 3, pp. 71-102; ISSN: 1557-9281;
15. Lambert, D.M. &Enz, M.G.; (2012); Managing and measuring value co-creation in business-to-business relationships; *Journal of Marketing Management*; 28, 13-14; pp. 1588-1625; ISSN: 1472-1376;
16. Lewis, B. K.; (2010); Social media and strategic communication: Attitudes and perceptions among college students; *Public Relations Journal*, 4, pp 1–23; ISSN: 0363-8111;
17. Lusch, R.F., Vargo, S.L. (2006); Value Creating Processes; The service-dominant logic of marketing: dialog, debate, and directions, 1st, NY; M.E. Sharpe; 449; ISBN: 978-0765614919
18. Lewis, B. K.; (2010); Social media and strategic communication: Attitudes and perceptions among college students; *Public Relations Journal*, 4, pp 1–23; ISSN: 0363-8111
19. Katzan H.; (2008); Foundations of Service Science concepts and facilities; *Journal of Service Science*, 1: pp. 1-22; ISSN: 2093-0739;
20. Krajina A., Mladenović D. Kunze J. Ratilla M.; (2016); Collecting Online Behavioral Empirical Data in Order to Utilize Social Media Presence; *IFKAD Proceedings 2016*; pp. 1681 – 1700; ISBN: ISBN 978-88-96687-09-3;

21. Krajina A., Mladenović D.; (2015); Social Media's Influence and Role on Public's Awareness Regarding Marketing Campaign; ECSM Proceedings 2015; pp. 638 – 644; ISBN: 978-1-910810-32-3;
22. Payne AF, Storbacka K, Frow P.; (2008); Managing the Co-creation of Value; Journal of the Academy of Marketing Science; 36: pp. 83–96; ISSN: 0092-0703;
23. Piligrimiene Z., Dovaliene A., Virvilaite R.; (2015); Consumer Engagement in Value Co-Creation: what Kind of Value it Creates for Company?; Engineering Economics, 2015, 26, pp. 452–460; ISSN: 2029-5839;
24. Rihova I., Buhalis D., Moital M., Gouthro MB.; (2014); Conceptualizing Customer-to-customer Value Co-creation in Tourism; International Journal of Tourism Research; 17: pp. 356–363; ISSN: 1522-1970;.
25. Sansone M.,Tartaglione A., Bruni A.; (2015); Enterprise — Place Relationship and Value Co-Creation: Advance in Research; International Journal of Business and Management; Vol. 10; No. 1; ISSN: 1833-8119;
26. Spohrer, J. & Maglio, P.P.; (2010); The emergence of service science: toward systematic service innovations to accelerate co-creation of value; Production and Operations Management, 17, 3; pp. 238-246; ISSN: 1937-5956;
27. Vargo, S.L., Maglio, P.P. & Akaka, M.A.; (2008); On value and value co-creation: a service systems and service logic perspective; European Management Journal; 26, 3; pp. 145-152; ISSN: 0263-2373.

## EXPLORING INTERNATIONAL TOURISM TRENDS IN THE MEDITERRANEAN: CONVERGENCE OR BIG DIVERGENCE

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### **ABSTRACT**

*Triggered by the phenomenon of globalisation and unrest on both sides of Mediterranean, during recent decades there has been a process of tourism travelling re-switching in the tourism expenditure domain; hence the debate over convergence or divergence of the international tourism flows, caused by abruptly fall out of vogue of some destinations due to negative shocks produced by unrest in that volatile region, has never ended. Following on the extensive multidisciplinary literature on this issue, the purpose of this paper is two-fold 1) to apply a traditional analysis of convergence ( $\sigma$  and  $\beta$  convergence) in tourism demand flows and Principal Component and Cluster Analyses to investigate on the existence of different international tourism models, 2) to analyse tourism receipts expressed as a share of total and derive a possible classification of the countries and its profiles by means of a multivariate approach. This paper tries to test the hypothesis of convergence of tourism demand in Mediterranean area. We considered a sample of 20 Mediterranean countries, and used data from the World Indicator Database 1995-2015, keeping all relevant variables that interfere with international tourism demand in that region. The expected results of this paper can be interpreted as a further contribution to the literature on contemporary positive economics in the international tourism domain.*

**Keywords:** *Tourism demand, receipts, arrivals, convergence, Principal Component Analysis, Cluster Analysis*

### **1. INTRODUCTION**

After the post-WWII emergence of mass travel, the richness of the scenery of its coastal environment, its mild climate, and its impressive cultural heritage turned the Mediterranean into a significant tourist draw. The Mediterranean basin, if considered as a single area, is by far the largest global tourism destination, attracting almost a third of the world's international tourists (306 million out of 980 million worldwide) and generating more than a quarter of international tourism receipts (190 out of 738 billion Euro worldwide). It is forecasted that the Mediterranean region will reach 500 million of international tourist arrivals by 2030 (UNWTO 2012). (GRID-Arendal, 2013). Do the tourism economy on Mediterranean region and its sector economy shares within countries in the region: converge? The following research question is asked in this paper in an effort to analyze the main problem: whether tourism trends in recent decades push the regional tourism growth in a convergence direction and can we explain and predict the probability that a hypothetical country (saying Croatia, particularly) constitute specific profile linked to convergence? The paper is organized as follows. The next section begins by literature overview and theoretical considerations about tourism convergence in the region, and after mapping out the research strategy, we introduce the dataset. The next chapter shows descriptive analyses carried out on these international tourism flow trends, while in proceeding we carry out the convergence analyses on the whole dataset.

The subsequent section presents and discusses the empirical results in Principal Component Analysis (PCA) and Cluster Analysis (CA), and the final section concludes.

## 2. LITERATURE REVIEW

Our research introduces the clustering of tourism countries in Mediterranean region with the intention of explaining the convergence hypothesis within the design methodology. In the existing tourism economics literature, we have not found a valid justification for such a direction of research, most probably due to our original design. We will refer only to a smaller portion of recent empirical research relating to convergence in regard to tourism. Korres et al (2008) investigates and attempts to explain the role and socio-economic effects of tourism activities in the convergence and divergence process of European regions (in an attempt to interpret the so-called Dutch Disease phenomenon). Narayan (2007) test the convergence hypothesis by examining visitor arrivals to Fiji from eight tourist sources markets, and find strong statistical evidence by unit root and cointegration testing that Fiji's tourism markets converge. Ozan Bahar et al ( 2013) analyze whether or not there is any convergence between top ten countries, listed by World Tourism Organization, which have the largest volume of visitor arrivals in similar venue by cointegration technique. In the context of analyzing services confidence convergence among old and new EU Member States, Vojinović et al (2016) put a special focus on convergence in tourism sector. By analyzing  $\beta$  convergence they tested the volume of tourist arrivals and nights spent by tourists and find no convergence.

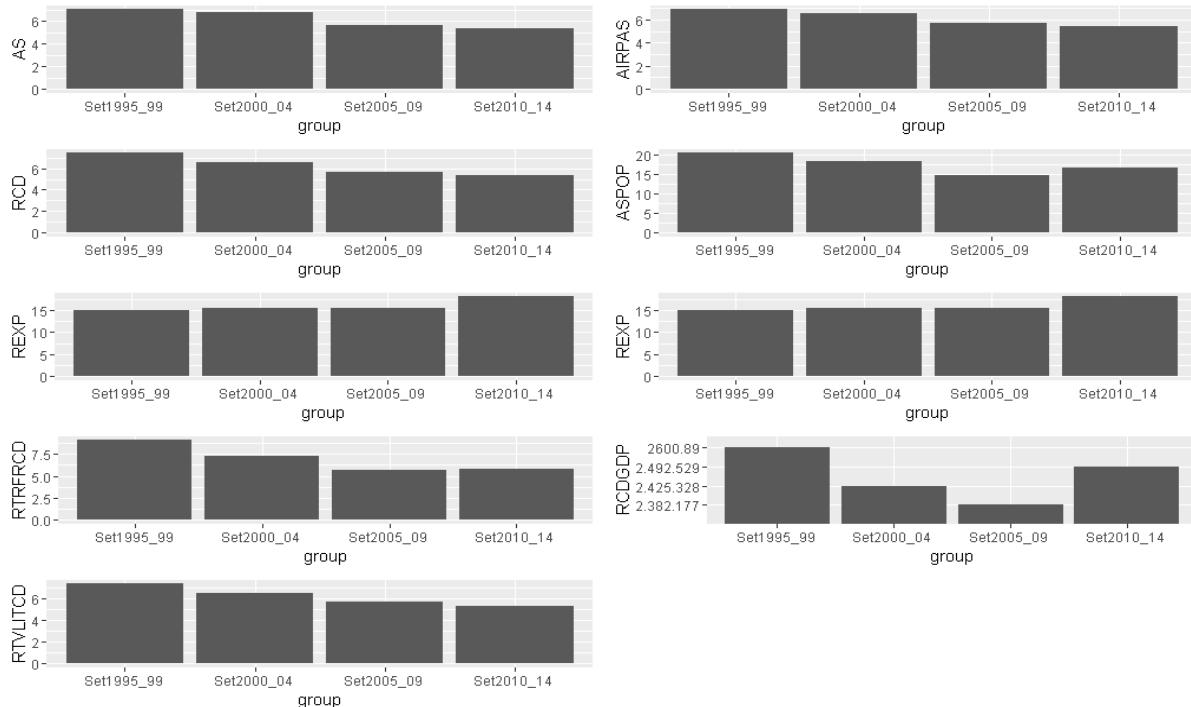
## 3. THE MEDITERRANEAN BASIN AND TOURISM CONVERGENCE

Each Mediterranean state traditionally has viewed its tourist product as competing with that of neighboring states (Apostolopoulos; Sönmez, 2000). Any single Mediterranean country is small with respect to the global tourism market. In regard to convergence idea, once the small Mediterranean country finds a tourism supply niche in which it can compete, it can expand. What matters is a country's relative endowment of the natural resource, rather than its absolute size (Lanza; Pigliaru, 2000). As it does, a country specialized, learns, achieves greater scale, and becomes more efficient in attracting tourism demand. Saying, we assume that a one Mediterranean country has 10 percent market share in the region. Now suppose the tourism induced invisible export is growing 15 percent a year while the global tourism demand is growing at 5 percent. Then, after a year, the market share of the tourism export sector for that country will be 11 percent, not a large change in absolute numbers, but the growth rate is very high. But the hard part about convergence on account of equalizing comparative advantage (mainly composed of various rental objects as antiquities, culture, history, sun, sea, sand, and fun at Mediterranean costal states) is that is not a static condition. It shifts continuously over time, in parallel with investment, tour operator oligopolistic strategy, wars and political turning points, and ultimately, with prices and wages. Tourism demand shifts around the regional tourism economy, driving structural shifts in both developing and advanced tourism economies along Mediterranean coastal tourism centers.

## 4. DATA AND METHODOLOGY

We consider a sample of 20 Mediterranean countries: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey; we use data on international tourism flows registered for the period 1995-2014 by the WTO World Development Indicator Database (<http://data.worldbank.org/data-catalog/world-development-indicators>). The time interval chosen is particularly interesting for a study on tourism flow trends as it is characterized by increased volatility. For the Mediterranean in particular, there are at least few possible explanations for the high volatility of inbound tourism. First, the region has been continuously

subject to dramatic events that endanger the safety of visitors. Among these are the Balkan Wars (1991 -1999); the Arab Springs and wars as an aftermath (2009-2014); debt crisis in Greece (2011- ), the terrorist acts, and recently, the refugee crisis (2013- ). The frequency and severity of such occurrences strongly influence the risk perception of prospective travelers to the region, causing them to switch to alternative destinations most likely from one country (that become and stays loser for some time) to another (winner) along the Mediterranean rim. The definition of international tourism variables sourced from the WTO development indicator Database and used in the analysis are: 1.AS=number of arrivals (arrivals in relation to the region's total territory); 2.RCD=receipts in current US\$ (receipts in relation to the region's total territory); 3.RXPZS=receipts (% of total exports, receipts in relation to the region's total territory); 4.RTRFRCD=receipts for passenger transport items in current US\$ (receipts in relation to the region's total territory); 5.RTVLITCD=receipts for travel items in current US\$ (receipts in relation to the region's total territory); 6.AIRPAS=air transport, passengers carried (passengers in relation to the region's total territory); 7.ASPOP=number of arrivals to population ratio (arrivals to population in relation to the region's total territory); 8.REXP=receipts to expenditures in current US\$ (ratio, in relation to the region's total territory); 9.RCDGDP=receipts divided to GDP in current US\$ (in relation to the region's total territory). As the primary focus of the paper is comparing data on national tourism levels, we use all variables expressed as a percentage or share in the region's total.

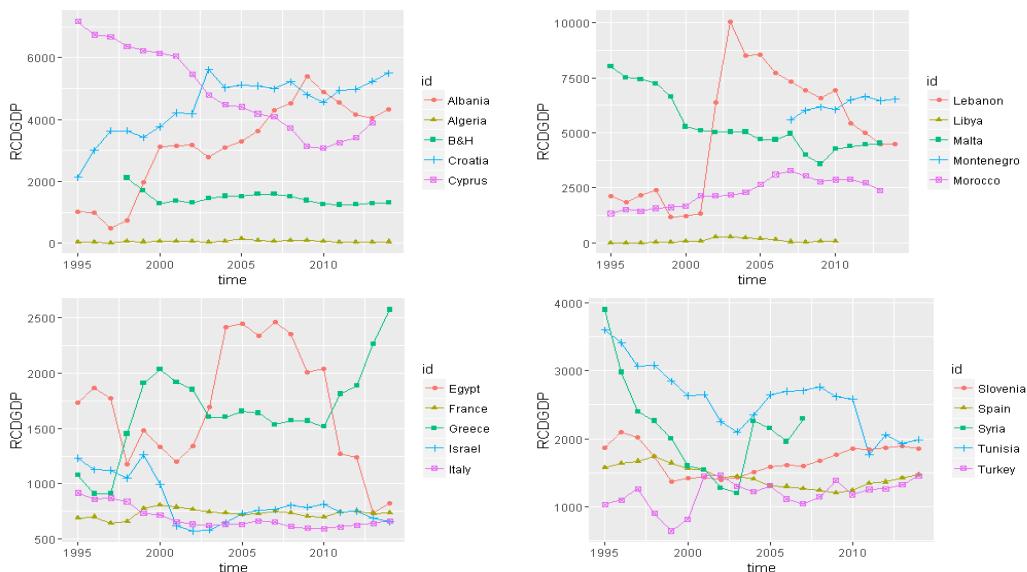


*Figure 1: International Tourism Trends in the Mediterranean region  
 (Author's calculation, all variables are at their means)*

## 5. DESCRIPTIVE ANALYSIS

Figure 1 shows the average level of international tourism variables (and other than interfere to tourism, as air passengers carried for example) registered in our sample for 4 of the time interval studied: 1995-99, 2000-04, 2005-09, 2010-14. The first variable illustrates arrivals divided by countries of destination, with countries classified according to WTO criteria. The decline in statistical mean highlights an important stylized fact: starting from an initial situation

dominated by France, Spain and Italy (majority of arrivals in Mediterranean region), the period 1995-2014 witnessed a progressive shift in the geographical distribution of arrivals. The all three major destination noticed fall of arrival share. For France, the shift in arrival share was more striking (from 37% to 26.5%), and that fact would prop up very likely convergence hypothesis in affirmative direction, later on, in formal part of analysis. Generally speaking, such redistribution favored a few countries in the region, foremost: Croatia, Morocco, and Turkey. But the greatest beneficiary of this redistribution was despite all Croatia (passing from a share of 0.9% in 1995 to a share of 3.7 % in 2014). Into majority of countries in the region international arrivals share grew quite slowly (Algeria, Albania, Lebanon, Egypt), or nothing at all (B&H, Malta, Libya, Israel, Greece, Slovenia, Tunisia, Syria) during the period 1995-2014. Comparing dynamics of 1995-99 to 2010-14, an obviously decrease in tourism mean share appears evident in other areas referring to international receipts. The sectors labeled RXPZS, ASPOP, REXP and RCDGDP, despite the trend of falling share in 1995-2009 increased during the period considered afterwards. Figures 2 show RCDGDP trends for each of the countries in our sample as compared with the regional share value. Among them the RCDGDP as additional variable shows somehow atypical or dysfunctional behavior characterizes over the last period analyzed. It can be seen that some of the countries in the sample, randomly stipulated in the 4 subfigures (B&H, Algeria, Libya, Morocco, Italy, France, Israel, Turkey, Spain, and Slovenia) are characterized by consistently below-average tourism receipts to GDP share levels over the entire period examined; values registered for other countries are at times higher and at times lower than the average. It is hard to deduce any evidence from curves inspection about convergence; some countries seem to show “converging behavior” over the period considered: on the one hand, Croatia, Albania and Greece show increasing RCDGDP growing trends that approach the average levels during the last years, while major actors: France, Italy, Spain repose in decennial stability. The low receipts to GDP share in those countries, along curve look almost as flat lines. The weight of those countries decrease the overall average value of RCDGDP share, but opposite is not the case.



*Fig. 2. Trends in international tourism, receipts divided to GDP (current US\$) - in relation to the region's total territory, 1995.-2014., (Author's calculation)*

## **6. $\sigma$ AND (ABSOLUTE) $\beta$ CONVERGENCE**

In the analysis of international tourism flows trends,  $\sigma$ -convergence is given by a marked reduction in tourism receipts in relation to the region's total territory (RCPTCD) variability over time, measured by the coefficient of variation. In Tab. 1 we show the coefficient of variation values calculated for the whole sample in the five different years: 1995, 1999, 2004, 2009 and 2014. Comparing 1995 to 2009, we found a substantial reduction in variability for the variables: tourism receipts to GDP ratio in relation to the region's total territory (RCDGDP), but the variability in sector after 2009 has increased. In similar fashion we find reduced variability in arrival share (AS) variable when comparing 1999 to 2014. The variability in arrivals share per capita (ASPOP), tourism receipts to expenditure share (REXP) and receipts from tourism items (RCPTXPS) among the countries in the Mediterranean is likely the result of: a. divergence of tourism flows in those areas of consideration.

	1995	1999	2004	2009	2014
AS	167.777	172.623	165.177	147.164	142.411
RCD	168.953	166.687	153.198	142.041	133.801
RXPZS	51.867	61.255	79.108	80.519	80.519
RTRFRCD	157.831	207.193	190.736	173.130	181.489
RTVLITCD	148.767	167.878	156.234	145.678	154.342
AIRPAS	160.567	172.241	163.739	158.067	171.569
ASPOP	129.545	162.385	166.620	186.708	202.848
REXP	60.024	65.541	68.653	81.926	91.336
RCDGDP	100.999	90.253	88.850	81.915	86.260

*Table 1. Coefficient of Variation Values for 1995, 1999, 2004, 2009 and 2014 (Author's calculation)*

To test the absolute  $\beta$  convergence hypothesis, we performed for each variable a cross-section Ordinary Least Square (OLS) regression to estimate the parameters for convergence regression. The results are shown in Tab. 2 (*Table continues on the next page*).

Time period	1/5*ln(Y99/Y95)	1/10*ln(Y04/Y95)	1/15*ln(Y09/Y95)	1/20*ln(Y14/Y95)
	(1)	(2)	(3)	(4)
<i>Dependent variable: Int. Arrivals Share</i>				
lnAS95	-0.010(0.008)	-0.015(0.009)	-0.014*(0.007)	-0.010*(0.006)
Intercept	0.020(0.013)	0.033**(0.014)	0.031**(0.011)	0.024**(0.009)
R <sup>2</sup>	0.106	0.174	0.220	0.19
<i>Dependent variable: Int. Receipts in Current US Dollar Share</i>				
lnRCD95	-0.199***(0.044)	-0.361***(0.074)	-0.359***(0.071)	-0.297***(0.089)
Intercept	0.259**(0.101)	0.532***(0.168)	0.644***(0.161)	0.661***(0.182)
R <sup>2</sup>	0.557	0.599	0.615	0.482
<i>Dependent variable: Int. Receipts in % of Total Export Share</i>				
ln RXPZS95	-0.128***(0.019)	-0.073***(0.009)	-0.043*** (0.009)	-0.033*** (0.007)
Intercept	0.221*** (0.040)	0.111*** (0.020)	0.048** (0.020)	0.046*** (0.014)
R <sup>2</sup>	0.723	0.780	0.541	0.579
<i>Dependent variable: Int. Receipts for Passenger Travel Share</i>				

In RTRFRCD 95	-0.071 ***(0.013)	-0.052 ***(0.010)	-0.027 **(0.011)	-0.044 ***(0.009)
Intercept	0.097 ***(0.026)	0.068 ***(0.019)	0.015(0.023)	0.061 ***(0.018)
R <sup>2</sup>	0.627	0.626	0.245	0.589
<i>Dependent variable:</i> Int.Receipts for Travel Items Share				
InRTVLITCD95	-0.051 ***(0.013)	-0.042 ***(0.010)	-0.017 **(0.011)	-0.024 ***(0.009)
Intercept	0.067 ***(0.026)	0.068 ***(0.018)	0.019(0.021)	0.031 ***(0.016)
R <sup>2</sup>	0.727	0.646	0.225	0.589
<i>Dependent variable:</i> Air Transport Share Share				
InAIRPAS95	-0.128 ***(0.019)	-0.073 ***(0.009)	-0.043 ***(0.009)	-0.033 ***(0.007)
Intercept	0.221 ***(0.040)	0.111 ***(0.020)	0.048 **(0.020)	0.046 ***(0.014)
R <sup>2</sup>	0.723	0.780	0.541	0.579
<i>Dependent variable:</i> Int.Arrivals Share /Population Share*10				
InASPOP95	-0.038(0.045)	-0.016(0.021)	-0.004(0.013)	0.001(0.009)
Intercept	0.194 ***(0.066)	0.379 ***(0.032)	0.117 ***(0.019)	0.142 ***(0.014)
R <sup>2</sup>	0.038	0.030	0.005	0.0002
<i>Dependent variable:</i> Int.Receipts/Expenditure in Current US Dollar Share				
InREXP95	-0.032 ***(0.010)	-0.043 ***(0.010)	-0.018 **(0.007)	-0.031 ***(0.007)
Intercept	0.012(0.012)	0.013(0.012)	0.009(0.009)	0.013(0.008)
R <sup>2</sup>	0.354	0.524	0.251	0.544
<i>Dependent variable:</i> Int.Receipts/GDP in Current US Dollar Share				
InRCDGDP95	-0.052 **(0.024)	-0.046 ***(0.009)	-0.028 *** (0.006)	-0.031 ***(0.006)
Intercept	-0.012(0.040)	0.034 **(0.015)	0.025 **(0.011)	0.020 *(0.011)
R <sup>2</sup>	0.205	0.584	0.512	0.573

Note: # observ.= 20 countries; \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 2: Absolute beta convergence. Cross-section OLS regression results, (Author's calculation)

Support for the absolute  $\beta$  convergence hypothesis is found for the all considered variables excluding only: AS and ASPOP. In the paper of Vojnić et al (2013), regarding the results of testing  $\beta$  convergence for arrivals and overnight stays variables in tourism sector, over the period between the years 2003 and 2011, no convergence was found; either. For all these variables, regression results show an acceptable value of  $R^2$ , while all coefficients are significant at least 5% and, as expected, have a negative sign.

## 7. PRINCIPAL COMPONENT AND CLUSTER ANALYSES

The results of the previous paragraph show convergence for almost all of the variables considered (besides two variables that referring to international arrivals). Anyway, in order to obtain more detailed information about the position of each country as regards convergence variables and time span 1995-2014 considered, we decided to perform a multidimensional analysis (MDA) by means of a Hierarchical Cluster Analysis based on a Principal Component Analysis (PCA). In the proceeding our analysis is processed using *FactoMineR* & *factoextra* packages adopted by R (Husson et al, 2007; Kassambara & Mundt, 2016). The variables considered are the same as for the convergence analysis, without AS and ASPOP. We consider

the average value in the period 1995-2014, for included variables. This solution helps to obtain a factorial plan and to reduce the bias of all possible expenditure outliers in a single year. On the other hand panel structure (time and cross-sectional data) in cluster analysis have no sense, because one country can be positioned in multiple clusters. PCA projects observations (Mediterranean country), thereby reducing a 7-dimensional space (7 initial variables) to a lower dimensional space while preserving as much information as possible.

The first couple of eigenvalues have a cumulative percentage of variance of 87.32%, which entails a 12.68% information loss for a bidimensional space for the analysis. Our present result is a model case for clear-cut analysis. The first two principal components explain more than 87% of the variance. The best situation is when the first two or three components "explain" about 80% of total variance (Escaith, Gaudin, 2014). From this point on, a new research direction appears, as we can use these two factors, nominate it and use it for a hierarchisation of the countries, visible in a space of only two dimension and not 7 dimensions, one for each variable, as it was before the PCA. The PCA reduces a p-multiple dimensional space (p: number of initial variables, 7 in the present case) to a lower dimensional space, correlated with the initial dimensions (see Table 3) while preserving as much information (or variance) as possible.

Our auxiliary figure (which due to lack of space in this paper is missing) draw the results of the projection of variables according to the first two principal components; to facilitate the interpretation of these two factorial axes, Table 3 displays the main correlations between the two first axis and the variables.

Variable	F1: receipts & flying a far greater	F2: economies dependent on tourism
RCD	<b>0.949</b>	0.289
RXPZS	-0.418	<b>0.734</b>
RTRFRCD	<b>0.926</b>	0.280
RTVLITCD	<b>0.940</b>	0.293
AIRPAS	<b>0.966</b>	0.249
REXP	-0.339	<b>0.762</b>
RCDGDP	-0.599	<b>0.686</b>

*Notes: Variables are bolded when their correlation coefficient with F1 or F2 is greater than or equal to 0.5 in absolute value; all values are averaged for 1995-2014*

*Table 3: Correlation of selected variables with the first two factorial components (Author's calculation)*

Basically, this matrix shows the correlations between the variables and the principal components. According to the table, some of international tourism receipt share (RCD, RTRFRCD, RTVLITCD) excluding RXPZS plus AIRPAS does matter substantially when the word is about forming the first principal component: the RXPZS does not qualify for the selection criteria ( $|R|>0.5$ ); correlation of those variables with the first axis is almost 1 (0.949, 0.926, 0.94, and 0.966, respectively). This says that the name for our first factor should be generally related with some combination of tourism receipts share and the air passenger share. This factor is amalgam of international receipts on account of visitors that entered the country through airports. Tourism research in this domain shows that high intensity air traffic implies an economically strong impulse, in generating tourism receipts for too far and not so well developed country. Therefore, since we desire a high value for that indicator, a proper name to suggest its meaning could be "Receipts & flying a far greater factor" showing us how relevant

is a certain country from the point of view of its carried air passengers and its international tourism receipts capacity. The second principal component is much less correlated with the same variables, but it is obvious that some variables that mimic receipts (and that are negatively correlated with first factor) are present here also. Two variables are contained in the second factor are in fact some kind of transformed receipt shares: REXP (receipts/expenditure share) and RCDGDP (receipts/ GDP share) forming so, latent variable, the tourism economy dependency rate. The very high F2 can be important for countries whose economies are heavily dependent on tourism.

We used *cluster analysis* to view how the Mediterranean countries are clustering on principal components formed, maintaining the same group. To decide the number of clusters for each group, we applied hierarchical cluster analysis. The data processing detected 6 clusters that give an idea of the tourism flows convergence trends of the countries considered. The detected clusters (see Tab. 4. & Fig. 3) are:

**Cluster 1** characterized by a high level for REXP (*T value* 3.426), RCDGDP (*T value* 2.377), and RXPZS (2.229). In this cluster are Montenegro, and Croatia. These economies are the most heavily dependent on tourism. This cluster is primary formed by F2 and is defined as the “*East Adriatic model*”.

**Cluster 2** characterized by a high RXPZS level (*T value* 2.529) but and RCDGDP (*T value* 2.065). The countries that form this cluster for all periods are Lebanon, Cyprus and Albania; we label this cluster “*Levant model*”.

**Cluster 3** include following countries: Morocco, Malta, Tunisia, Greece, Egypt, Syria, Bosnia and Herzegovina Due to specific working methodology, the relevant statistics of these countries in cluster 3 is missing. Hence there is not label for this cluster.

**Cluster 4** characterized by a low level of own economies dependent *on* tourism, inherited: low REXP (*T value* – 2.033), low value of RCDGDP (*T value* - 2.065), and RXPZS (*T value* - 2.542). This cluster includes, for the whole period, Slovenia, Israel, Algeria and the Libya. This cluster is labeled “*Tourism as a secondary business*”.

**Cluster 6** characterized by a high level of tourism receipts for various receipt variables considered beside RXPZS (positive *T value*), and high level of air traffic share (positive *T value*). Spain falls into cluster 6 and France as well. Those countries are the tourism receipt lieder, hence this cluster is labeled “*Tourism Top country*”. It is surprising that Turkey and Italy remain in cluster 5 for the whole period (also without noticing T-testing about difference in means. Yet, this cluster gravitated toward cluster 6 (Tourism top country), because it is positioned in close neighborhood.

*Table following on the next page*

	T-test	Mean in category	Overall mean	SD in category	Overall SD	p-value
<b>Cluster 1</b>						
REXP	3.426	2.298	0.000	0.764	0.975	0.001
RCDGD P	2.377	1.595	0.000	0.485	0.975	0.017
RXPZS	2.229	1.495	0.000	0.429	0.975	0.026
<b>Cluster 2</b>						
RXPZS	2.529	1.346	0.000	0.545	0.975	0.011
RCDGD P	2.012	1.071	0.000	0.455	0.975	0.044
<b>Cluster 4</b>						
REXP	- 2.03 3	-0.909	0.000	0.260	0.975	0.042
RCDGD P	- 2.06 5	-0.923	0.000	0.358	0.975	0.039
RXPZS	- 2.54 2	-1.137	0.000	0.283	0.975	0.011
<b>Cluster 6</b>						
RTRFRC D	3.935	2.640	0.000	0.605	0.975	0.0001
AIRPAS	3.706	2.486	0.000	0.318	0.975	0.0002
RCD	3.626	2.433	0.000	0.097	0.975	0.0003
RTVLITC D	3.563	2.390	0.000	0.054	0.975	0.0004

Table 4: The results of cluster analysis - final cluster centers (Author's calculation)

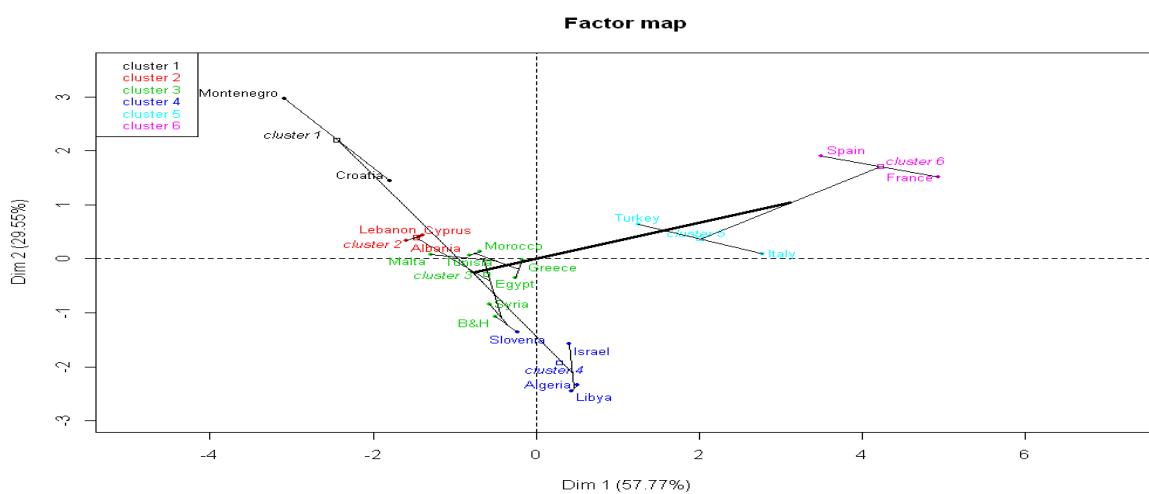


Fig. 3: Clustering by Factor Map with Countries' positions (Author's calculation)

## 8. CONCLUSION

This paper aimed at investigating convergence for a large group of Mediterranean countries, over a time span of twenty years (from 1995 to 2014). Monovariate and convergence analyses, carried out by means of the traditional instruments of descriptive analysis and  $\sigma$  and  $\beta$  absolute

convergence, reveal that for international tourism arrival shares (AS and ASPOP), the convergence hypothesis is not supported. Multivariate analysis, a further tool for studying the convergence dynamics among the other variables, revealed that the harmonization process in the tourism flows domain was not so overwhelming as to support the emergence of a single Mediterranean tourism growth model. We are find even six different models of tourism convergence. The most important cluster for us is the first. Many countries, especially transition nations from former Yugoslavia, by opening up to foreign investors, have gradually become more dependent on tourism as a source of revenue enable them to build the muscle of their economy. The cluster analysis results showed that the two east- Adriatic countries generally retained their singularities because both of them fall into the first cluster over time despite considerable movements inside each cluster that translate into convergence displacements on the factorial plan. Those countries are Croatia and Montenegro. Croatia is the top country in the world in regard share of tourism in GDP formation. Despite success in attracting international tourists those trends recalling on careful diversify future development in both countries, persisting in at the same time on policy of sustainable tourism.

## LITERATURE:

1. Apostolopoulos, Y., Sönmez, S. (2000). New Directions in Mediterranean Tourism: Restructuring and Cooperative Marketing in the Era of Globalization, *Thunderbird International Business Review*, 42(4): 381–392.
2. Bahar, O., Bozkurt, K., Dogan, B. (2013). Striving for service quality: reality, problems and solutions, Empirical Testing of Convergence Hypothesis of International Tourism Sector, *Socialiniai Mokslai*, 1(79).  
<http://www.erem.ktu.lt/index.php/test/article/viewFile/5122/2775>
3. Kassambara A, Mundt, F. (2016). Package ‘factoextra’: Extract and Visualize the Results of Multivariate Data Analyses,  
<http://www.sthda.com/english/rpkgs/factoextra>
4. Le, S., Josse J., Husson F. (2008). FactoMineR: An R Package for Multivariate Analysis, *Journal of statistical software*, 25(1),  
<https://cran.r-project.org/web/packages/FactoMineR/vignettes/FactoMineR.pdf>
5. Lanza, A., Pigliaru, F. (2000). Tourism and economic growth: does country's size matter? *Rivista Internazionale di Scienze Economiche e Commerciali*, 47 (1):77-86.
6. Narayan, P.K. (2007). Testing convergence of Fiji' s tourism markets, *Pacific Economic Review*, 12(5): 651–663.
7. *The State of the Mediterranean Marine and Coastal Environment* (2013). GRID-Arendal, A centre collaborating with UNEP, <http://www.grida.no/publications/med>
8. Tsombanoglou, G., Kokkinou, A. (2008). The role of tourism in European regional growth, *Marketing and Management Sciences*, Proceedings of the International Conference on ICMMS 2008, Sakas, D.P., Konstantopoulos, N. (ed), Athens, Greece, p. 339-343.
9. Vojinovic, B., Brezovnik, B., Oplotnik, Z.J. (2016). Measuring Services and Tourism Convergence Among Five Old and Five New EU Member States, *Inzinerine Ekonomika-Engineering Economics*, 27(3), 285–293.
10. *World Development Indicators*,  
<http://data.worldbank.org/data-catalog/world-development-indicators>

## THE CASE OF BREXIT: AN ANALYSIS OF THE POLITICAL AND ECONOMIC FACTORS

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### **ABSTRACT**

*This paper analyses the short-term economic, as well as the long-term political consequences of Brexit. In order to analyse the short-term economic impact, we implement Chow's test for a structural break on the main stock exchange indexes. Another significant part of this paper is an analysis of the factors that have an impact on the exports of the United Kingdom and whether the potential decrease of the exchange rate will be more relevant than the anticipated decrease of FDI and GDP. This paper concludes that there is significant evidence that there was a negative short-term economic impact caused by Brexit, as well that it might have a detrimental impact on the long-term exports of the United Kingdom. This paper further concludes that Brexit was a unnecessary and avoidable event that might not have happened had there been an accountable political class that fairly and objectively presented the potential consequences of Brexit.*

**Keywords:** Brexit, EU, VAR analysis, trade deficit, Chow structural brake test

### **1. INTRODUCTION**

On June the 23<sup>rd</sup> the people of the United Kingdom (further used: UK) delivered a powerful message to the entirety of the European Union (further used: EU) and to their own political establishment. The message at least 52% of them delivered was that they were deeply unsatisfied with the establishment force they perceived the EU to be. There are very few other rational explanations why the people of the UK would choose to inflict economic self-mutilation and bring about a long-term period of political and economic instability, as predicted by Ottaviano et al. (2014) that economic growth would slow down, Springford and White (2014) that it would have a detrimental effect on London as a centre of commerce, as well as the fact that it would have a negative impact on various segments of the economy, especially agriculture as stated by Lang and Schoen (2016), and would not be viewed favourably by any of the UK's most closest allies (Oliver, 2016:13). All of these predictions, made between several months and two years prior to Brexit, are now coming true.

The promises of the Leave Campaign were constantly refuted by all relevant economic experts, as well as the fact that they were deeply contradictory. Even accepting the absurd claim that leaving the EU would mean 350 million pounds more for the UK every week, the Leave Campaign promised to distribute this money to: maintaining the level of scientific and research work, maintaining European-level payments for less developed regions, ensuring that the NHS would be funded with an increase of 350 million pounds and many other absurd claims that seem difficult to believe that the public accepted.<sup>1</sup> The pure level of ignorance involved is

<sup>1</sup> These and several others, as well as further information are available at:  
<http://www.theguardian.com/politics/2016/jun/27/eu-referendum-reality-check-leave-campaign-promises>.

displayed by the fact that the next day, the second most searched phrase in the popular search engine google was, ‘what is the EU’.<sup>2</sup>

Indeed, both the political and the economic backlash of this decision will be felt in the period of at least 5 to 10 years. Of all of the many accomplishments that a country strives towards in such a period, it is difficult to understand why should it spend its time renegotiating trade deals and ensuring that it somehow retains access to the EU Single Market while at the same time not having to adhere to the principle of the free movement of labour. If this seems as an unlikely scenario, especially in the current circumstances where Marine Le Pen is one of the frontrunners for the French 2017 presidency,<sup>3</sup> it is that more difficult to understand the unusual decision of the people of the UK. The Brussels institutions will not allow the UK to specify what it desires from post-EU membership because the number of countries that would follow might cause the complete and total dissolution of the European Union.<sup>4</sup>

So while trying to understand the decisions of the public, one can perhaps correctly state that part of them were deceived by the blatant lies presented by the Leave Campaign and were seduced by an optimistic vision where they could “Take back their future”.<sup>5</sup> It is highly difficult to understand how they plan to have these promises ensured and why the people have such high regard for the concept of the nation-state that has so clearly failed them. But perhaps even less understandable is the decision of the Conservative Party, mainly the former Prime Minister David Cameron, to ever propose such a referendum when he should have been aware of the dangerous and adverse effects that it would have on the economy of his country. Kux and Sverdrup (2007) explained the potential benefits of Norway and Switzerland as non-EU member-states, yet through the arguments presented it will be clarified that the case the United Kingdom currently faces is not comparable to that of Norway or Switzerland. This article will attempt to assess the long-term political fallout of Brexit, as well as empirically asses the short-term economic shortcomings of such a decision.

## 2. THE POLITICAL AFTERMATH

Perhaps the first question that should be asked is what will remain of the United Kingdom as a direct result of this referendum. The second EU referendum clearly paved the path to a second referendum on Scottish secession from the UK.<sup>6</sup> This was obvious to perhaps even the casual observer and it should have been something that gave David Cameron and the Tory Party cause for both worry and caution. Perhaps Cameron never believed his own words and scepticism regarding the EU and saw the referendum as an attempt to satisfy both the right wing of his party and to try and further marginalise UKIP. Perhaps, as polls at the time of his re-election indicated, David Cameron never thought he would need to fulfil his promise on an EU referendum.<sup>7</sup> If so, he is as guilty of gross negligence as the political elite that have misled the

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<sup>2</sup> Other popular choices were questions such as ‘What does it mean to leave the EU’ and ‘Which countries are in the EU’. For further information see:

<http://www.npr.org/sections/alltechconsidered/2016/06/24/480949383/britains-google-searches-for-what-is-the-eu-spike-after-brexit-vote> .

<sup>3</sup> <http://www.irishtimes.com/news/world/europe/favourites-emerge-ahead-of-2017-french-presidential-election-1.2619748>

<sup>4</sup> For further information see: <http://www.brusselstimes.com/world/5877/brexit-london-cannot-choose-a-la-carte-what-it-wants-from-the-eu-warns-merkel> .

<sup>5</sup> For further information see: <http://www.express.co.uk/news/world/684339/Donald-Trump-Brexit-Britain-America-US-Future-European-Union-Referendum>.

<sup>6</sup> For further information see:

[http://www.heraldscotland.com/news/14464159.Nicola\\_Sturgeon\\_\\_Second\\_referendum\\_while\\_I\\_am\\_First\\_Minister/](http://www.heraldscotland.com/news/14464159.Nicola_Sturgeon__Second_referendum_while_I_am_First_Minister/).

<sup>7</sup> <http://www.telegraph.co.uk/news/politics/11010212/Poll-data-David-Camerons-prospects-for-victory-in-2015-cant-be-guaranteed.html>

people of the UK into thinking that there will be no economic fallout from Brexit. As emphasized by Copsey and Haughton (2014), the infamous 2013 Cameron speech was perhaps the most radical change in policy from the Tory party towards the EU since the first EU referendum in 1975.

Aside from the potential of Scotland seceding, there is also the potential that the EU institutions and leaders of key states will be less than willing to allow Theresa May and her successors into negotiating a deal that somehow includes complete and non-tariff access to the free market without accepting the full principles of the free movement of labour. Perhaps one clarification should be made here, when talking about access to the Single Market, if at some point the United Kingdom does activate Article 50 of the Lisbon Treaty and complete the (at least) two-year-long negotiating process, the United Kingdom will still be able to have access to the European market. This is guaranteed by the World Trade Organisation. The difference is that it would not have free access to the European market, there could be various tariffs imposed. This could have a potentially adverse effect on the export of the UK, taking into account that it already has a trade deficit.

Many speculated that the fall of David Cameron was imminent in the case the UK voted for leave; many even speculated that in the event of a close vote to remain a challenge was more than likely. Probably, this was the outcome Boris Johnson desired, a very narrow defeat for Leave in which he could have claimed moral victory as a figure that worked against the wishes of the majority of the UK establishment. Johnson as a two-term London Mayor provided the needed legitimacy that many other members of the Leave Campaign clearly did not have. Nigel Farage was known to the wider UK audience, but was far the most part known for his unusual style in the European Parliament rather than political and rhetorical acumen. Michael Gove lacked the leadership skills and has stated on multiple accounts that he was not suited for being the leader of the Tory Party, even using the phrase ‘I did not want it, indeed I did almost everything not be a candidate for the leadership of this party’ at the launch of his campaign.<sup>8</sup> This way Johnson was upgraded to the post of Minister of Foreign Affairs where he will certainly bare a large amount of responsibility for the Brexit negotiations.

Perhaps the best the UK can hope for is achieving some sort of a compromise that would keep it within the EEA, similarly as Norway. Dhingra and Sampson (2016) advocate such an option, yet what such an option does not take into account is that the positions of Norway and the current positions of the UK are in no way comparable. The UK managed to negotiate a deal that released it from the ‘Ever closer Union’ phrase, as well as several other benefits during the time of the migrant crisis. Due to the timetable Cameron set out, high-ranking EU officials were forced to devote time and effort to keeping the UK in the EU during what might have been one of the most challenging crises since the founding of the EU and in the end several members of Cameron’s own party were key advocates of the Leave campaign. The positions of Norway, that refused to even enter the EU *via* a referendum in a much less troubled time, and the current position of the UK one year before several key elections in Europe are in no way comparable. The position regarding Norway is also conclusive with the findings of Pettersen, Jenssen and Litshaug (1996:257) that there are no significantly differing patterns in the way that the population of Norway voted in the two referendums. Norway never wanted to be a member-state of the EU, while the UK is perceived as a member that always had its reservations and pursued its own interests beyond any reasonable measure during the time of the 2016 migrant crisis.

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<sup>8</sup> <http://www.theguardian.com/politics/2016/jul/01/michael-gove-launches-tory-leadership-bid-with-brexit-promise>

### **3. METHODOLOGY**

As stated by Coulter and Hancké (2016), it is difficult to attempt to make any objective cost-benefit analysis on Brexit due to the fact that many of the perceived gains, such as the concept of new-gained sovereignty, are simply not quantifiable. The first thing that the paper aims to assess is whether the referendum caused a structural break in significant short-run data that can be observed. Perhaps the most relevant economic short-term data that can be examined is the value of various indexes that display the strength of the companies on the London Stock Exchange. Thus we observe the value of the various UK stock exchange indexes: FTSE 100, FTSE 250 and FTSE SmallCap. In their respected order, these indexes provide us with the value of the top 100 companies listed on the stock exchange (FTSE 100), the 101<sup>st</sup> to the 351<sup>th</sup> largest company listed on the London Stock Exchange (FTSE 250) and the 351<sup>st</sup> to the 619<sup>th</sup> largest listed companies (FTSE SmallCap) on the London Stock Exchange. The data was extracted from the official website of the London Stock Exchange (2016).

The analysis of these indexes will be conducted by simply regressing each variable on the lags of themselves, as it is not the intention of this article to forecast the future values or test hypotheses. This will be done by using a simple Ordinary Least Squares (OLS) Regression with the basic function:

$$\ln(FTSE_t) = \alpha_0 + \ln(FTSE_{t-1}) + \dots + \ln(FTSE_{t-n}) + \varepsilon_t \quad (1)$$

Thus, this includes a constant, an error term and the number of lags (n) of the dependent variable that will ensure that the explanatory value of the model is high enough in order for the results to be statistically relevant. After viewing the regression results, the structural break test introduced by Chow (1960) will be conducted.

The second part of the empirical analysis will focus on trade. We examine the impact of other relevant variables on trade, which we examine as the dependent variable. All of the variables, as well as the sources of these variables, are presented in Table 1.

**Table 1.** Variables observed

Variable	Abbreviation	Source
Trade value	Trade	UK Office for National Statistics
Gross Domestic Value	GDP	UK Office for National Statistics
Foreign Direct	FDI	UK Office for National Statistics
Investment inflows		
Exchange rate between sterling and the dollar	ER	Bank of England

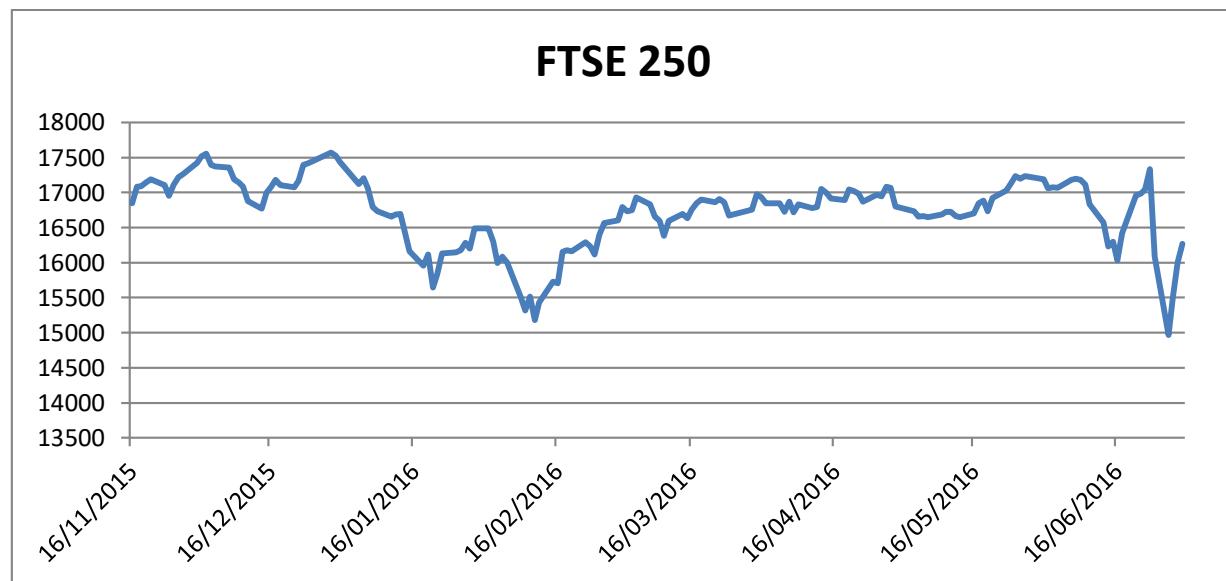
The data is observed for the period from the first quarter of 1998 to the first quarter of 2016, meaning that our overall study has 72 observations for each variable. In theory, based on the research presented in the introduction, following Brexit a decline in GDP and FDI is expected and the ER is supposed to decrease, although based on some research that might actually help increase trade. We discuss this issue in greater detail in the following section. Prior to conducting the model we conduct the stationarity test introduced by Dickey and Fuller (1976). Upon confirming that the variables reject the null hypothesis of non-stationarity, we employ a Vector Autoregressive (VAR) framework, where we focus on the following equation:

$$Trade_t = \alpha_0 + \alpha_1 GDP_{t-1} + \dots + \alpha_{1,2} GDP_{t-n} + \alpha_2 Trade_{t-1} + \dots + \alpha_{2,1} Trade_{t-n} + \\ \alpha_3 FDI_{t-1} + \dots + \alpha_{3,1} FDI_{t-n} + \alpha_4 ER_{t-1} + \alpha_{4,1} ER_{t-n} + \varepsilon_t \quad (2)$$

Therefore, we include a constant, an error term and the number of lags (n) as proposed by the information criterion originally introduced by Akaike (1974) and the variables are abbreviated as described in Table 1. Based on the VAR model, we will examine the Impulse Response Functions (IRFs) based on the work of Sims (1980) that will display how Trade reacts to an impulse of each of the explanatory variables while holding the value of the variables whose impulse is not being examined constant. Based upon these results, as well as the results of the variance decomposition, it will be possible to evaluate the short-term economic results that are highly probable because of the Brexit.

#### 4. RESULTS AND DISCUSSION

The plotted figures of the FTSE 250 index is presented in Figure 1, as we can clearly see there has been a mostly decreasing trend in the value of the indexes for the majority of the year. The summary statistics are provided in the appendix.



**Figure 1.** FTSE 250 value

Source: London Stock Exchange, <http://www.londonstockexchange.com/statistics/ftse/ftse.htm> (30/07/2016)

As we can clearly see from the value of the FTSE 250 index, the value of the index started to decline strongly in February, which coincides with the formal start of the referendum campaigns. The mostly stable values after that can to a degree be explained by the market regaining confidence because most polls indicated, up until a month prior to Brexit, that remain would prevail. Generally, the market, a large part of the Tory and Labour Party and indeed most of the country appeared to have sleepwalked into Brexit largely unprepared. The second strong shock occurs of 24<sup>th</sup> of July, when the FTSE 250 index declined by more than 7%. The decline persisted on the 25<sup>th</sup>, but since then the market has partially recovered. In Table 1 the results of the Chow test for structural break, as well as other key statistics of the regressions, are displayed.

**Table 2.** Chow test and key regression statistics

	FTSE 100	FTSE 250	FTSE SmallCap
R-squared	0.9118	0.7847	0.9139
Adjusted R-squared	0.9103	0.7769	0.9132
Lag length	2	4	1
F statistic	594.56** (0.000)	101.12** (0.000)	1241.97** (0.000)
Akaike criterion	-715.012	-667.58	-801.92
Standard error of regression	0.0115	0.013	0.0083
Durbin Watson statistic	1.987	1.889	2.353
Chow test statistic for structural break on June 23 <sup>th</sup>	2.773* (0.044)	3.3873** (0.007)	5.513** (0.005)

Source: Authors' calculations and GRETLE output

Note: values in the parenthesis represent the p value. \* and \*\* indicate statistical significance at the respected 0.05 and 0.01 levels of significance.

As can be seen from Table 1, all of the models are statistically significant based on the value of the F statistic at the 1% significance level. The explanatory value of all 3 models is relatively high, with an R-squared value between 0.7847 and 0.9139. The results of the Chow structural break test indicate that we find evidence of a structural break in all 3 of the observed indexes. In the indexes that measure the value of smaller companies, we may reject the null hypothesis of no structural break at the 1% significance level, while the null hypothesis of no structural break in FTSE 100 can be rejected at the 5% significance level. This clearly means that there was a negative impact on all of the indexes observed caused by Brexit. The smaller companies seem to have had a more pronounced negative impact in comparison to FTSE, where the structural brake was not as pronounced. After analysing the FTSE indexes, we perform an analysis on the effect on Britain's trade. The UK already has a trade deficit and one of the arguments of the Brexit campaign was that even if the value of sterling decreases, it will help promote increased exports. The UK currently does have a trade deficit and most of its exports are to EU member-states (UK Office for National Statistics, 2016). In Table 3, we provide key statistics regarding the VAR model where Trade is the dependent variable, which is specified at the lag length of 2, based upon the Akaike information criterion.

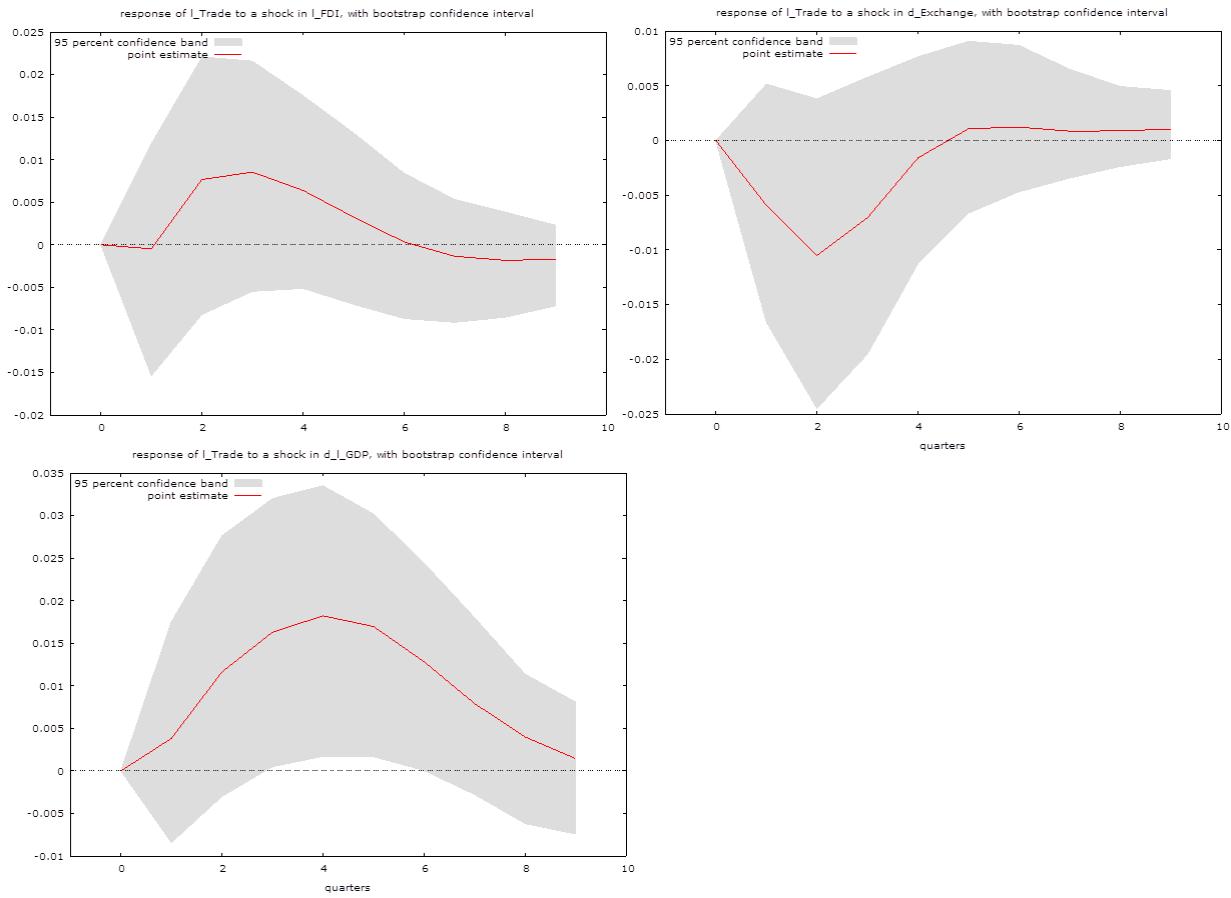
**Table 3.** Key statistics of Trade VAR model

R-squared	0.6153	Adjusted R-squared	0.5648
Mean dependent var	10.572	S.D. dependent var	0.084
Sum squared resid	0.1889	S.E. of regression	0.0556
Autocorrelation LM test statistic	4.937	Autocorrelation test statistic P value	0.0948
F(8, 61)	12.193	P-value(F)	0.000

Source: Authors' calculations and GRETLE output

The explanatory value of the model is satisfactory and the model is statistically significant at the 1% significance level, which enables us to perform the IRFs and view the results of the variance decomposition. The results of the tests for autocorrelation is presented in Table 1 and

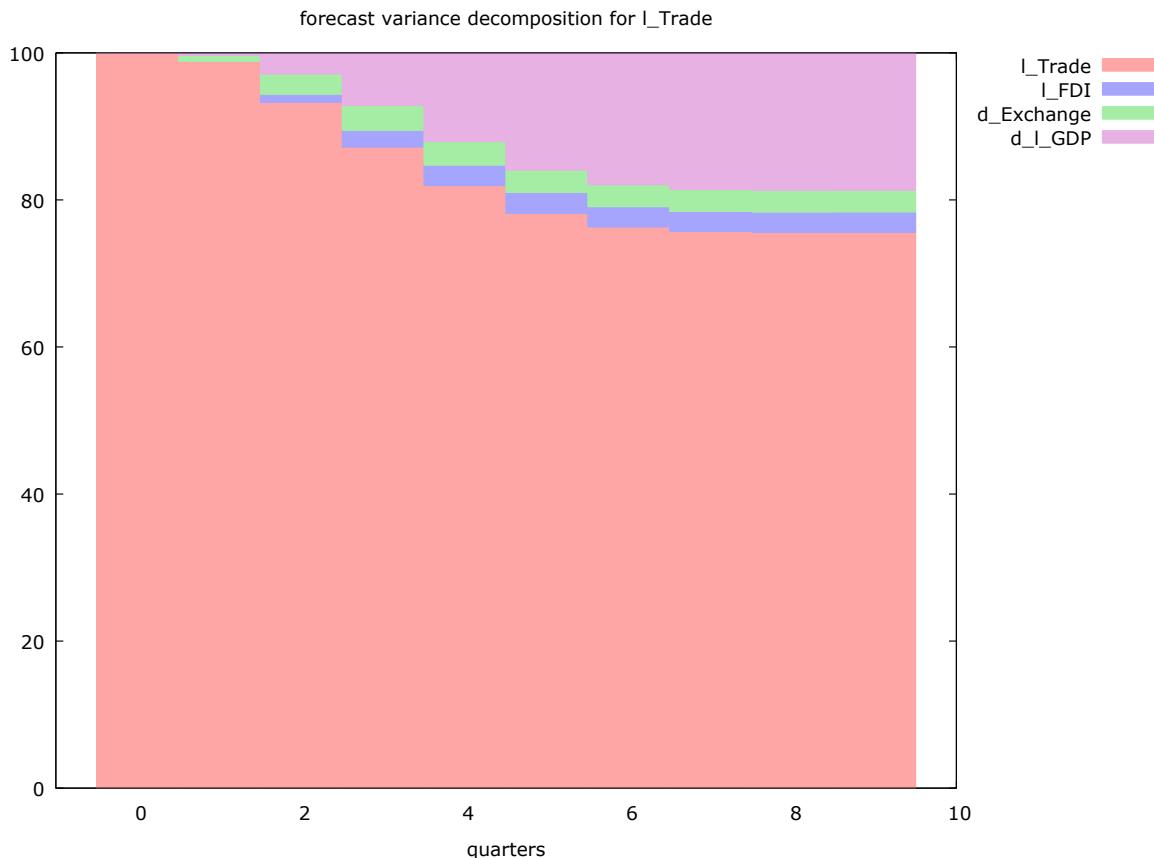
indicates that we fail to reject the null hypothesis at the 5% significance level, while the VAR inverse roots in relation to the unit circle may be viewed in the appendix. The results of all these tests confirm that the model is adequately specified. In Figure 1, we present the IRF for an impulse of a shock in GDP, FDI and ER in Trade.



**Figure 1.** IRF functions

Source: Authors' calculations and GRETLE output

Based on the IRF functions, it is clear that GDP has a significant impact on Trade, as the positive impulses persist throughout the first ten periods. The response of Trade to FDI is mostly positive or neutral, from the second to the sixth period, although clearly not as strong nor does it have such a persistent positive effect as GDP. An increase in ER, meaning that sterling becomes stronger in relation to the dollar, clearly does have a negative impact on trade. This is often used as a strategy to increase exports, perhaps most famously China's constant efforts to keep the value of its currency low, but exports depend upon strong productivity and the overall macroeconomic situation. The uncertainty that has resulted from Brexit is far from favourable for increasing investor confidence or encouraging a rise in productivity. It is possible to conclude that on average, GDP account for 15 percent of the forecast error variance, which is by far the highest of the observed variables, aside from the impact of trade itself. The exchange rate is responsible for roughly 3-4 percent and while the effect of GDP becomes stronger in the long run, the effect of the exchange rate and FDI stagnates after the first 3 periods. Thus, GDP and FDI decrease will have a negative impact on exports, while the exchange rate, especially taking into account the level of uncertainty currently present, will not be able to compensate for that. The forecast variance decomposition can be observed in Figure 2.



**Figure 2.** Variance decomposition  
 Source: Authors' calculations and GRETLE output

## 5. CONCLUSION

When examining the short-term economic impact on Brexit, it is clear that there was not a single positive economic consequence from it. There was a structural break in the value of their most relevant stock indexes. The trade deficit will probably increase. There is clear evidence that the political outcome will be as negative as most of the experts predicted. Scotland is likely to press for independence and this time with a referendum that will likely have a different outcome from the first. All of these outcomes, although they will eventually be overcome, were entirely unnecessary. The EU and the UK will manage to find the common ground on the basic premise that the economy of the EU needs the UK and the economy of the UK needs the EU. Sadly, not in time to stop Brexit, perhaps the most needless waste of time and energy in comparison with the results the entirety of the EU will have to endure. Maybe, this is the shock the EU needed in order to try and work on some of the issues that it definitely has. Perhaps this will pave the way for a more coherent EU, with a decreased democratic deficit of its key institutions. Perhaps the people of the UK might have chosen to be part of such a union if not for the fact that part of their political class openly and without any consequence led a campaign that can best be summed up with the phrase ‘I think people in this country have had enough of experts’ (Gove, 2016). It may indeed be true that researchers are out of touch with the people, with their problems and issues. Yet, every research article, column, report and study is held accountable and can easily be verified and subject to rigorous scrutiny. Referendums are often referred to as a ‘festival of democracy’ and it is truly sad when they are marked by blatant lies and the people rethinking their vote the following day. A potentially historic decision was made, but several premises upon which the people made their decision were clearly not based on any fact, especially the 350 million pound-per-week promise. Clearly, the EU is not the only one facing

its fair share of difficulties. In the trying times ahead it will become increasingly important to have a political class that works based on accountability and understanding of the facts rather than manipulating people's feeling about facts that are not necessarily true.

## **LITERATURE:**

1. Akaike, H. (1974). “A new look at the statistical model identification”. *IEEE Transactions on Automatic Control* 19(6): 716-723.
2. Bank of England. <http://www.bankofengland.co.uk/statistics> (01/08/2016)
3. Chow, G.C. (1960). “Test of Equality between Sets of Coefficients in two Linear Regressions”. *Econometrica* 28(3): 591-605.
4. Copsey, N. and T. Haughton. (2014). “Farewell Britannia? ‘Issue Capture’ and the Politics of David Cameron's 2013 EU Referendum Pledge”. *Journal of Common Market Studies* 52: 74-89.
5. Coulter, S. and B. Hancké. (2016). “A Bonfire of the Regulations, or Business as Usual? The UK Labour Market and the Political Economy of Brexit”. *The Political Quarterly* 87(2): 148–156.
6. Dhingra, S. and T. Sampson. (2016). “Life after BREXIT: What are the UK's options outside the European Union?”. Centre for Economic Performance. Available from: <http://cep.lse.ac.uk/pubs/download/brexit01.pdf> (15/07/2016)
7. Dickey, D.A. and W.A. Fuller. (1979). “Distribution of the Estimators for Autoregressive Time Series with a Unit Root”. *Journal of the American Statistical Association* 74: 427-431.
8. Gove, M. Statement in referendum debate. Available from: <http://www.telegraph.co.uk/news/2016/06/06/eu-referendum-who-needs-experts-when-weve-got-michael-gove/> (03/08/2016)
9. Kux, S. and U. Sverdrup. (2007). “Fuzzy borders and adaptive outsiders: Norway, Switzerland and the EU”. *Journal of European Integration* 22(3): 237 – 270.
10. Lang, T. and V. Schoen. (2016). “Food, the UK and the EU: Brexit or Bremain?” Food Research Collaboration. Available from: <http://openaccess.city.ac.uk/14896/> (30/07/2016)
11. Official Web-site of the London Stock Exchange. <http://www.londonstockexchange.com/statistics/ftse/ftse.htm> (30/07/2016)
12. Oliver, T. (2016). “A European Union without the United Kingdom: The Geopolitics of a British Exit from the EU.” LSE IDEAS Strategic Update. Available from: <http://www.lse.ac.uk/IDEAS/publications/reports/pdf/A-EU-without-the-UK-LSE-IDEAS-Strategic-Update.pdf> (30/07/2016)
13. Ottaiano G. et al. (2014). “Brexit or Fixit? The Trade and Welfare Effects of Leaving the European Union”. Centre for Economic Performance. Available from: [http://eprints.lse.ac.uk/57958/1/\\_lse.ac.uk\\_storage\\_LIBRARY\\_Secondary\\_libfile\\_shared\\_repository\\_Content\\_Centre\\_for\\_Economic\\_Performance\\_Policy%20Analysis\\_pa016.pdf](http://eprints.lse.ac.uk/57958/1/_lse.ac.uk_storage_LIBRARY_Secondary_libfile_shared_repository_Content_Centre_for_Economic_Performance_Policy%20Analysis_pa016.pdf) (30/07/2016)

14. Pettersen, P.A., A.T Jenssen and O. Litshaug. (1996). “The 1994 EU Referendum in Norway: Continuity and Change”. *Scandinavian Political Studies* 19(3): 257 – 281.
15. Sims, C.A. (1980). “Macroeconomics and Reality”. *Econometrica*, 48: 1 – 48.
16. Springford, J. and P. Whyte. (2014). “The consequences of Brexit for the City of London”. Centre for European Reform. Available from: [http://www.cer.org.uk/sites/default/files/publications/attachments/pdf/2014/pb\\_city\\_brexit\\_js\\_pw\\_8may14-8816.pdf](http://www.cer.org.uk/sites/default/files/publications/attachments/pdf/2014/pb_city_brexit_js_pw_8may14-8816.pdf) (30/07/2016)
17. United Kingdom Office for National Statistics. [www.ons.gov.uk](http://www.ons.gov.uk) (02/08/2016)
18. <http://www.brusselstimes.com/world/5877/brexit-london-cannot-choose-a-la-carte-what-it-wants-from-the-eu-warns-merkel> (15/07/2016)
19. <http://www.express.co.uk/news/world/684339/Donald-Trump-Brexit-Britain-America-US-Future-European-Union-Referendum> (15/07/2016)
20. [http://www.heraldscotland.com/news/14464159.Nicola\\_Sturgeon\\_Second\\_referendum\\_while\\_I\\_am\\_First\\_Minister/](http://www.heraldscotland.com/news/14464159.Nicola_Sturgeon_Second_referendum_while_I_am_First_Minister/) (16/07/2016)
21. <http://www.npr.org/sections/alltechconsidered/2016/06/24/480949383/britains-google-searches-for-what-is-the-eu-spike-after-brexit-vote> (15/07/2016)
22. <http://www.irishtimes.com/news/world/europe/favourites-emerge-ahead-of-2017-french-presidential-election-1.2619748> (15/07/2016)
23. <http://www.telegraph.co.uk/news/politics/11010212/Poll-data-David-Camerons-prospects-for-victory-in-2015-cant-be-guaranteed.htm> (15/07/2016)
24. <http://www.theguardian.com/politics/2016/jun/27/eu-referendum-reality-check-leave-campaign-promises> (15/07/2016)
25. <http://www.theguardian.com/politics/2016/jul/01/michael-gove-launches-tory-leadership-bid-with-brexit-promise> (16/07/2016)

## **APPENDIX**

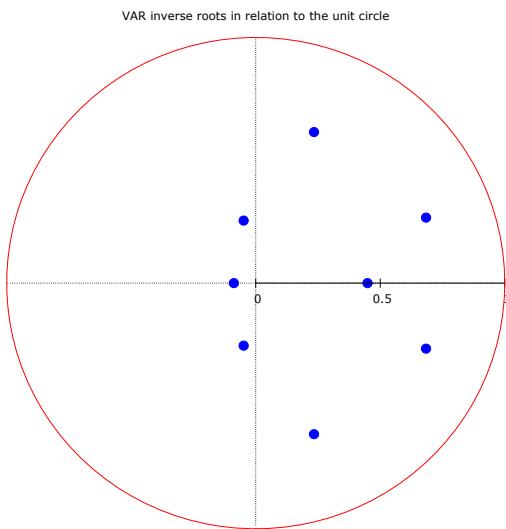
In Table A1, key descriptive statistics regarding the FTSE indexes are provided.

**Table A1.** Summary statistics of FTSE indexes

	FTSE 100	FTSE 250	FTSE SmallCap
Mean	6226.4	16666	4516.5
Median	4541.1	16789	4541.1
Minimum	4145.6	14968	4145.6
Maximum	4774.9	17334	4774.9
Standard deviation	247.13	477.90	126.22
Skewness	0.21087	-1.3957	-1.0137

Source: Authors' calculations and GRETLE output

In figure A1, it is possible to see that the VAR inverse roots conform to the stability condition and that the model is adequately specified.



**Figure A1.** VAR inverse roots in relation to the unit circle

Source: Authors' calculations and GRETLE output

## MANAGING REAL ESTATE EXPOSURE: AN EMPIRICAL ANALYSIS ON INTEREST RATE RISK

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### ABSTRACT

*Real estate is an illiquid investment with cyclical returns so risk management techniques should be used for sustainable returns. The risk management techniques include asset based, portfolio, insurance and derivatives solutions. Asset based solutions include the risk character of the real estate, based on where it's located and how well it is developed.*

*Some property such as foreclosure and those require maintenance is riskier than others. Portfolio solutions allow real estate companies to include real estate with different location and segments such as office and retail. Using this, the risk is limited to the systematic component, where asset based – idiosyncratic risk is tried to be reduced when included enough number of assets to the basket. The management should be capable of determining which risks taking and which to transfer. Some risks such as earthquake, fire, vehicle crush, terrorist activities are rare in nature but can cause severe damage when it takes place.*

*The insurance policies can cover these events which most of the time are reinsured. In addition, derivatives are available to hedge some of the risks. These can be traded on the market or over-the-counter. By using derivatives, it is possible to hedge interest rate risk, inflation, currency risks, and property price changes. To hedge interest rate risk which is also studied in this paper, instruments such as cap, swap, and collar are available.*

*The research is investigating the role of interest rate risk in the performance of real estate management companies. The variables used in this research are 30 years' treasury yield, and exchange closing price for CBRE Group Inc., Colliers International Group, and Jones Lang LaSalle Incorporated.*

*The data is daily for the period 16. June.2004 and 19. June.2015. The methods used are Johansen Cointegration and Granger Causality. The results of the study indicate there is a short-run and long-run relationship between interest rate and real estate management firm stock performance. In other words, interest rate fluctuation is a critical risk in performance of real estate management companies. In the paper, it is also discussed risk mitigation ideas for controlling this and other risks that real estate management industry is exposed.*

**Keywords:** Real Estate, Risk Management, Derivative Contracts, Interest Rate Risk, Cointegration, Granger Causality

### 1. INTRODUCTION

Real estate is an investment that has its own characteristics different than buying marketable securities. It is a relatively illiquid investment. This is because finding a reasonable offer for your property at market price may require some time or effort such as promoting or talking with real estate agencies. Therefore real estate investor will demand some additional liquidity premium over liquid assets. In addition the investors should be liquid to cover for daily costs – working capital.

The return on real estate has two main aspects. One is rental gain that is the annual income that you can get from renting your property if it is not owner occupied. The other income is capital appreciation which is the increase in the value of the property. The return potential and risk is higher for properties that require more effort such as distressed properties or those that needs maintenance.

During the real estate development process an investor may buy the land, develop a project, get the necessary permits, and sell to the final user. All of these processes require some risks. Those who buy earlier need to have more risk and expect more return. When you buy a land you need to make sure the land has a location that its value can appreciate with the future city plans. Developing property means taking opportunity cost of not developing other property such as building office instead of retail. One needs to make sure that the chosen alternative is the most appropriate for obtaining highest return.

One special kind of real estate investor is a real estate investment trust (REIT). These companies are listed on stock exchange so that they have the disclosure obligations for the exchange. This investment environment brings transparent transactions which brings discipline for the industry. In return, they are given certain privileges such as being exempt from corporate tax.

Real estate investments require leverage, because of the capital intensive nature of the transactions. This is in the form of mortgages for residential property and commercial loan and other methods for commercial property. This requires the investor to obtain loans with low down payment which means high profit when there is a capital appreciation or high loss when there is depreciation.

Investors need to be aware of managing real estate risks. Real estate has cyclical returns meaning it leads to positive returns for some years but may lead also to sharp negative returns. The investors who bought for low prices have the potential to earn more in the future. Portfolio building is a way to mitigate the risk. This can be done by adding property in different cities and countries and different function such as residential and industrial.

The risk management may include transferring some risk such as buying insurance contracts. Derivative markets are also developed to cover for most market based risks from interest rates to property prices. This is done by creating indices for real estate depending on function and location.

The remainder of this paper is organized as follows. In Section 2, some of the relevant recent works in the literature are given. Then the methodology is described in Section 3. The information on the variables and empirical study is given in Section 4. In Section 5, some of the implications of the results are discussed. In Section 6, the practical and policy contributions are discussed.

## **2. LITERATURE REVIEW**

The critical risk in real estate business is interest rate as in other industries. Rising interest rates would benefit to investors who already borrowed and would be worse for those who are to borrow yet. The most common types of interest rate hedge agreements are caps, swaps, and collars. Under a cap the borrower and lender agree on a maximum interest rate. If the interest rate goes above the maximum interest rate, the hedge provider pays borrower the difference in exchange for a one-time fee.

For swap contracts plain vanilla can help in real estate industry. In this type of agreement fixed interest rate is exchanged for variable interest rate (such as LIBOR or treasury interest). Any person who believe that interests will rise and borrowed variable, can swap variable interest for fixed interest using plain vanilla swap contract. Collar agreement determines both minimum and maximum interest rates. Therefore if the market interest rate is above the contract maximum

rate the hedge provider pays the difference. But when the interest rate is lower than the minimum set by the contract, the borrower pays the difference. (Montgomery, 2005)

One of the important risks in the real estate business is the operating costs. The operating costs are often very high. The real estate market is also cyclical, meaning there may be sharp price fluctuations. The projections of real estate sales revenue when you invest in a property may not be realized. The business is often highly leveraged and there is no tax shelter benefit. This means that if you use your debt you will pay less corporate tax. This is not the case with REITs(Real Estate Investment Trusts) since they are often tax exempt. More debt needs more exposure to be hedged. But for more growth, one needs to invest and hedge its portfolio using derivative instruments.

Building a housing development requires land development and building. Pre-selling is an idea to sell the houses before they are completed. This reduces some of the cost of finance since the money received may be used in construction but this may mean lower revenue compared to the sales with finished products. The developer also hedges itself against market prices when it pre-sells. (Buttimer & Pattel, 2007)

Although interest rates and real estate prices may seem correlated there might be differences in tough economic situations. The real estate prices may even cover behavioral effects such as change in work or children. Homeowners typically use real estate derivatives to hedge against their risk of price fluctuation in the relevant index. Banks and other institutions with real estate exposure can more easily hedge their diversified portfolio using these instruments.

For hedging house price risks futures and options are available written on relevant indices such as Standard and Poor's Case-Shiller consisting of property of the region. This is available in the derivatives exchanges such as Chicago Mercantile Exchange (CME). For commercial property derivatives can be written on indices such as NCREIF.

Mortgage portfolio hedging needs to address not only default risk but also prepayment risk. A prepayment is any amount of payment that is more than the scheduled payment. Financial institutions may need to make a discount on the interest since they receive the money earlier. Moreover the market interest may be different than the interest on the date of issue of the loan. Borrowers will prepay when interest rates fall but this may mean loss for the banks since their cost of funding may exceed the payments received in this type of economic environment. To avoid this loss, some countries allow a prepayment penalty to be paid by borrower for banks to cover this loss. It is possible to hedge this portfolio but there are difficulties seeing the projected prepayment rate may be different than what is realized. (Fabozzi et al. , 2009)

The risks embedded in a commercial real estate are change in price of property, credit risk, interest rate risk, liquidity risk, country risk and legal risks. Property price risk includes location of real estate, rent revenue, cost of carry, rollover of mortgage contracts. Property prices grow stably for years but may suddenly fall in the event of market corrections or crisis. Therefore it is a fundamental risk for financial markets. Commercial property derivatives are developed mainly in the United States and United Kingdom. The relatively undeveloped structure of these instruments may be partly contributed to the fact that much of the risks associated with real estate is also included in market risks. This is used to hedge against real estate risks and also can be synthetically included in portfolios of institutional investors to increase commercial property exposure.

There are two types of default for commercial properties. The first is the borrower's inability to payback principal and interest of the loan. This is also called term default and this could happen when property price falls behind loan value. This can be hedged by commercial property derivatives. The other default is called balloon default where the borrower is unable to refinance its balloon payment. This may be due to change in economic situation or borrower's credit rating. (Fabozzi et al. , 2013)

Derivatives markets have experienced rapid growth among asset classes as a tool for risk management especially for financial institutions. The real estate derivatives can be listed in the exchange or over-the-counter between counterparties. (OTC) There can be an intermediary which can also serve as a dealer taking the opposite position of the investor. In more mature markets, dealers can constitute hedges with diversified portfolios.

The real estate derivatives practice also allows the inclusion of a swap, where both parties exchange their cash flows. A total return swap is a transaction where the investor receives (or pays) whatever the real estate index value (typically NCREIF for commercial real estate) and in return pays (or receives) fixed amount. The duration of the trade is typically 2-3 years and exchange occurs every quarter of the year. The difficulties with the index based derivatives are not all the real estate prices are revalued quarterly and appraised values tend to lag transaction prices. (Fisher, 2005)

Risk management is gaining importance particularly in the time of financial crisis. The application is however limited for the real estate asset class compared to other industries. The real estate investor may need to investigate risks of individual real estate in addition to the portfolio risk due to the high investment required for the asset class. This can be done by assigning risk ratings for the assets.

Another application may be to benefit from Modern Portfolio Theory (MPT). This is done to benefit from diversification benefits of real estate portfolio. The real estate shows completely different character than marketable securities when it comes to the application of MPT. At least 400-500 real estate is needed to completely reduce to the market – systematic risk. There are also difficulties in the application of MPT namely immobility, heterogeneity, indivisibility, high transaction costs, and limited sustainability. (Donner, 2010)

### **3. RESEARCH MODEL**

In cointegration all the variables  $y_t$  have a unit root, or in other words,  $y_t$  is a stationary when differenced  $I(1)$  process, it is said to be cointegrated when a linear combination of them is stationary, that is if the regression produces an  $I(0)$  error term. Johansen and Juselius proposed two hypothesis tests to help determine  $r$ , the number of cointegrating vectors. They are:

1. Trace test: The null hypothesis is that there are  $r$  or fewer cointegrating vectors in the system. The statistic is:  $-T \sum \ln(1-\lambda_i)$ . To determine the number of cointegrating vectors,  $r$ , the sequence of null hypothesis  $r=0, r \leq 1, r \leq 2, r \leq (q-1)$ . If  $r \leq q$  is the first null accepted then we conclude that there are  $r=q$  cointegrating vectors.
2. Maximal eigenvalue test: The null hypothesis of the test is that the number of cointegrating vectors is  $r$  versus the alternative hypothesis that the number is  $r+1$ . The test statistic is  $-T \sum \ln(1-\lambda_{\max})$ . To determine the number of cointegrating vectors,  $r$ , the sequence of null hypothesis  $r=0, r=1, \dots, r=p-1$ . If  $r=q$  is the first null accepted, then conclusion is that there are  $r=q$  cointegrating vectors. (Erdinc & Milla, 2009)

The granger causality model on the other hand can be explained with the below formulation. When historical values of one series are useful in explaining another series, one Granger causes another. (Baumohl & Vystroj, 2010)

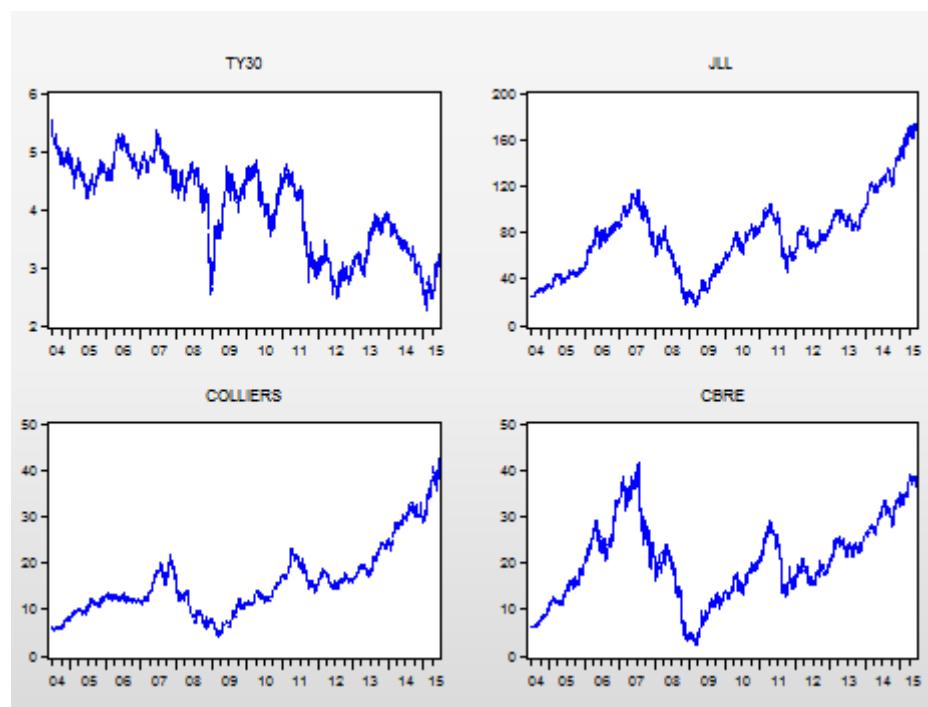
$$I_1 = a + \sum a I_1 + \sum b I_2 + e$$

$$I_2 = a + \sum a I_2 + \sum b I_1 + e$$

#### 4. DATA ANALYSIS

This research explores the relationship between three real estate management firms and 30 years treasury yield in U.S.A (“shortly named as “TY30” for this study). The variables used in this study are CBRE Group Inc. (CBG) stock closing price from NYSE (shortly named as “CBRE” for this study), Colliers International Group Inc. (CIGI) stock closing price from NASDAQ (shortly named as “COLLIERS” for this study) and Jones Lang LasSalle Incorporated (JLL) stock closing price from NYSE (“shortly named as “JLL” for this study). The data is daily for the period 16 June 2004 and 19 June 2015. The total number of data is 2,775. The graphical presentation of the data is given in Figure 1.

**Figure 1:** Graphical Presentation of Data



The research methodology requires the variables to be stationary to the same degree. Therefore the first tests are Augmented Dickey Fuller (ADF) and Philips Perron unit root tests. The test results are given in Table 1.

**Table 1:** Results for Unit Root Tests

	ADF Test Statistic	Critical Value	PP Test Statistic	Critical Value
TY30	-3,3908	-3,4114	-3,2162	-3,4114
JLL	1,5243	-1,9409	1,7386	-1,9409
COLLIERS	2,0398	-1,9409	0,4864	-1,9409
CBRE	0,3737	-1,9409	-2,3347	-2,8645
D(TY30)	-53,388	-1,9409	-53,515	-1,9409
D(JLL)	-56,115	-1,9409	-56,621	-1,9409
D(COLLIERS)	-51,945	-2,8624	-52,063	-2,8624
D(CBRE)	-55,478	-1,9409	-55,555	-1,9409

The variables will be modeled in VAR. But first Lag Order should be determined. In Table 2 lag order selection criteria is given. For the principle of parsimony VAR(1) is used.

**Table 2:** Lag Order Selection Criteria

VAR Lag Order Selection Criteria

Endogenous variables: D(TY30) D(JLL) D(COLLIERS)

D(CBRE)

Exogenous variables: C

Date: 06/25/15 Time: 22:31

Sample: 6/16/2004 6/19/2015

Included observations: 2764

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3159.406	NA	0.000116	2.289006	2.297579	2.292102
1	-3089.547	139.4652	0.000112	2.250034	2.292902*	2.265518*
2	-3072.976	33.03313	0.000111*	2.249621*	2.326784	2.277492
3	-3063.856	18.15550	0.000112	2.254599	2.366057	2.294857
4	-3053.041	21.49520	0.000112	2.258351	2.404104	2.310997
5	-3043.442	19.05267	0.000113	2.262983	2.443031	2.328016
6	-3026.670	33.24045*	0.000113	2.262424	2.476767	2.339845
7	-3018.261	16.64170	0.000114	2.267917	2.516555	2.357725
8	-3008.480	19.32792	0.000114	2.272417	2.555350	2.374612

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The Table 3 is given below as a stability check for the VAR model.

**Table 3: Stability Test for VAR model**

Roots of Characteristic Polynomial  
 Endogenous variables: D(TY30) D(JLL)  
 D(COLLIERS) D(CBRE)  
 Exogenous variables: C  
 Lag specification: 1 1  
 Date: 06/25/15 Time: 22:37

Root	Modulus
-0.102948	0.102948
-0.008518 - 0.053208i	0.053886
-0.008518 + 0.053208i	0.053886
-0.044551	0.044551

No root lies outside the unit circle.  
 VAR satisfies the stability condition.

Below is the VAR(1) model with coefficients substituted.

$$D(TY30) = -0.0364488634371*D(TY30(-1)) + 0.00339533077766*D(JLL(-1)) + 0.0104393577868*D(COLLIERS(-1)) + 0.00441707690148*D(CBRE(-1)) - 0.00127395829336$$

$$D(JLL) = 0.432287858167*D(TY30(-1)) - 0.0683583005087*D(JLL(-1)) - 0.221009485116*D(COLLIERS(-1)) + 0.0527595792744*D(CBRE(-1)) + 0.0590861661857$$

$$D(COLLIERS) = 0.15889724*D(TY30(-1)) + 0.00450494376351*D(JLL(-1)) - 0.0120372219648*D(COLLIERS(-1)) + 0.0341733825197*D(CBRE(-1)) + 0.0109753809231$$

$$D(CBRE) = -0.00409501169524*D(TY30(-1)) + 0.00219996568092*D(JLL(-1)) - 0.0850427088929*D(COLLIERS(-1)) - 0.0476900049546*D(CBRE(-1)) + 0.0124987137746$$

Long – run relationship is studied with Cointegration analysis. The results are given in Table 4.

*Table following on the next page*

**Table 4: Cointegration Test Results**

Date: 06/25/15 Time: 22:41  
 Sample (adjusted): 6/21/2004 6/19/2015  
 Included observations: 2770 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: D(TY30) D(JLL) D(COLLIERS) D(CBRE)  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace	0.05	Critical Value Prob.**
		Statistic	Critical Value	
None *	0.390098	4920.524	47.85613	1.0000
At most 1 *	0.372259	3550.876	29.79707	1.0000
At most 2 *	0.357713	2261.089	15.49471	1.0000
At most 3 *	0.311719	1034.756	3.841466	0.0000

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen	0.05	Critical Value Prob.**
		Statistic	Critical Value	
None *	0.390098	1369.648	27.58434	0.0000
At most 1 *	0.372259	1289.787	21.13162	1.0000
At most 2 *	0.357713	1226.333	14.26460	1.0000
At most 3 *	0.311719	1034.756	3.841466	0.0000

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The short run relationship between the variables are given in a Vector Error Correction Model.

$$\begin{aligned} D(TY30,2) = & -0.316813087173 * (D(TY30(-1)) - 0.0550089804477 * D(JLL(-1)) + \\ & 0.0595267346102 * D(COLLIERS(-1)) - 0.00591325254306 * D(CBRE(-1)) + \\ & 0.00317645677557) - 0.352560713892 * D(TY30(-1),2) - 0.00644036161784 * D(JLL(-1),2) + \\ & 0.0125272000199 * D(COLLIERS(-1),2) + 0.00132872566631 * D(CBRE(-1),2) + \\ & 3.19016263702e-05 \end{aligned}$$

$$\begin{aligned} D(JLL,2) = & 15.2418724463 * (D(TY30(-1)) - 0.0550089804477 * D(JLL(-1)) + \\ & 0.0595267346102 * D(COLLIERS(-1)) - 0.00591325254306 * D(CBRE(-1)) + \\ & 0.00317645677557) - 7.60835455748 * D(TY30(-1),2) - 0.0783221265831 * D(JLL(-1),2) - \\ & 0.616002761044 * D(COLLIERS(-1),2) + 0.10807315496 * D(CBRE(-1),2) - \\ & 0.000107893927196 \end{aligned}$$

$$D(COLLIERS,2) = -0.227403945333 * (D(TY30(-1)) - 0.0550089804477 * D(JLL(-1)) + 0.0595267346102 * D(COLLIERS(-1)) - 0.00591325254306 * D(CBRE(-1)) + 0.00317645677557) + 0.0924063457945 * D(TY30(-1),2) - 0.00303130470218 * D(JLL(-1),2) - 0.513549092173 * D(COLLIERS(-1),2) + 0.0203169895612 * D(CBRE(-1),2) - 0.000240494727676$$

$$D(CBRE,2) = 3.36441259174 * (D(TY30(-1)) - 0.0550089804477 * D(JLL(-1)) + 0.0595267346102 * D(COLLIERS(-1)) - 0.00591325254306 * D(CBRE(-1)) + 0.00317645677557) - 1.92353822986 * D(TY30(-1),2) + 0.0959094397997 * D(JLL(-1),2) - 0.187324755017 * D(COLLIERS(-1),2) - 0.486121447306 * D(CBRE(-1),2) - 0.000125185438099$$

The short run relationship is tested in Granger causality model which is given in Table 5 below.

**Table 5: Granger Causality Test Results (Continues on the next page)**

VEC Granger Causality/Block Exogeneity Wald Tests

Date: 06/25/15 Time: 22:56

Sample: 6/16/2004 6/19/2015

Included observations: 2770

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Dependent variable: D(TY30,2)

Excluded	Chi-sq	df	Prob.
D(JLL,2)	54.58057	1	0.0000
D(COLLIERS,2)	16.41853	1	0.0001
D(CBRE,2)	0.361264	1	0.5478
All	75.18038	3	0.0000

Dependent variable: D(JLL,2)

Excluded	Chi-sq	df	Prob.
D(TY30,2)	223.7451	1	0.0000
D(COLLIERS,2)	47.38254	1	0.0000
D(CBRE,2)	2.852437	1	0.0912
All	267.4418	3	0.0000

Dependent variable: D(COLLIERS,2)

Excluded	Chi-sq	df	Prob.
D(TY30,2)	0.907468	1	0.3408
D(JLL,2)	0.396789	1	0.5288
D(CBRE,2)	2.771755	1	0.0959

All	4.274407	3	0.2333
<hr/>			
Dependent variable: D(CBRE,2)			
<hr/>			
Excluded	Chi-sq	df	Prob.
D(TY30,2)	122.3983	1	0.0000
D(JLL,2)	123.6427	1	0.0000
D(COLIER S,2)	37.50118	1	0.0000
<hr/>			
All	211.8080	3	0.0000
<hr/>			

## **5. DISCUSSION**

The major real estate manager companies in the U.S.A are modelled in a Vector Autoregrssion (VAR) model. The data includes 3 companies and 30 years treasury yield. The model is given to check the interest rate risk.

The variables are first checked to see whether they are stationary with ADF and PP tests. According to the results, test statistics only exceed the critical values when they are differenced. All of the variables are stationary when they are first differenced – I(1).

The lag selection criteria is then given for VAR model. For most degrees of freedom VAR(1) is used. The model is then checked for autoregressive roots to see whether they are stationary. Since no roots are outside the unit circle, the model is reliable.

The long run relationship is tested for Johansen Cointegration methodology with both Trace and Max-eigenvalue. The results suggest that there are 4 cointegrating vectors. This shows there is a long run relationship between interest rates and stock performance of real estate management firms.

As cointegration is detected, a vector error correction model (VECM) is developed. With this model it is possible to detect short run relationship. Short run relationship between real estate management firms and interest rates are tested with Granger Causality model.

Granger causality is analyzed with 5% level of significance. Accordingly 30 years treasury yield Granger causes JLL and CBRE. The causality is available also the other way; JLL and CBRE Granger cause TY30.

This indicates that interest rate is an important factor in real estate management firms' stock performance. Therefore interest rate risk should be controlled for stable growth in real estate management industry. The ways to control this risk are also available in the paper, some of which are derivative instruments such as caps, swaps , and collars.

## **6. CONCLUSION**

Real estate is an illiquid and highly leveraged investment that requires the investor to apply risk management techniques. The techniques are developing and not widely applied by the market participants.

Real estate leads to cyclical returns, therefore investors can earn stable returns for years, but may also experience sharp falls in property prices. This is also related to risk character of the property. Property in nice location owned by creditable owners is less risky while those to be developed, maintained or distressed properties are more risky. This is often managed by assessing ratings for individual properties in real estate management practice.

Risk management applications are crucial for obtaining stable returns for the company. The portfolio approach is most widely used in the practice. This is done by choosing property with different levels of risks. Typically 400 assets are needed to fully reduce the risks to the systematic level.

The real estate in different locations is preferred to minimize location specific risk. Relatively underdeveloped regions are most of the time more risky but also have higher profit potential. Different segments such as office and retail are also added to diversify the risks. In addition, one might include risky assets such as foreclosure or undeveloped land to increase company potential. The ultimate goal in portfolio management is to minimize idiosyncratic risk component that is due to individual assets.

Insurance is another way of transferring risks. Some risks are very rare but may cause serious damage. These are known as catastrophic risks. This can be in the form of earthquakes or vehicle crush as experienced in 9/11, or other terrorist activity. Fire is also an important risk for real estate and management need to have adequate action plans for these. Most importantly these risks are transferred to insurance companies which are typically reinsured.

Derivatives are widely used in financial markets as a tool to mitigating risks. Derivatives in the real estate market can be through a market or over the counter (OTC). Derivatives in real estate markets can be in the form of forward, futures, options and swaps. The risks to be covered by the real estate derivatives are market risks such as interest rate, inflation, currency risks, and even property price changes.

An investor who will need to borrow in the future will suffer if the interest rates rise and benefit if the interest rates falls. Moreover the loan may be given with variable interest such as LIBOR. So the rise in interest rates may result in a rise in monthly payment which may result in unaffordable payments. If the value of the loan goes above the value of the property, a default may take place. The tools that can be used to mitigate interest rate risk are cap, swap, and collars.

The international nature of the transactions gives the opportunities and risks of borrowing in international markets. This may be also in the form of currency other than the operational currency for the company. If the revenue of the company is in different currency than the loan, then an appreciation in the loan currency may result in loss for the company.

A real estate manager should understand risk management techniques and be able to apply necessary precautions for risk to be transferred. A manager should be ready to identify which risks to take and which to transfer. The empirical application given in this paper for interest rate risks in real estate management gives the author better understanding of market dynamics. There are traditional asset based, portfolio, insurance and derivatives techniques that can be applied in real estate risk management.

**LITERATURE:**

1. Baumohl E., Vyrost T. (2010), Stock Market Integration:Granger Causality Testing with Respectto Nonsynchronous Trading Effects, *Journal of Economics and Finance*, 420.
2. Buttiner R. , Patel K. (2008) , Cambridge-UNC Charlotte Symposium 2006 RealEstate Risk Management and Property Derivatives, *The Journal of Real Estate Finance and Economics*, 1-3.
3. Donner S.M.(2010), Risk management in the aftermath of Lehmann Brothers – Resultsfrom a survey among German and international real estateinvestors, *Journal of Property Research Vol. 27, No.1.* , 19-21.
4. Erdinc H. , Milla J. (2009), Analysis of Cointegration in Capital Markets of France, Germany and United Kingdom, *Economics & Business Journal: Inquiries & Perspectives Volume 2 Number 1*, 114.
5. Fabozzi F.J. , Shiller R. , Tunaru R.S. (2009) , Hedging Real Estate Risk , *The Journal of Portfolio Management Special Real Estate Issue*, 92-96.
6. Fabozzi, F.J. , Stanescu S. , Tunaru R. (2013) , Commercial Real Estate Risk Management by Derivatives, *The Journal of Portfolio Management Special Real Estate Issue*, 111-115.
7. Fisher, J.D. (2005) , New Strategies for Commercial Real Estate Investment and Risk Management, *The Journal of Portfolio Management Special Issue*, 154-157.
8. Montgomery, M.K. (2005) , Rising Rates for Real Estate: Interest Rate Hedge Agreements Can Help, *Real Estate Finance*, 3-4.

## COMPARATIVE ANALYSIS OF CROATIAN STOCK MARKET LIQUIDITY

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### **ABSTRACT**

*This paper analyses position of Zagreb stock exchange and formal Varazdin stock exchange in the period of 20 years in relation to stock exchanges of some selected countries with emerging markets and gives comparative analysis according to selected key indicators. Comparative analysis was conducted using a few key data, specifically total stock exchange turnover and market capitalization per GDP for each analyzed year (2006-2015) in each analyzed country.*

**Keywords:** capital market, comparative analysis, liquidity, stock exchanges

### **1. INTRODUCTION**

Capital market has a special role in economic development of an each country. Development and forming of new institutions and legal framework contribute for capital market to become a place of knowledge concentration, experience and invested effort in development of economical system in a country (Cingula, Klačmer, Vukovic, 2006).

Capital market in Croatia is continuously going through significant changes whose goal is to more quickly and more efficiently approach the standards dictated by the European Union and the more advanced western markets. Croatia as a country which belongs to the group of Middle and Eastern European countries has found itself in the situation in which it must develop the financial market, especially capital market with all the necessary financial and non-financial institutions. Capital market in Croatia developed relatively slowly due to wartime in the 90-ties but also during the global financial crisis in the period from 2008 to 2015 which had a big impact on the financial stability, primarily on capital market. But in the period before the financial crisis, the market was characterized by constant growth of total trading volume and liquidity. The experience of many developed countries confirms that countries with developed capital markets are growing more strongly and are more stabilized than others. Capital market in Croatia is still not developed enough. But still, Croatia has an ideal position to provide links between countries from the European Union and the Western Balkans. Zagreb Stock Exchange was established in 1907, under the Austro-Hungarian Empire as a *Commodities and Valuables Division of the Chamber of Commerce*, and after 110 year it has a chance to build wider network and position than ever before. One of the biggest step forward is SEE Link, which brings the Bulgarian, Croatian and Macedonian stock exchanges together (Jelusic Kasic, 2016).

The aim of this paper is to make a detail analysis of Croatian capital market in the period from 1996 to 2015 and to compare the liquidity of Croatian capital markets with some other markets in the period from 2006 up to 2015, the period of global financial crisis and recession. Liquidity has several aspects and cannot be described by one indicator only. For that reason we used two more common and these are share turnover and market capitalization per GDP. A few

theoretical and empirical methods of scientific research were used to investigate Croatian capital market. Collected data were analysed using Microsoft Excel and interpreted using descriptive statistics. The methods of deduction and generalization were adopted for certain conclusions. The data was collected and grouped in the tables and graphs using statistical methods and methods of analysis.

## 2. LITERATURE REVIEW

By its type, financial market in Croatia is a frontier market or emerging market which is characterized with the small number of stocks with significant capitalization, small numbers of shares outstanding, infrequent and irregular trading (Minovic, 2012). According to Benic and Franic (2008) the main precondition for market liquidity is existence of a significant number of buyers and sellers at any time, the possibility of executing the following transaction at the same price as the previous one and the possibility that the market absorbs a large quantities of buying and selling, thereby not affecting the price. The market liquidity is characterized by multidimensionality, and the dimensions that defined liquidity include trading time, density, depth and elasticity (von Wyssu, 2004). Mentioned dimensions can be presented with several levels of liquidity such as trading options, option of buying or selling a certain volume of securities with and without any influence on the price, possibility of simultaneous selling or buying the asset under same price and the possibility of current ability of negotiations. In general, von Wyssu (2004) had divided liquidity measures into one-dimensional and multi-dimensional. In these research we used the one-dimensional measures, specifically the measures that include the size of the company and the measures that are associated with the trading volume. Market capitalization was used for liquidity measurement that include the size of the company, and by analyzing the trade volume for each market we included the depth as the dimension of liquidity in these research. In their empirical analysis Buljat, Ivanovic and Baresa (2015) conclude that the capital market in Croatia is still underdeveloped and illiquid and they connected the lack of economic growth with the insufficient development of capital market.

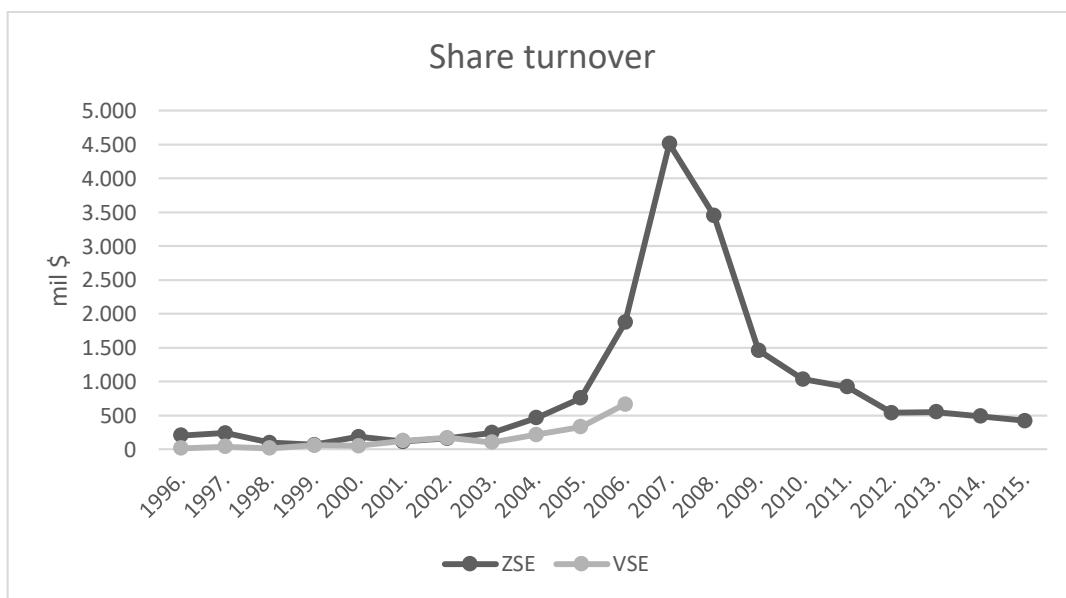
## 3. EMPIRICAL RESEARCH - POSITION OF CROATIAN CAPITAL MARKET

These research analyzed Croatian capital market and developing markets that are part of Middle and Eastern Europe which are economically and financially related with the European Union and which have a similar transitional development through history. The analysis had been conducted using the official annual reports for observed period from 1996 to 2015 that are available on the official website of the Zagreb Stock Exchange as well as data taken from official financial reports of Varazdin Stock Exchange due to the formal operation of the named stock (1996-2006). It has to be noticed that many authors thought that having two fully equipped stock markets for a small country like Croatia was totally illogical. For each one of those markets the indexes (CROBEX and VIN) have been developed (Hunjak, Cingula, 2005). Zagreb and Varazdin Stock Exchanges merged during 2006. In that way, Croatia has a unified capital market, having one information system, but also unifies supervision over activities by Croatian agency for supervision of financial services (cro. HANFA).

Observed regulated market data where the regular market turnover of shares and bonds of joined public companies and whose securities are listed on stock exchange. The Table 1 shows share turnover (trading activity) in the period of 20 years when different privatization models have systematically began to be implemented. Total share turnover is constantly growing until 2008 when the financial crisis started. According to the Trading Summary 2008 from Zagreb Stock Exchange (ZSE, 2016), total turnover in 2008, fell by 53.3% compared to 2007. Also, the stock's price dropped significantly by 40 to 90%.

*Table 1. Turnover at the Zagreb Stock Exchange and Varazdin Stock Exchange (Financial reports of Zagreb Stock Exchange and Varazdin Stock Exchange)*

Share turnover - in mil \$			
Year	ZSE	VSE	Total
1996.	206,332	17,149	223,481
1997.	243,055	40,773	283,828
1998.	99,879	17,446	117,326
1999.	68,910	58,580	127,490
2000.	187,4844	51,499	238,984
2001.	115,964	125,777	241,741
2002.	163,873	170,870	334,744
2003.	244,340	103,129	347,470
2004.	464,618	219,447	684,066
2005.	758,787	333,032	1091,82
2006.	1874,91	668,112	2543,023
2007.	4512,325		4512,325
2008.	3449,905		3449,905
2009.	1460,712		1460,712
2010.	1037,489		1037,489
2011.	922,3463		922,3463
2012.	542,5374		542,5374
2013.	551,4507		551,4507
2014.	489,8362		489,8362
2015.	421,7797		421,7797



*Graph 1. Graphical overview of turnover movements on Croatian stock exchanges (Financial reports of Zagreb Stock Exchange and Varazdin Stock Exchange)*

In the Graph 1 we can see that exceptionally good turnover was achieved on both stock exchanges during 2005 and 2006. One of the reason to this is gaining status of a candidate country for EU membership that was granted to Croatia on the 18th of June 2004. A key date is also March 2005 when Croatia formally began its negotiations on joining European Union. The beginning of negotiations for joining the European Union has imposed numerous changes that influenced capital market such as increased trading, especially of shares that previously quoted highly on Zagreb or Varazdin Stock Exchanges. Some authors think that the process of Croatian accession to the European Union had led to a liberalization of the capital market in the area of investment banking, especially investment funds (Josic, 2006).

On the Croatian market mainly liquid stocks are traded which is a characteristic of emerging markets. Some other typical characteristics of emerging markets primarily are slow trading, a distinctive volatility, and dependence on the local political influences (Aggarwal, Inclan, Leal, 1998). The biggest impact on market liquidity, in different period and with different influence, had shares of the following companies: INA, Croatian Telekom, Adris grupa, Atlantska plovidba, Ericsson-Nikola Tesla and Podravka.

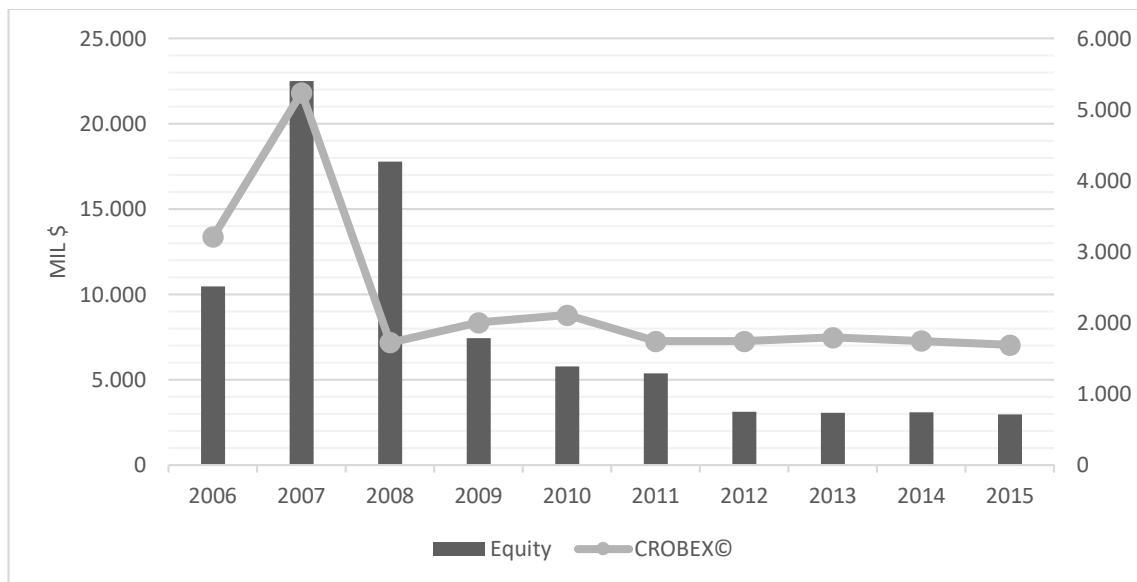
*Table 2. Overview of share turnover (in mil. \$) and equity index CROBEX (Financial reports of Zagreb Stock Exchange)*

Year	Equity	CROBEX®
2006	1.874,91	3209
2007	4.512,33	5239
2008	3.449,91	1722
2009	1.460,71	2004
2010	1.037,49	2110
2011	922,34	1740
2012	542,54	1740
2013	551,45	1794
2014	489,84	1745
2015	421,78	1689
Mean	1.526,33	2.299,20
Median	979,92	1.769,50
Standard Deviation	1.396,76	1.129,72
Minimum	421,78	1.689,00
Maximum	4.512,33	5.239,00
Coefficient of variation	91,51%	49,14%
<b>Correlation coefficient</b>	<b>0,755</b>	
<b>N</b>	<b>10</b>	<b>10</b>

The values of the individual annual movement of share turnover and the value of CROBEX index for the observed period from 2006 to 2015 are shown in Table 2. The results of the analysis indicate that between volume of trade and average value of the price index is a strong, positive connection considering that calculated correlation coefficient is 0,755. Calculated correlation coefficient indicates that the value of a share index CROBEX has increased when higher volume trade has been realized and vice versa it indicates fall in share price used in trade due to decreasing of turnover in the analyzed period. It also indicated that the volume trade has a strong impact on the movement of stock market price on a capital market such as Croatian market in comparison to the developed markets where the impact is significantly lower. Dabic and Penavin (2009) in there research point out the main reason for such impact is a large number of market participants and securities used in trade on these mention markets. Furthermore,

coefficient of variation which represents a relative measure of dispersion on Zagreb Stock Exchange, calculated as the ratio of the standard deviation and mean, amounts 91,51% indicating the sequence heterogeneity, which can be seen from the graph 3. Based on said, it also indicates large changes on the trade volume within the observed period from 2006 to 2015. On the other hand, coefficient of variation of the share index CROBEX amounts 49,14% which indicates its large susceptibility of market changes.

In order to determine the correlation of movement of trade volume and market prices of individual securities in our research we used the last market price of those shares on the last day of trading in a specific observed year of official indexes of Zagreb Stock Exchange, specifically CROBEX as the official share index for share trade and CROBIS as the official bond index for bonds trade, given the strict rules of entering into the composition of a particular index, thus ensuring comparability, standardization and relevance.



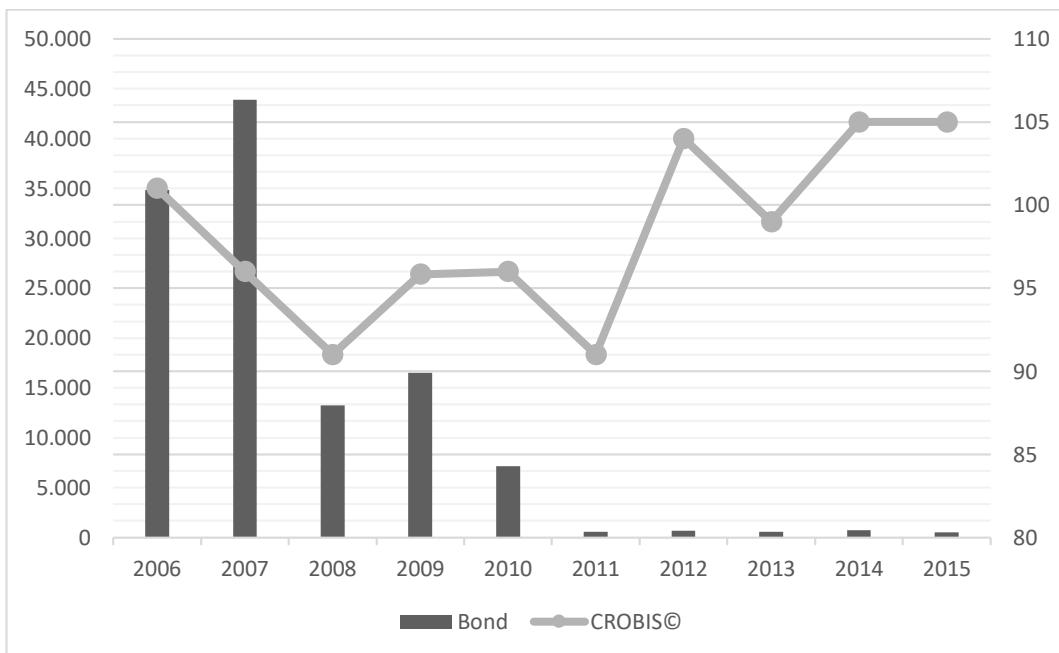
*Graph 3. Graphical overview of share turnover movements and equity index CROBEX  
(Financial reports of Zagreb Stock Exchange)*

From the Graph 3 we can observe that a large turnover existed in the pre-crises period. In the post-crises period turnover significantly decreased. When turnover decreased, illiquidity increased in the market.

Based on conducted analysis of the annual movement of the bond turnover and the value of CROBIS index for the observed period from 2006 to 2015, shown in Table 4, we can conclude that between the observed variables exists medium, negative connection considering that calculated correlation coefficient is -0,231. It also points out that in the observed period of time the value of bonds increased by reducing the volume of trade. The above suggests that investors are giving up on buying due to the fact that by buying the securities at a higher price reduces the possibility of obtaining an additional return on assets, which can be seen from the graph 4. Additionally, like in analysis of share turnover, the analysis of bond turnover indicates the sequence heterogeneity since the coefficient of variation of the ZSE amounts 134,93% and 100,12% in terms of CROBIS index thus confirming the wide distribution of trade volume, in other words, large susceptibility of observed bond index CROBIS to market changes.

*Table 4. Overview of bond turnover (in mil. \$) and bond index CROBIS (Financial reports of Zagreb Stock Exchange)*

Year	Bond	CROBIS©
2006	6.245,16	101
2007	8.803,61	96
2008	2.570,65	91
2009	3.241,51	95,84
2010	1.279,04	96
2011	95,36	91
2012	121,18	104
2013	103,80	99
2014	113,45	105
2015	71,80	105
Mean	2.264,56	98,38
Median	700,11	98,50
Standard Deviation	3.055,55	5,31
Minimum	71,80	91,00
Maximum	8.803,61	105,00
Coefficient of variation	134,93%	100,12%
<b>Correlation coefficient</b>	<b>-0,231</b>	
<b>N</b>	<b>10</b>	<b>10</b>



*Graph 4. Graphical overview of bond turnover movements (in mil. \$) and bond index CROBIS (Financial reports of Zagreb Stock Exchange)*

From the Graph 4 we can see that because of the financial crisis the bond turnover fell, the trade of bonds on the bond market almost completely vanished, with the exemption of 2010. The current situation on the Zagreb Stock Exchange indicates that more than 90.0 % of all debt securities traded on the ZSE are government bonds (ZSE, 2016). Government bonds present relatively secure way of financing budgetary expenses in Croatia. It could be notice that there are only two issuers of government bonds: The Ministry of Finance and the Fund of

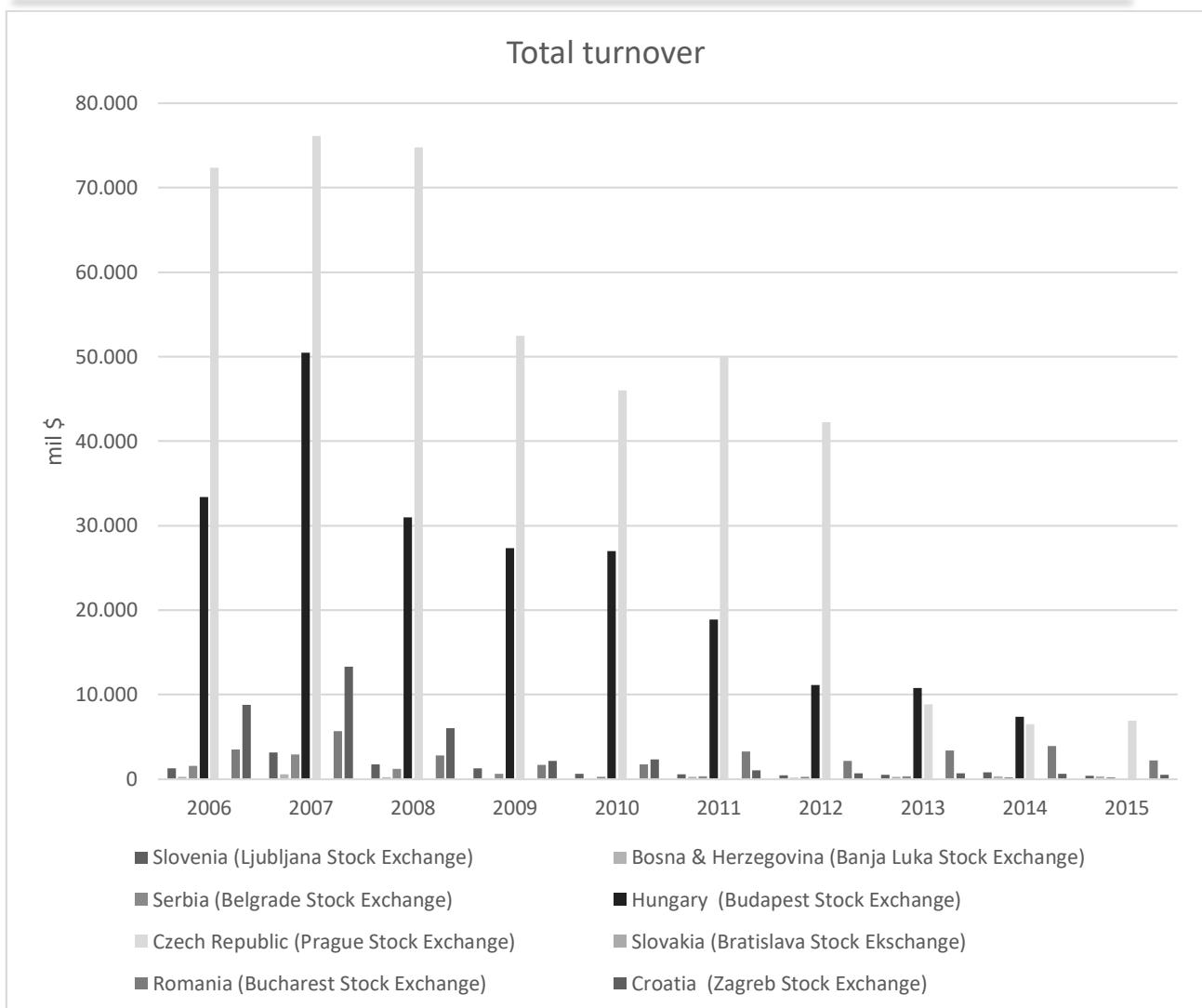
Indemnification of Deprived Property. The bonds issued by the Ministry of Finance are coupon bonds and usually pay a coupon rate and on the other hand the bonds issued by the Fund of Indemnification of Deprived Property are annuity bonds and do not pay a coupon rate.

#### **4. COMPARISON OF CROATIA WITH SELECTED COUNTRIES**

To obtain a clearer picture of the position of capital market and to analyse the situation in the period of recession Croatian capital markets was compare with some selected markets. The Croatian capital market is often referred to as one of the most developed of the neighbouring countries (Bubas, Gamulin, Alajbeg, 2012). It has a solid market infrastructure with 17 brokerage houses, about 183 active securities and a market capitalization of around 506 million dollars (ZSE, 2016). However, as it state before, the Croatian market is just one of a dozen European frontier markets.

In the terms of comparative analysis, the Croatian capital market was compared to the capital market of the Republic of Slovenia, Bosnia and Herzegovina, the Republic of Serbia, the Republic of Hungary, The Czech Republic, the Slovak Republic and the Republic of Romania. The conducted research includes the analysis of the official annual reports of Ljubljana Stock Exchange (LJSE), the Belgrade Stock Exchange (BELEX), Budapest Stock Exchange (BSE), Prague Stock Exchange (PSE), Bratislava Stock Exchange (BSSE) and Bucharest Stock Exchange (BVB) for the observed period from 2006 to 2015. Comparative analysis was conducted using a few key data, specifically total stock exchange turnover and market capitalization per GDP for each analyzed year (2006-2015) in each analyzed country. All values were converted into dollars (1 USD \$ = 5,578401 – 2016; 4,985456 – 2007; 5, 5155504 – 2008; 5, 0893 – 2009; 5,568252 – 2010; 5, 81994 – 2011; 5, 726794 - 2012; 5,549-2013; 6,302107 - 2014; 6, 9918 - 2015) for simplifying comparison of the key stock exchanged data. In his research paper Lesmond (2005) concludes that using any key indicators for measuring of liquidity has its advantages and disadvantages when it is used for estimation of liquidity among countries or within some country.

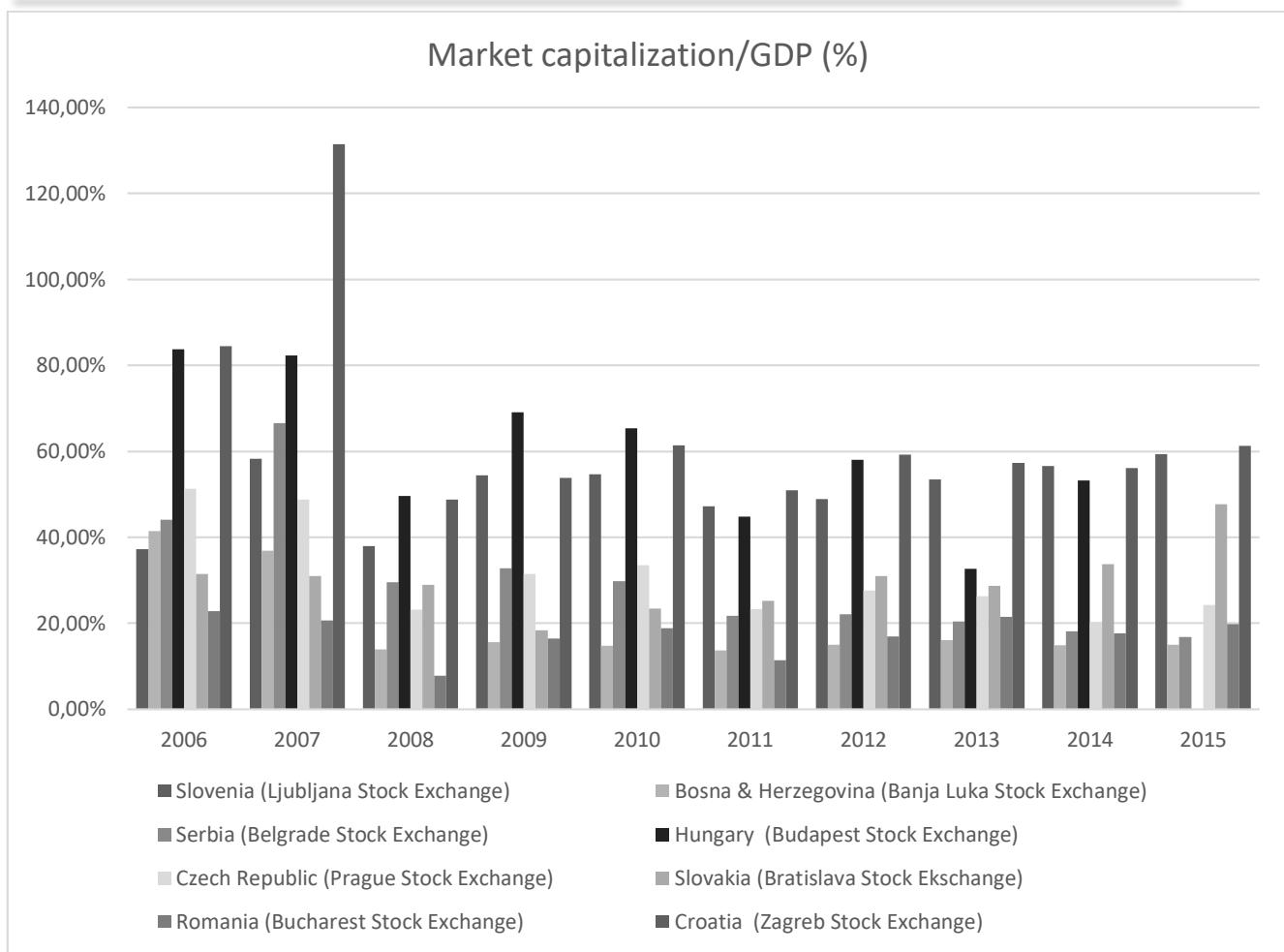
To obtain a clearer picture of the position of capital market in Croatia in comparison to some other markets, the liquidity of particular stock markets in the examined countries from 2006 to 2015 measured by total turnover are showed in Graph 5. By examining the data it is evident that the global financial crisis caused a decline in the total turnover in all observed countries. More developed markets such as Czech Republic and Hungary have better indicators than small emerging markets such as Croatia. Figures above show that Croatia's capital market in total is still undeveloped and turnovers are not comparable even to the medium-sized stock exchanges such as Czech Republic or Hungary. But still stock exchange market in Croatia is more developed capital market in relation to its neighbors and countries, such as Serbia, Bulgaria, and Slovenia. The biggest turnover in amount of 6.930 million dollars was made in Czech Republic, which is almost 17 times bigger turnover than on Croatian stock exchange. Zagreb Stock Exchange is on the fifth place with 506 million dollars turnover. The lowest turnover was made on Banja Luka Stock Exchange (Bosnia and Herzegovina). It must me pointed out, the data relating to the annual turnover of the Budapest Stock Exchange for 2015. were not available.



*Graph 5. Comparative analysis of total turnover Croatian capital market and selected transitional countries (Based on ZSE, LJSE, SASE, BELEX, BSE, PSE, BSSE, and BVB annual reports)*

The market capitalization in Croatia and other countries, as a measure of the size of the stock market is calculated as the number of shares traded times their prices. It is usually reported as percent of GDP that we can evaluate this size of the stock market with the size of the economy. A large stock market capitalization does not necessarily mean that the stock market is active, but still researches showed that market capitalization of about 50 percent of GDP and more could be an indication of a developed stock market (the Global Economy.com). That means that Croatian stock exchange market is becoming more developed in comparison to some other observed markets.

*Graph following on the next page*



*Graph 6. Comparative analysis of market capitalization/GDP Croatian capital market and selected transitional countries (Based on ZSE, LJSE, SASE, BELEX, BSE, PSE, BSSE, and BVB annual reports)*

## 5. CONCLUSION AND RESEARCH LIMITATIONS

This paper focuses on an analysis of liquidity of the Croatian stock market using a several most common key indicators (share turnovers and market capitalization per GDP) but also on the comparison Croatian stock exchange with some selected emerging markets. The goal of the literature analysis was to show present findings in the areas of capital markets. The empirical part of the paper presents results of share turnover analysis as coefficient of variation that amounts 91,51%, indicating the sequence heterogeneity. It also indicates large changes on the trade volume within the observed period from 2006 to 2015. The analysis of bond turnover indicates the sequence heterogeneity since the coefficient of variation amounts 134,93% and 100,12% in terms of CROBIS index thus confirming the wide distribution of trade volume, in other words, large susceptibility of observed bond index CROBIS to market changes.

## LITERATURE:

1. Aggarwal R., Inclan C., Leal R. (1998). *Volatility in Emerging Stock Markets*. Proceeding for the Conference: Alternative Structures for Securities Markets, Capital Markets Research Center, Georgetown University, School of Business, Washington, D.C.
2. Belgrade Stock Exchange (2016). *Annual Statistics*. Retrieved September 30, 2016 from <http://www.belex.rs/eng/trgovanje/izvestaj/godisnji>.

3. Benic, V., Franic, I. (2008). *Stock market Liquidity: Comparative analysis of Croatian and regional markets*. Financial theory and practice, Vol.32. No.4. Retrieved September 30, 2016, from Hrcak.srce database on the World Wide Web: <http://hrcak.srce.hr/34860>
4. Bratislava Stock Exchange (2016). *Fact Book 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015*. Retrieved September 30, 2016 from <http://www.bsse.sk/bcpben/Statistics/Year/tabid/171/language/en-US/Default.aspx>.
5. Bubas, Z., Gamulin, L., Alajbeg, D. (2012). *Demographic characteristics and attributes of Croatian capital market participants*. ASBBS eJournal Vol. 8, No. 1
6. Bucharest Stock Exchange (2016). *General statistics for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015*. Retrieved September 30, 2016 from <http://www.bvb.ro/TradingAndStatistics/Statistics/GeneralStatistics>.
7. Budapest Stock Exchange (2016). *Annual Statistics for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015*. Retrieved September 30, 2016 from [https://www.bse.hu/topmenu/trading\\_data/stat\\_hist\\_download/periodical\\_statistics/stat\\_fi g.html?pagenum=15](https://www.bse.hu/topmenu/trading_data/stat_hist_download/periodical_statistics/stat_fi g.html?pagenum=15).
8. Buljat, M., Ivanovic, Z., Baresa, S. (2015). *Analysis of the Capital Market in Croatia*. UTMS Journal of Economics 6 (2): 223–232
9. Cingula, M., Klačmer, M., Vukovic, K. (2006). *Capital markets after implementation of corporate governance principles*. The 5th International Symposium, Economy & Business 2006, Scientific articles Economy 2006, Bourgas, Bulgaria, ISBN 954-9368-17-3
10. Dabic, S., Penavin, S. (2009). *Influence of trade volume on movement of market index CROBEX*. Ekonomski vjesnik: Review of Contemporary Entrepreneurship, Business, and Economic Issues, Vol.XXII No.1. Retrieved September 30, 2016, from Hrcak.srce database on the World Wide Web: <http://hrcak.srce.hr/42857>.
11. Hunjak, T., Cingula, M. (2005). *The securities portfolio modelling for emerging markets*. ISAHP 2005. Honolulu, Hawaii, July 8-10, 2005
12. Jelusic Kasic, V. (2016). *Croatia is the link between the capital markets of the Western Balkans and the EU*. Retrieved September 30, 2016, from <http://emerging-europe.com/voices/voices-business/croatia-link-capital-markets-western-balkans-eu/>
13. Josic, M. (2006). *Utjecaj procesa pregovora Hrvatske s Europskom komisijom na razvoj tržista kapitala u Hrvatskoj* [Impact of the Croatia's EU accession on the development of capital market in Croatia]. In Proceedings of the Faculty of Economics in Zagreb 4 (1): 131–144. Retrieved September 30, 2016, from Hrcak.srce database on the World Wide Web: <http://hrcak.srce.hr/42857>.
14. Lesmond, D. A. (2005). *Liquidity of emerging markets*. Journal of Financial Economics, 77 (2): 411-452
15. Ljubljana Stock Exchange (2016). *Annual statistical report for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015*. Retrieved September 30, 2016 from <http://www.ljse.si/cgi-bin/jve.cgi?doc=1520>.
16. Minovic, J. (2012). *Liquidity of the Croatian stock market: an empirical analysis*. Economic Research - Ekonombska Istrazivanja Vol. 25(3)
17. Prague Stock Exchange (2016). *Key yearly trading data 2005-2015*. Retrieved September 30, 2016 from <https://www.pse.cz/en/market-data/statistics/statistics-files/>.
18. The Global Economy.com, Retrieved September 30, 2016 from [http://www.theglobaleconomy.com/Malaysia/Stock\\_market\\_capitalization/](http://www.theglobaleconomy.com/Malaysia/Stock_market_capitalization/)
19. Von Wysse, R. (2004). *Measuring and Predicting Liquidity in the Stock Market*. Doctoral dissertation. St. Gallen University.
20. Zagreb Stock Exchange (2016). *Trading Summary 2008*, Retrieved September 30, 2016, from <http://zse.hr/UserDocsImages/reports/ZSE-2008-eng.pdf>

## THE MOST SIGNIFICANT FACTORS INFLUENCING THE PRICE OF GOLD: AN EMPIRICAL ANALYSIS OF THE US MARKET

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### ABSTRACT

*Gold is always a precious metal from many hundred years. Semi flexible gold demand and supply chain determines international gold prices in the long term. This study mainly aims to investigate the dynamic factors which affect the price of gold and determine the essential macro-economic variable that has the most important role during this process. The present study has used the monthly data between January, 2003 and June, 2016. Databases are provided by the Federal Reserve, the central bank of the United States and United States Energy Information Administration. Data analysis was performed with software package E-views 8. Through the time series, an analysis has been carried out on Dow Jones Index, the US exchange rate, silver price, interest rate, oil price and inflation rate which are thought to influence the price of gold in the most significant way. The data analysis includes the determination of the conditional heteroscedastic model to estimate volatility. Therefore, the best fitting model to the data set, which is the exponential GARCH model, is preferred. In accordance with the results of the empirical analyses in the USA, the highest negative correlation is found between gold prices and US exchange rate. Secondly, a positive correlation is found among gold prices, silver prices and oil prices. Another point which takes attention as a result of the study is that economic and political structural breaks weighed heavily, traders and hedgers from all over the world were able to drive prices up to incredible highs.*

**Keywords:** Economic Growth, Gold Prices, ARCH Model, GARCH Model

### 1. INTRODUCTION

For many centuries, gold has maintained its purchasing power as an important saving and investment instrument. In the ancient times, gold formed the basis of the monetary system. In time, it fixed US dollar and became a reserve instrument with the Bretton Woods System.

One of the characteristics that make gold so attractive to investors is its property. The precious metal tends to sustain its value over time. Many even say one ounce of gold buys the same amount of bread, as it did at any time throughout history.

Gold has become a hot and popular investment opportunity in the last few years, and more people are seriously considering making gold a part of their portfolio.

The rest of the present paper is organized as follows: Section 2 is devoted to literature review. Section 3 discusses the empirical methodology and findings, describing the data and their characteristics and presents the results. Section 4 provides a brief conclusion.

### 2. LITERATURE REVIEW

There has been much academic research on economic issues related to any of the practical uses for gold.

Batchelor and Gulley (1995) conducted a study on the relationship between jewelry demand in a number of countries (USA, Japan, Germany, France, Italy, and the UK) and the price of gold. Selvanathan and Selvanathan (1999) discussed recent evidence on the issue through an empirical test on the Western Australian gold production between 1948 and 1994. They explored a positive relationship to price. Bertus and Stanhouse (2001) evaluated gold prices in terms of supply and demand factors. They found that the relationship between gold prices and mining activities is then a factor to be considered in any modelling. According to the study

Moel and Tufano (2002), the opening and closing of mines are conditional on the consistency of gold price with the “real option” characteristic embedded in gold mines as analyzed theoretically. They found that as prices rise miners tend to mine lower quality. Xu and Fung (2005) examined the US and Japanese daily trading in gold and also in silver and platinum. They used the 1994 and 2001 data and argued that Japanese market leads. Starr and Tran (2008) provided an analysis affecting the physical demand for gold in 1992 and 2003. The results of their study showed a significant heterogeneity between the drivers of demand in different countries, as might be expected. Soytas et al. (2009) discussed gold prices in Turkish Lira and their domestic exchange rate. They found the gold price to be highly inelastic related to the value of Turkish Lira and argued that, in the long term, it seems to be more warrantable, defining it as a safe harbour. Ivanov (2011) analyzed the influence of Gold and Silver Exchange Traded Funds on price discovery in the futures market. The results have showed that the creation of ETF has decreased the importance of futures with ETF's now leading price discovery for both markets. Chng & Foster (2012) examine the convenience yield of all four precious (gold, silver, platinum and palladium) metals. They find that yield of gold and silver returns both have significant effects on platinum and palladium returns. Coleman and Dark (2012) compare investors and hedgers investments in the gold market. Study findings show us, investors are main drivers of gold price, rather than hedgers. Reboredo (2013) reassesses this issue confirming gold's ability to hedge US dollar risk. Reboredo's study shows that in the currency portfolios based on dollars gold acts to reduce Value at Risk and Expected Shortfall. A study by Lucey et al. (2013) contributed to the relevant literature by showing that different geographical markets of gold trading how to make profit. They compare with London Fixings and COMEX futures prices and stated that contribute to price discovery dominating the process at different times with no obvious macroeconomic or political links. Lucey et al. (2014) expanded the research by growing the number of the markets examined in 2013. In keeping with earlier findings, London and New York are found to be consistently dominant as the drivers of returns and volatility in the four markets throughout the sample, with each taking a leading role at different times. Sensoy, Hacihasanoglu and Nguyen (2015) examined the overflow between oil and gold futures. Their results point out a convergence of spillover effects. Hauptfleisch, Putniņš and Lucey (2015) measured information transmission in London and New York. They concluded that both New York and London contribute to global price transfer of information, where London is believed to be more dominant.

### 3. METHODOLOGY AND FINDINGS

#### 3.1. Data Sets and Variables

The present study aims to examine the factors affecting the price of gold. The variables are used between the period 2003 January 2003- June 2016. The latest version of the database was updated in June 2016. The study intends to determine whether there is a correlation between the growth in macroeconomic variables and the change in gold price Time series databases are obtained from Federal Reserve, the central bank of the United States and United States Energy Information Administration.

In this study, E-Views 8 econometrics software package has been used to determine the time-series properties of the data related to the variables.

Detailed description of the variables and parameters used in the model and their symbols are shown in Table 1.

*Table 1: Used Data Set In The Model*

Variable	Description	Explanation
GOLD	Gold Price	1 ounce of gold equivalent in the London gold market.
OIL	Oil Price	Brent oil price is denominated in US dollars for barrel.
SLVR	Silver Price	1 ounce of silver equivalent in the London silver market.
USD	Usd Currency	Major Currency Dollar Index
DJIA	Dow Jones Industrial Average Index	Dow Jones Industrial Average is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange and Nasdaq.
INT	Interest Rate	US Real Fed Funds Rate
CPI	Inflation Rate	US Consumer Price Inflation Rate

### 3.2 Model

The great workhorse of applied econometrics is the least squares model. This is natural because applied econometricians are typically called upon to determine how much one variable will change in response to a change in some other variable. Increasingly however, econometricians are being asked to forecast and analyze the size of the errors of the model. In this case the questions are about volatility and the standard tools have become the ARCH/GARCH models (Engle, R.2001).

An ARCH (autoregressive conditionally heteroscedastic) model is a variance of a time series. ARCH models are used to define a changing, possibly volatile variance.

An ARCH(m) process is one for which the variance at time  $t$  is conditional on observations at the previous  $m$  times, and the relationship is

$$\text{Var}(y_t|y_{t-1}, \dots, y_{t-m}) = \sigma^2_t = \alpha_0 + \alpha_1 y_{t-1} + \dots + \alpha_m y_{t-m}. \text{Var}(y_t|y_{t-1}, \dots, y_{t-m}) = \sigma^2_t = \alpha_0 + \alpha_1 y_{t-1} + \dots + \alpha_m y_{t-m}.$$

With certain constraints imposed on the coefficients, the  $y_t$  series squared will theoretically be AR(m).

A GARCH (generalized autoregressive conditionally heteroscedastic) model uses values of the past squared observations and past variances to model the variance at time  $t$ . As an example, a GARCH(1,1) is

$$\sigma^2_t = \alpha_0 + \alpha_1 y_{t-1} + \beta_1 \sigma^2_{t-1} \quad \sigma^2_t = \alpha_0 + \alpha_1 y_{t-1} + \beta_1 \sigma^2_{t-1}$$

In the GARCH notation, the first subscript refers to the order of the  $y^2$  terms on the right side, and the second subscript refers to the order of the  $\sigma^2$  terms.

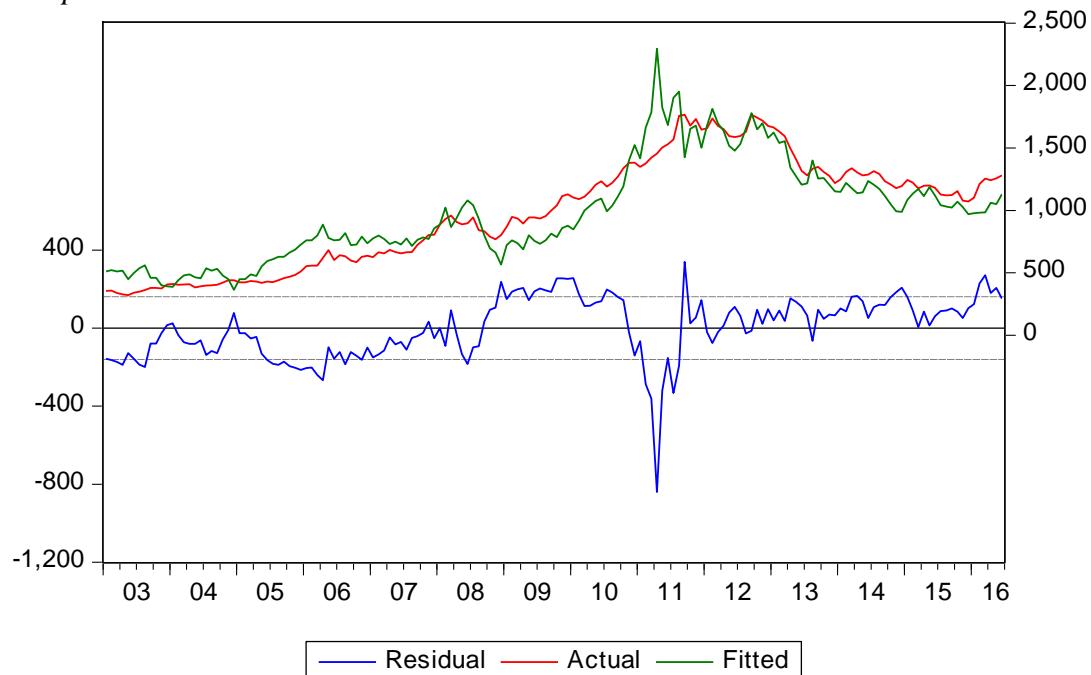
We try to set up GARCH 2 model which is 2 ARCH effect but there is no GARCH effect in this paper.

*Table following on the next page*

*Table 1: Descriptive Statistics*

	GOLD	OIL	SLVR	USD	DJIA	INT	CPI
Mean	982.7237	74.80247	16.86420	84.53086	12472.74	1.302469	215.2593
Median	1020.370	70.50000	16.00000	83.00000	12000.50	0.000000	217.0000
Maximum	1766.000	140.0000	49.00000	100.0000	20275.00	5.000000	241.0000
Minimum	321.4000	19.00000	4.000000	72.00000	3026.000	0.000000	182.0000
Std. Dev.	432.2727	29.69594	9.079707	7.116749	3013.332	1.835094	17.68164
Skewness	0.054464	0.050032	0.909203	0.508171	0.354363	1.115605	-0.322692
Kurtosis	1.810854	1.870058	3.507670	2.440473	2.706025	2.677929	1.864844
Jarque Bera	9.625057	8.685769	24.05921	9.085634	3.973819	34.30370	11.50942
Probability	0.008127	0.012999	0.000006	0.010643	0.137119	0.000000	0.003168

*Graphic 1: Residual Values*



The residual values indicate that we can easily run ARCH Model or GARCH Model. Because there is clustering volatility in the residual at the same time. There is Arch effect. So we have all the validity to run ARCH or GARCH model.

*Table 2: ARCH Test Results*

F-statistic	16.31279	Prob. F(1,159)	0.0001
Obs*R-squared	14.98099	Prob. Chi-Square(1)	0.0001

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17441.15	4813.846	3.623121	0.0004
RESID^2(-1)	0.305042	0.075526	4.038910	0.0001

**Table 3: GARCH Model Results**

GARCH = C(5) + C(6)\*RESID(-1)^2 + C(7)\*RESID(-2)^2 + C(8)\*DJIA + C(9)  
\*INT + C(10)\*CPI

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1737.789	151.6182	-11.46161	0.0000
OIL	3.020260	0.603642	5.003397	0.0000
SLVR	48.96444	1.703029	28.75138	0.0000
USD	20.00617	1.504765	13.29521	0.0000
Variance Equation				
C	-1835.416	14177.57	-0.129459	0.8970
RESID(-1)^2	0.935994	0.329128	2.843861	0.0045
RESID(-2)^2	0.050207	0.155132	0.323640	0.7462
DJIA	-0.752092	0.480808	-1.564225	0.1178
INT	-53.74532	612.8847	-0.087692	0.9301
CPI	66.87242	80.55012	0.830196	0.4064
T-DIST. DOF	51542.28	3.30E+08	0.000156	0.9999

**Table 4: Wald Test Results**

Test Statistic	Value	df	Probability
F-statistic	7.601452	(2, 151)	0.0007
Chi-square	15.20290	2	0.0005

Null Hypothesis: C(6)=C(7)=0

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(6)	0.935994	0.329128
C(7)	0.050207	0.155132

Restrictions are linear in coefficients.

Null hypothesis; C(6)=C(7)=0 that means, C(6) and C(7) jointly can not influence depending variable which is Gold. We can reject the null hypothesis. The results show us, they can jointly influence the gold price volatility.

**Table 5: ARCH Test Results**

F-statistic	0.117128	Prob. F(1,159)	0.7326
Obs*R-squared	0.118514	Prob. Chi-Square(1)	0.7307

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.028134	0.114336	8.992220	0.0000
WGT_RESID^2(-1)	-0.027179	0.079414	-0.342239	0.7326

According to the results, we can say, there is no ARCH effect.

*Table 6: ARCH LM Test Results*

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
. .	. .	1	-0.027	-0.027	0.1210 0.728
. .	. .	2	0.039	0.038	0.3706 0.831
. .	. .	3	-0.020	-0.018	0.4360 0.933
. .	. .	4	-0.029	-0.032	0.5821 0.965
. .	. .	5	0.057	0.057	1.1298 0.951
* .	* .	6	-0.073	-0.068	2.0332 0.917
. .	. .	7	0.067	0.059	2.8082 0.902
* .	* .	8	-0.078	-0.069	3.8469 0.871
. .	. .	9	-0.014	-0.021	3.8798 0.919
. .	. .	10	-0.006	-0.006	3.8852 0.952
. .	. .	11	-0.027	-0.018	4.0118 0.970
* .	* .	12	-0.089	-0.107	5.4037 0.943
. .	. .	13	-0.043	-0.030	5.7334 0.955
. .	. .	14	-0.052	-0.063	6.2201 0.961
. .	. .	15	-0.016	-0.015	6.2678 0.975
. .	. .	16	0.068	0.063	7.1027 0.971
* .	* .	17	-0.076	-0.075	8.1545 0.963
. .	. .	18	-0.005	-0.025	8.1591 0.976
. .	. .	19	0.027	0.044	8.2923 0.983
. .	. .	20	-0.017	-0.034	8.3447 0.989
. .	* .	21	-0.060	-0.083	9.0319 0.989
* .	* .	22	-0.126	-0.124	12.025 0.957
. .	. .	23	0.049	0.022	12.483 0.962
. .	. .	24	-0.054	-0.053	13.050 0.965
. .	. .	25	0.065	0.042	13.859 0.964
*	*	26	0.128	0.114	17.050 0.908
* .	* .	27	-0.072	-0.071	18.066 0.902
. .	. .	28	0.014	-0.008	18.103 0.924
. .	. .	29	0.001	0.019	18.103 0.942
. .	* .	30	-0.056	-0.103	18.743 0.945
. .	. .	31	-0.041	-0.058	19.087 0.953
. .	. .	32	-0.024	-0.025	19.201 0.964
. .	. .	33	0.036	0.004	19.470 0.970
. .	. .	34	0.049	0.046	19.972 0.973
. .	. .	35	0.008	-0.008	19.986 0.980
. .	. .	36	-0.012	-0.042	20.017 0.986

Probability values more than %5. This model free from serial correlation.

### **Research findings;**

1. There is no ARCH effect.
2. This model has no serial correlation
3. ARCH 1 and ARCH 2 is significant.

We can say;

Internal shock which are, OIL,SLVR, USD can influence the volatility gold price.

External shock which are, DJIA,INT,CPI can not influence the volatility of gold.

#### 4. CONCLUSION

Especially in the last decade, owing to economic instabilities and fragility in global economies, properties markets show high volatility. Gold market has become a close-up followed market by industrialized economies and emerging economies. Consequently, gold price volatility can be an instrumental explanatory variable for macroeconomic stability of countries. This paper investigates the dynamic effects of gold price volatility on the rates of growth in world economies.

An empirical evidence is examined determination of factors affecting the price of gold in the United States for the period beginning in January 2003 and ending in June 2016. Macro variables affecting the price of gold; Dow Jones Index, the US exchange rate, silver price, interest rate, oil price and inflation rates have been used for this research. The empirical methodology of the study is based on an empirical study. The part includes the determination of the conditional heteroscedastic model to estimate volatility. Therefore, we prefer the best fitting model to the data set, which is the exponential GARCH model.

According to the analysis of the results, the econometric model confirms the analogous findings reported by other studies and that growth in economic activity tends to lead a decrease in volatility. The obtained results are analyzed and it demonstrated that there is a significant linear relationship and a negative correlation among a return of gold, return of dollar, oil price and silver price. No significant linear relationship has been detected among the other variables and price of gold.

While Dow Jones Index, the US exchange rate, silver price, interest rate, oil price and inflation demand and gold's safe haven status have played a role in gold prices, it was the speculators' rise to power that has an increasing amount of influence on gold prices. As economic and political structural breaks weighed heavily, traders and hedgers from all over the world were able to drive prices up to incredible highs.

#### LITERATURE:

1. Abken, PA, (1980), *The Economics Of Gold Price Movements*, Federal Reserve Bank of Richmond, 3–12.
2. Batchelor, Roy, and David Gulley (1995), *Jewellery Demand and The Price of Gold*, Resources Policy 21, 37–42.
3. Bertus, Mark, and Bryan Stanhouse, (2001), *Rationale Speculative Bubbles in the Gold Futures Market: An Application of Dynamic Factor Analysis*, Journal of Futures Markets 21, 79–108.
4. Chng, MT, and GM Foster, (2012), *The Implied Convenience Yield Of Precious Metals: Safe Haven Versus Industrial Usage*, Review of Futures Markets 20, 349–94.
5. Coleman, L., and J. Dark, (2012), *Economic Significance of Non-hedger Investment in Commodity Markets*, SSRN, 2021919.
6. Engle, R. (2001). *GARCH 101: The Use of ARCH/GARCH Models in Applied Econometrics*, Journal of Economic Perspective, 15, 157-168.
7. Federal Reserve, the central bank of the United States <http://www.federalreserve.gov/> Date of Access: 15.07.2016.
8. Gujarati, D.N.(2004) *Basic Econometrics*, Fourth edition, The McGraw–Hill, New York, p.154.

9. Hauptfleisch, Martin, Talis J. Putniński, and Brian M. Lucey, (2015), *Who Sets the Price of Gold? London or New York?*, SSRN Electronic Journal.
9. Ivanov, Stoyu I. (2011), *The influence of ETFs on the price discovery of gold, silver and oil*, Journal of Economics and Finance 37, 453–462.
10. Lucey, Brian M., Charles Larkin, and Fergal A. O'Connor (2013), *London or New York: where and when does the gold price originate?*, Applied Economics Letters 20, 813–817.
11. Lucey, Brian M., and Sile Li (2014), *What precious metals act as safe havens, and when? Some US evidence*, Applied Economics Letters 22, 35–45.
12. Moel, Alberto, and Peter Tufano (2002), *When Are Real Options Exercised? An Empirical Study of Mine Closings*, Review of Financial Studies 15, 35–64.
13. Reboredo, Juan C.(2013), *Is gold a safe haven or a hedge for the US dollar? Implications for risk management*, Journal of Banking and Finance 37, 2665–2676.
14. Starr, Martha and Ky Tran (2008), *Determinants of the Physical Demand for Gold: Evidence from Panel Data*, The World Economy 31, 416–436.
15. Selvanathan, S, and EA Selvanathan (1999), *The effect of the price of gold on its production: a time-series analysis*, Resources Policy 25, 265–275.
16. Sensoy, Ahmet, Erk Hacihasanoglu, and Duc Khuong Nguyen (2015), *Dynamic convergence of commodity futures: Not all types of commodities are alike*, Resources Policy 44, 150–160.
17. Soytas, Ugur, Ramazan Sari, Shawkat Hammoudeh, and Erk Hacihasanoglu (2009), *World oil prices, precious metal prices and macroeconomy in Turkey*, Energy Policy 37, 5557–5566.
18. United States Energy Information Administration <http://www.eia.gov/> Date of Access: 15.07.2016.
19. Xu, Xiaoqing Eleanor, and Hung-Gay Fung (2005), *Cross-Market Linkages between US and Japanese Precious Metals Futures Trading*, Journal of International Financial Markets, Institutions and Money 15, 107–124.

## ANKARA – MOSCOW: A DIFFICULT POLITICAL AND ECONOMICAL ALLIANCE

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### ABSTRACT

*History of relations between Russia and Turkey falls under the category of the most problematic bilateral international contacts. Relations between the two countries, daring back to the times of the Russian Empire and the Ottoman Empire, are teeming with disputes, conflicts and incessant urge to pursue conflicting interests. Efforts were made to solve those by way of diplomacy, but unfortunately force was also very often used as the tool of resolution. The mutual dislike of the two powers dates back to the sixteenth century, which is when the first Russo-Turkish war took place (1568-1570). From then on until the 21st century, no century passed without an armed conflict between the two countries. Also in this century, dangerous incidents blot the mutual relations that could ultimately lead to a military outburst - on a scale larger than the local one. The eternal desire to dominate pervading each of these countries, simultaneously in two regions: the Balkans and Central and Eastern Asia, often made also the Western powers engage in the emerging conflicts. It is just the same today. Middle East regions, including Transcaucasia, and South-eastern Europe are the proverbial “powder kegs.” For many years, the northern areas of Iraq and Syria are at war with the so-called “Islamic State.” Both Russia and Turkey are directly involved in this conflict. Also France, Britain and the United States have been implicated in the military intervention. After several years of mutual hostilities between Ankara and Moscow, a surprising ground-breaking shift took place in mutual relations. In August 2016, presidents of Turkey and Russia unexpectedly met in St. Petersburg. International media report that a new power structure is emerging in the geopolitical context. The entire situation is all the more surprising as we are witnessing a difficult agreement between seemingly eternal rivals, if not enemies. So what prompted the two regional powers to develop closer ties and make efforts to bring their relations into line? It seems that the shift was prompted by pragmatic political and economic considerations, that may be identified, and then rationally analysed.*

**Keywords:** policy, region, Russia, situation, Turkey

### 1. INTRODUCTION

It might be considered that the century-spanning mutual relations between Turkey and Russia usually have not been the easiest. Longer periods of cooperation and peace between the two nations have been extremely rare. The reason for that was the incessant rivalry between the two powers for areas of influence in South East Europe and Central Asia. The state of affairs was further complicated by fundamental religious differences between Turkey and Russia. Turkey, then still known as the Ottoman Empire, aimed at supremacy of all Muslims. Moscow, on the other hand, aspired to become the centre of Easter Christian tradition. After the Turks captured Constantinople (1453), Moscow wanted to gain importance as the only successor of the Byzantine Empire. This ambition was emphasised by the marriage concluded in 1472 by Ivan III the Great with Sophia Paleologue (1455-1503), niece of the last Byzantine Emperor Constantin XI Dragases (1405-1453). An event of great symbolic importance was assuming the double-headed Byzantine eagle as the coat-of-arms of the entire Ruthenian country and introducing etiquette taken directly from Eastern Roman Empire at the court of the tsars. Following the fall of the First Rome in the West (AD 467), and the fall of Byzantium (the

Second Rome) in the East almost one thousand years later, Moscow was supposed to become the Third Rome (Billington J.H., 2008). In turn, after seizing Constantinople Turkish rulers initially assumed the title of “Roman Emperor”. Closer to the end of the Ottoman Empire, however, they preferred to add the title of Caliphs – Muhammad’s successors – to that of sultan. Nowadays, leaders of both countries, not without a reason, are often compared to those rulers. The press often calls the President of the Russian Federation, Vladimir Putin, the new tsar. The President of the Republic of Turkey, Recep Tayyip Erdogan, is just as frequently referred to as the contemporary sultan. Such comparisons serve very well to illustrate political ambitions and enormous power wielded by both leaders as of now. As their main goal, both Putin and Erdogan committed themselves to reclaiming power in the traditional areas of influence and earning respect for their countries internationally. In both one and the other country, the actions of the presidents won them tens of millions of zealous followers and uncritical support of the majority of the society. Yet again, just as many times in the past, this led to a conflict of interests between Ankara and Moscow. The ever-present animosity has been growing in the past few years due to the dramatic events in the Middle East and the former Soviet republics in the Caucasus. The already very strained situation culminated on 24 November 2015, when a Russian Su-24 bomber was shot down on its way back from a mission against ISIS by a Turkish F-16 fighter. According to official Turkish sources, the reason for the shootdown was the Russian aircraft violating the airspace of the Republic of Turkey near the Syrian border (Ricz L., 2015). Pierre Sprey, American defence specialist and a former Pentagon employee, claimed in an interview for the American Harper’s Magazine that: „*the evidence looks pretty strong that the Turks were setting up an ambush*”. Soon, more incidents involving Russia and Turkey followed. In early December 2015, Turkey reacted strongly to the fact that a serviceman on the deck of a Russian warship passing through Bosphorus was seen holding a rocket launcher. A few days later, on the Aegean Sea, a Russian ship fired warning shots at an approaching Turkish fishing boat, which allegedly did not react to calls to divert its course. According to Moscow it was a provocation, and Turkey had earlier accused Russia of the same (Gorol M., 2015). The escalation of adversary acts posed a threat mainly due to the fact that Turkey is one of main pillars of NATO, and Russia is a global military power with nuclear weapons. Both countries were at the verge of an open armed conflict with unpredictable potential effects on a global scale. After several months of mutual aggression in the media, there was a sudden and completely unforeseen turn in the relations between the two countries. In August 2016, Recep Tayyip Erdogan came with an unexpected visit to Russia. Meeting of the Presidents of Russia and Turkey in the Constantine Palace in Strelna near Saint Petersburg The Russian President Vladimir Putin said that the visit of the President of Turkey Recep Tayyip Erdogan to Russia indicated both leaders’ willingness to: *“resume the dialogue and relations between Russia and Turkey”* after nine months of diplomatic crisis. Turkish press provided more details, reporting that reconciliation with Russia was possible thanks to previous secret negotiations at the highest level in Tashkent. Erdogan, on the other hand, announced that collaboration with Russia would help solving problems in the region. According to the Turkish President, actions taken together with Russia would lead to a new chapter in the relations between Ankara and Moscow, completely different than ever before. Additionally, President Erdogan officially apologised to Russia and to the family of the killed Su-24 pilot. Russia’s answer was to lift all its sanctions against Turkey (Trader I., 2016). A few days after the meeting, separatists in Donbass resumed their aggressive military campaign against Ukraine, whereas Turkish forces entered northern Syria and opened intensive fire at positions held by the Islamic State. Judging from these events, one may conclude that the arrangements made in Saint Petersburg had a much broader scope than what was officially announced in communications of both parties to the negotiations. It can be assumed that the two powers have now moved on to definitive solutions in issues relevant to them, under secret agreements concluded in August 2016.

## 2. CONFLICT OF INTERESTS BETWEEN TURKEY AND RUSSIA

In principle, the conflict of interests between Turkey and Russia has been present since the beginning of the two states, namely the capture of Constantinople (1453) by the Ottomans. The Ottoman Empire, growing in strength, at first discreetly, and then completely openly began to provide support for smaller Islamic vassal states in Russia, such as the Astrakhan Khanate and the Crimean Khanate. This led to a series of ten exhausting wars between the two empires. They broke out almost cyclically from 1568 to 1878. It was one of the longest series of military conflicts in European history. The struggle intensified even further when the country of the tsars captured its first outpost at the Black Sea, which until then had been an internal sea of the Ottoman Empire. This was in 1700. For almost half a century Russian military and diplomats were not able to ensure free transport on the Black Sea. Even later free access to its waters was severely limited, because as late as in the second half of the 19th century the Ottoman fleet was still much larger and more modern than its Russian counterpart (Wasiucionek M., 2014). By the 19th century, Russia was helping Turkey's Slavic and Christian minorities to revolt against Ottoman rule. The result was an exceptionally bloody armed conflict in the years 1877- 1878, called the "Tenth Russo-Turkish War." With time, the Russian proved to be dominant in the struggle. After the victory in the Battle of Aladzha (15 October 1877), the Turks were defeated and forced to retreat in the Caucasus. It was much worse was on the Balkan front. In January 1878, the Russian army, at the time approximately 315,000 men strong, was time after time successful fighting against the 180 thousands soldiers of the Turkish army. On the 4th of January 1878, tsar's troops took Sofia, on January the 9 Shipka-Sheinova, on January the 17 Filipopol, and on January the 29 they were victorious at Adrianople. As a result of this campaign, the Russians were at a distance of approximately 40 kilometres from the capital of the Ottoman Empire. The age-old dream of the tsars to return Constantinople to the Eastern Church and making it the capital of Russia was about to come true. And, probably, this is what would have happened, if it hadn't been for the intervention of the united Western countries concerned about the increase in the power of the Romanovs. Combined diplomatic efforts of Great Britain, France and Austro-Hungary put a stop to the further victorious march of the Russians. Plan for a possible mobilization of the army and the British fleet of battleships in Marmara Sea forced Petersburg to refrain from taking Constantinople and conquering the entire Turkey (Wawrzenczak M., 2015). The last serious conflict between Russia and Turkey took place in the early 20th century. The Ottoman Empire waited until November 1914 to join the war which had broke out in Europe in July. In World War I Turkey took the side of the Central Powers, that is two empires: Germany under the rule of Wilhelm II Hohenzollern and Austria-Hungary under Franz Joseph I Habsburg, and their ally, Bulgaria under the rule of Ferdinand I Coburg. Their opponents were the countries of the Entente, namely Great Britain, France, Russia, Serbia, Japan, Italy (since 1915), Greece (since 1917), and the United States (since 1917). Turkey took on itself the fight against the Russian Empire. The main arena of struggle between Russia and Turkey was Transcaucasia. The civil war which devoured the Romanov empire in 1917 allowed the Turks to reclaim a part of the lands that had been lost to Russia. Russian forces left positions in the Caucasian front in early 1918. On 3 March 1918, the government of the new, Bolshevik Russia signed the peace treaty in Brest, which formally ended the war with the Ottoman Empire. The legendary leader Mustafa Kemal Atatürk, leading a national movement, brought about the fall of the sultanate. The objective of his policy was to reclaim at least a part of territories taken from his country after World War I. In Autumn 1920, Turkey and Soviet Russia, under the Treaty of Mutual Friendship and Cooperation, committed an act of aggression against the sovereign and independent Armenia. Turkey took in most of its territory, whereas the Bolsheviks annexed the rest into the Soviet Union.

On this example, history shows us that two states, feuding for centuries over fundamental issues, managed to reach an agreement despite the many differences and prejudice. This happened for the first time on such a large scale almost one hundred years ago.

### **3. COMMON GOALS OF ANKARA AND MOSCOW**

There are many factors which as a result lead to a conflict of pursued objectives and interests between the two countries. However, one cannot but note the convergence of views and actions of Ankara and Moscow concerning many important issues. When faced with dynamic changes in today's world, these issues have lately gained significance. The most important include: attitude towards the North Atlantic Treaty, growing problems in contacts with the European Union, current and future benefits of economic cooperation. It seems that in the case of both the Republic of Turkey and the Russian Federation, the vision of potential profits is beginning to outweigh the old, inveterate prejudice. Such an attitude remodels completely the balance of power and architecture of existing political structures in key regions of our world and in general internationally.

#### **3.1 ATTITUDE TOWARDS NATO**

It may seem like a paradox, but apparently at the moment neither Turkey, nor Russia is satisfied with the concept of NATO functioning in its current shape. Authorities in Moscow consider the very existence of this military pact to be an instrument aimed straight at the heart of “Mother Russia”. It is worth remembering that in their naivety, on 31 March 1954 the USSR, Belarus and Ukraine at the same time applied for membership in NATO – as three sovereign states. The USSR authorities seriously considered giving up the policy of confrontational against the western world and joining NATO. The leaders of the Alliance, however, formulated five conditions that the USSR needed to fulfil in order to become a member of the organisation. Most of them were unacceptable to Moscow. The conditions were the following:

- Independence for Austria.
- Peaceful reunification of Germany.
- Signing of the general disarmament treaty.
- Restitution of disputed territories in the Far East to Japan.
- Recognition of the fundamental principles of the Statute of the United Nations.

The responses received by the USSR, Belarus and Ukraine, were in all cases the same – unambiguously negative. After the death of Stalin, the USSR authorities decided to make efforts again to improve the relations with the West. But it was too late: by that time, a gargantuan military-industrial complex had been created in the US, starting to play an independent political role in the country. Instead of Soviet Russia, it was the Federal Republic of Germany that was admitted to the North Atlantic Treaty. The reaction of the USSR and seven Eastern European satellite countries was to create, as a counterweight to the threat from the West, the Warsaw Pact (Tichomirow W., 2005). Turkey, as a member of NATO since 1952, for several decades faithfully served the interests of the United States in the regions of the Balkans, the Black Sea, and Middle East. The resulting cooperation of subsequent factions holding power in Ankara with the Capitol and the White House effectively prevented any tighter relations with Moscow. The US and NATO had controlled Erdogan's endeavours for many years, until he suddenly started to seek independence. He may have become aware of the fact that further blind support for the West would bring nothing good in the long term. The coincidence in time between the turn in the policy of the Turkish president and the attempted military coup is rather striking. Some commentators consider mass arrests of Turkish officers of the Incirlik base to be evidence for the US being complicit in the coup attempt. The faction responsible for the putsch openly admitted to having received aid from the NATO base (Trader

I., 2016). This means that the authorities of both Turkey and Russia have justified reasons to distrust those who control the actions of the North Atlantic Treaty from Washington.

### 3.2 THE EUROPEAN UNION PROBLEM

In the case of Russia's and Turkey's relations with the European Union, one cannot but notice the obvious reluctance of the Community leaders to open their door for the two countries. Following many years of ineffective efforts to join the *family of European nations*, both the President of the Republic of Turkey – Recep Tayyip Erdogan, and the President of the Russian Federation – Vladimir Putin, gave up on their attempts of integration with and accession to the EU. Moreover, it seems that today both leaders are more interested in damaging the interests of the Union, or even causing it to break apart, than in establishing relations that would be beneficial to all parties. Modern Turkey has since long been knocking at the door of the West in the Old Continent, personified by the European Union. As early as in 1963, the then European Economic Community granted Turkey the status of an associate member. On the 14th of April 1987, Ankara filed an official application which formally started the negotiation process regarding the accession to the European Union. The 1997 Luxembourg Summit blocked the way to the EU for Turkey. The opposition of Greece was decisive in the matter. However, the European Council summit in Helsinki in 1999 revoked the previous decision and recognised Turkey as an official accession candidate. Turkish negotiations with the European Union started on the 3rd of October 2005. The main obstacle to membership is still the Cyprus issue. Turkey undertook to extend the customs union to all new EU members. However, it refused it to Cyprus, as it does not recognise that state. This froze the accession procedure for many long years. The situation saw a dramatic change as refugees from the Middle East started to flood Europe (Alderman L., 2016). Millions of illegal immigrants threatened the stability of the EU. Then it turned out that the only hope in the difficult situation laid with Turkey, which agreed to receive unwanted newcomers on its territory in exchange for an aid of EUR 6 billion, acceleration of the accession process and granting all citizens of Turkey entry visas by mid-2016. A failed military coup and the repressions that followed quenched the aspirations of Ankara to join the integration group. Implications of failure to respect the rule of law, introduction of a state of emergency in the country, closing opposition newspapers, radio and television stations, thousands of arrested people, purges in the army and a plan for restoring the death penalty led to the German government stating, through its spokesman Steffan Seibert, that: "*in the current political situation, it considers unthinkable to open new chapters in negotiations with Ankara on Turkey's accession to the EU*". Also the procedure to grant entry visas to the EU to citizens of Turkey was suspended. Once again, Turkey was removed from the group of European nations. However, in the case described above, the authorities in Berlin made a mistake by speaking so boldly on behalf of the entire Community. President Erdogan threatened that if the EU does not keep its promises, his country will no longer hinder the influx of immigrants to Europe. Germany, a self-proclaimed leader of the EU, and the heads of European states now, until October 2016, have the time to make up their minds, before the new ultimatum of Turkey regarding visas expires. Unfortunately, there are no good decisions at the moment. Either they will accept the Ankara's ultimatum and reveal their own weakness, or they will disagree and produce yet another wave of refugees in the Old Continent, which, in practice, will be the end of the European Union (Przygoda M., 2016). Russia is the largest neighbour of the European Union. Prior to the annexation of Crimea and the beginning of the conflict in eastern Ukraine, the Russian Federation was also one of the crucial economic partners of a large part of countries of the integration group. The key elements in trade between Russia and the EU have been, and still are, energy raw materials exported to the West, especially natural gas and oil. Food products and technically advanced industrial goods were sent in the opposite direction. One of the barriers that prevent Russia's accession to the European Union is its

geographical situation. Over 75% of its area is in Asia, spreading over the area from the Ural Mountains to the Pacific coast in the Far East. However, according to the European Union authorities there are additional obstacles to full integration of Russia with the EU, namely:

- Failure to respect human rights.
- Deviating from democracy standards recognised within the United Europe.
- Lawless annexation of Crimea.
- Supporting separatist forces in eastern Ukraine.
- Hostile policy towards the Baltic states and Georgia.
- Poor economic development of vast areas east of Ural.
- High level of nepotism.
- Omnipresent corruption at highest level of State power and public administration.

However it seems that the list of obstacles is not complete. It should also include a number of factors which, although significant, are rarely cited, such as:

- Conflict with the “old idea” of Chancellor Bismarck: making Germany an economic empire spreading all the way from Western Europe to the whole of the eastern and north-eastern coasts of the Black Sea and the northern coast of the Mediterranean Sea.
- The possibility of the tandem France-Germany losing their de facto leadership in the European Union to Russia allied with Turkey.
- Fear of millions Russian Federation citizens flooding the territory of the EU in search of work and better living conditions.
- Losing of control over EU finance sector due to admitting capital-rich Russian banking institutions to the single market.
- Establishment of a Russian area of influence in the Balkans and former Eastern European countries.
- Losing the most important political and economic partner of today’s European Union, that is the United States, due to the new circumstances.

In the context of these facts, it does not come as a surprise that the EU authorities have maintained the economic sanctions imposed in Russia as early as in the summer of 2014. The decision to extend the restrictions until January 2017 was made in a summer 2016 meeting in Brussels. The restriction include, among others, impediments to access to capital for Russian state banks and oil companies, restrictions on the sale of advanced technologies for the oil industry and dual-use equipment, as well as an arms embargo. The prices of energy raw materials have been low for several years now. This is a serious problem for the Kremlin. Russian economy suffers from lack of incoming investment and access to western capitals. This has led to a painful slowdown, or even regression. Some experts predict that, if nothing changes, Russia has sufficient reserves for one year only. What will happen next? The Kremlin knows that it has one year to bring about a favourable change of some kind. The options are either for oil and gas to get more expensive, or a relaxation of relations with the West. Obviously, pulling out from Ukraine is beyond dispute, as it would be a catastrophe for the prestige of the government in Moscow (Skwiecinski P., 2016). Nevertheless, there is one more possible scenario: polarising the attitudes of particular EU Member States towards Russia, while damaging the organisational structure of the group at the same time. This appears to be the very option that the Russian authorities are pursuing. There has been a split in the very bosom of the European Union. Some of its members strongly advocate further sanctions against Russia. These are the following: Czech Republic, Estonia, Denmark, the Netherlands, Lithuania, Latvia, Poland, Sweden and the UK. The harm of further tightening of sanctions is emphasised by (Szymanowski, M., 2014): Austria, Bulgaria, Cyprus, Greece, Spain, Portugal, Slovakia,

Hungary, Italy, and through the mass media and unofficial non-governmental sources also France and Germany. Other countries belonging to the European Union openly express their doubts as to the validity of restrictions and they have not taken a clear common stance in relation to the existing situation. If we look closer at destabilisation of the existing EU structures, the first step on that path was taken in 2016, namely Brexit (that is the United Kingdom's withdrawal from the EU), and the possibilities of Frexit (France leaving the EU), Nexit (the Netherlands leaving the EU), and Oexit (Austria withdrawing from the Union) have already been signalled. Even one of those countries leaving the Union would undermine the structure of the organisation as a whole (Lyons K., 2016). Recent proposals of the leaders of Italy and Germany, envisioning a Union limited to 7, or a maximum of 12 countries (all in the Eurozone and seeking closer integration), lead to the conclusion that this is what an alternative future may look like. It should be emphasised that such a scenario is also in line with the objectives set by the Kremlin.

#### **4. RETURN OF TRUST BETWEEN ANKARA AND MOSCOW**

What comes as the biggest surprise is the sudden turn in the bilateral relations between Turkey and Russia as far as international politics is concerned, and unexpected warming of relations between the two countries following a de facto freezing of mutual relations. Undoubtedly, this radical change of course in mutual relations has been a result of events related in some way to the unsuccessful military coup which took place in Turkey on the night of 15 to 16 of July 2016. The United States-Turkey relations have deteriorated drastically following the failed coup d'état. Turkish politicians and media openly accused the US of participating in the coup. The new military command showed their aversion to the US by cutting off the Incirlik base, where American forces are stationed, from all utilities, including electricity and water, for many long hours. The Americans no longer put enough trust Turkey to store their nuclear arsenal on its territory. According to sources close to NATO, the United States moved their nuclear weapon from Turkey to Romania – such sensational information was published by the Brussels-based website Euractiv.com. Journalists from the portal report that the weapon was allegedly transported from the aforementioned Incirlik base in eastern Turkey to Deveselu in the southwest of Romania, near the border with Serbia and Bulgaria (Gorzynski O., 2016). The claim that the American military participated, with ample support of special services, in the coup attempt, is evidenced to a certain extent by arrests of tens of thousands of Turkish military personnel. It should be mentioned here that the Turkish army, and its command in particular, were a reliable ally within the NATO structures and the champion of US interests in the country on the Bosphorus. It is unofficially known that it was the Russian services that warned Erdogan at the last moment of an impending attack of the military. It is also said that Moscow provided Turkey with detailed information on many putschists and coup supporters (Kacewicz M., 2016). By saving Erdogan's life, the Russians gained the trust and lasting gratitude of the Turkish president. It is possible, however, that what finally convinced Erdogan to do a volte-face was a wish to improve the economic situation of his country and fear of Moscow mass-arming Kurdish separatists fighting for the independence of the territories they inhabit from Turkey.

#### **5. MUTUAL BENEFITS**

After a meeting of the leaders of both countries in August 2016 in Sankt Petersburg, all bilateral sanctions on import and export between Ankara and Moscow were lifted. The multi-million tourist traffic of Russians that, as before, have started again to spend their holidays in the many Turkish resorts on the coasts of the Aegean Sea and the Mediterranean Sea. Also work on the construction of the *Turkish Stream* pipeline intended to supply gas from Siberia to Turkey was resumed. The project is set to be launched in December 2016. The natural gas pipeline, a 1,090 kilometer long (677 mile) will run from Russia to Turkey, via the Black Sea. Talks to construct

an offshoot to Greece have already begun. Today, plans for nuclear power are a key aspect of the Turkey's aim for economic growth. Recent developments have seen Russia take a leading role in offering to finance and build 4800 MWe of nuclear capacity. Ankara has fulfilled all its promises regarding the Akkuyu - first nuclear power plant, the situation is developing very positively with a high level of confidence that the first nuclear power plant unit will be put into operation within the timeframe established by the contract with Russian side. Russian President Vladimir Putin and his Turkish counterpart Recep Tayyip Erdogan held a meeting in China's Hangzhou prior to the opening of the G20 summit. Both Russia and Turkey belong to the organisation bringing together twenty most developed countries in the world. Both countries have moved closer to the conclusion of an agreement on a free trade area (FTA). According to observers, it is already evident that Turkey, despite remaining in NATO, is drawing closer and closer to Moscow, and it is not out of question that it will want to join Russia's Eurasian Union. Therefore, the political and economic rapprochement of the two countries comes as no surprise. Having put the old feuds behind, they can now enjoy mutually beneficial cooperation. Ankara gains access to the unmeasurable natural riches of Russian Siberia. Moscow, in turn, successfully breaks the embargo of the US and the EU, and emerges from the long international isolation, bypassing the sanctions imposed on it. Turkey becomes a door that allows Russia's expansion into Middle East and North Africa (Dura M., 2016). This is the most important door that Russia has been waiting for to open for several long centuries.

## 6. CONCLUSION

The close cooperation between Ankara and Moscow after several years of feuds and disputes has fundamentally changed the architecture of relations in the Black Sea basin, Middle East and North Africa. It strengthens the position of both partners in this vast region. The alliance of Russia and Turkey has a growing influence over the future events in Western Europe, especially in the EU and, as regards NATO, on both sides of the Atlantic. This political and economic collaboration should soon bring about significant results for both powers. It comes as no surprise then that also other countries would like to gain certain quantifiable benefits from the unique dual structure created as a result of the above-mentioned dramatic events. It is beyond any doubt that the tightening and warming of relations between Ankara and Moscow will have a tremendous effect on international events in the time to come. The view has officially been expressed that a new strategic axis is being created: Ankara – Moscow – Tehran – Beijing, with a potential to change the current balance of power in the world. Until it is established, however, we will be watching the ruling elites of the Russian Federation and the Republic of Turkey with great interest.

## LITERATURE:

1. Alderman L., (2016), Greece starts deportations under deal with Turkey, International New York Times, Tuesday, April 5, p. 1, La Défense, France.
2. Billington J.H., (2008), Ikona i topor. Historia kultury rosyjskiej, Wydawnictwo Uniwersytetu Jagiellonskiego, pp. 53-54, Krakow.
3. Dura M., (2016), *Turcja rosyjskimi drzwiami do Afryki i na Bliski Wschód. To dlatego Erdogan może liczyć na poparcie Kremla*, aktualizacja WP Wiadomości, 22.07.2016, from [http://wiadomosci.wp.pl/kat,1356,title,Turcja-rosyjskimi-drzwiami-do-Afryki-i-na-Bliski-Wschod-To-dlatego-Erdogan-moze-liczyc-na-poparcie-Kremla,wid,18434643,wiadomosc.html?ticaid=117b21&\\_ticrsn=3](http://wiadomosci.wp.pl/kat,1356,title,Turcja-rosyjskimi-drzwiami-do-Afryki-i-na-Bliski-Wschod-To-dlatego-Erdogan-moze-liczyc-na-poparcie-Kremla,wid,18434643,wiadomosc.html?ticaid=117b21&_ticrsn=3)
4. Gorol M., (2015), *Echa zestrzelenia rosyjskiego Su-24 przez turecki F-16. Stanowcza analiza amerykańskiego eksperta*, from <http://wiadomosci.wp.pl/kat,1329,title,Echa-zestrzelenia-rosyjskiego-Su-24-przez-turecki-F-16-Stanowcza-analiza-amerykanskiego-eksperta,wid,18047014,wiadomosc.html?ticaid=1179ae>

5. Gorzynski O., (2016), *Amerykańska broń atomowa w Rumunii? Sensacyjne doniesienia portalu*, 18.08.16 from <http://wiadomosci.wp.pl/kat,1356,title,Amerykanska-bron-atomowa-w-Rumunii-Sensacyjne-doniesienia.portalu,wid,18470342,wiadomosc.html?ticaid=117b1f>
6. Kacewicz M., (2016), *Putin i Erdogan, czyli sojusz cara i sultana*, Newsweek Polska, Swiat, 14.08.16 from <http://www.newsweek.pl/swiat/stosunki-turcja-rosja,film,395371.html>
7. Lyons K., (2016), *Frexit, Nexit or Oexit? Who will be next to leave the EU*, from <http://www.theguardian.com/politics/2016/jun/27/frexit-nexit-or-oexit-who-will-be-next-to-leave-the-eu>
8. Przygoda M., (2016), *Turkey as the most important factor in stabilising the region*, Book of Proceedings, Economic and Social Development 16th International Scientific Conference on Economic and Social Development – “The Legal Challenges of Modern World”, pp. 714-731, Varazdin Development and Entrepreneurship Agency in cooperation with Faculty of Law, University of Split and University North, Split.
9. Ricz L., (2015), „*Turcja zestrzeliła wojskowy samolot na granicy z Syrią. Rosyjski MON: ‘To nasz SU-24’*”, wyborcza.pl/SWIAT from <http://wyborcza.pl/1,75399,19236033,wojskowy-samolot-rozbil-sie-na-syryjsko-tureckiej-granicy-na.html>
10. Skwiecinski P., (2016), *Mają rok*, w Sieci, Najwiekszy konserwatywny tygodnik opinii w Polsce, p. 3, 5-11 wrzesnia 2016, Nr 36 (197), Wyd.: Fratria Sp. z o.o., Warszawa.
11. Szymanowski M., (2014 ), *Ostrozni wobec Rosji*, Do Rzeczy, No. 37/085, 8-14 September 2014, Warszawa.
12. Tichomirow W., (2005), *Proba przystapienia ZSRR do NATO*, Ogoniok, 21.03.2005, Nr 12 (4691), p.28, Moskwa.
13. Trader I., (2016), *Kto stał za przewrotem w Turcji?*, Najwyzszy Czas, Zagranica, 13-20 sierpnia 2016, nr 33-34(1369-1370), Rok XXVII, p. XL-XLI, Warszawa.
14. Wasiucionek M., (2014), *Rosja i Turcja: gra imperiów o Morze Czarne*, dostep: 27/08/14, p. 2, from <http://bliskiwschod.pl/2014/08/rosja-i-turcja-gra-imperiow-o-morze-czarne/>
15. Wawrzenczak M., (2015), *X wojna rosyjsko-turecka*, Historia.org.pl, from <http://historia.org.pl/2015/05/17/x-wojna-rosyjsko-turecka-foto/>

## “DISABILITY IS NOT CONTAGIOUS, IGNORANCE IS”: A CRITICAL OVERVIEW ON THE VARIOUS SHADES OF DISABILITY

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### **ABSTRACT**

*The aim of this paper is to present pessimistic & complex demeanor of disability and also to explore atrocious affect on disabled people which further dampen their spirits. The life of cycle of a disabled person right from childhood, to education and employment phase, to family responsibilities and finally old age is exposed to various discriminating and conflicting reality.*

*The fundamental criteria of this paper to discuss three important dimensions (a) religious & cultural beliefs; (b) impact of languages and complex terminology & phraseology; and (c) negative attitude, stereotyping, labeling, prejudice & stigma which influences the thinking and behavior of people towards the people with disabilities. The limitation experienced while writing this article was the dearth of published literature covering all the different negative aspects of disability especially in relation to third world countries. People in the twenty first century believe that science & technology have control over everything but life is unpredictable and disability is here to stay forever. Therefore, disability, a socio-cultural constructed paradox, needs to be explored further in a righteous manner to encourage positive thinking which will eventually lead to better lifestyle and integration of disabled people at all level of the society. Further research can highlight relationship between disability and other minority communities as there is dearth of published literature in this context.*

**Keywords:** Cultural and religious beliefs, Disabled people, Gender, Handicap, Prejudice

### **1. INTRODUCTION**

‘Disability touches everyone’; people have to face, or rather endure this reality at some point in time in their lives, of course not everyone but many experience it before they die (Canada, 1998). Disability is one of the biggest challenges faced by global leaders and policy makers. There are more than billion disabled people worldwide and majority of them are the victims of poverty, social exclusion, inconsistent education accomplishments, labour market non-participation and health (WHO, 2011). People have disabilities since birth, some develop during early stages of adulthood due to disorder, disease or accidents and some at old age which effect their mind, body and senses (Titchkosky, 2001). We are in 21st century and people are still not aware of different type of disabilities dominant in today’s scenario. The historical and social mindset e.g. less awareness of various disabilities, derogatory language, negative attitudes, assumed stereotypes and social stigma continue to hold back disabled people from other people (Ingstad and Whyte, 1995).

The governments all over the world are actively involved in improving the living standards of disabled people by introducing transparent and encouraging policies which are aimed to benefit these people and the society. This unfortunate population also have the equal rights like other citizens of the world i.e. the right of equality. There is still lot to be done in removing the

barriers within the society so that disabled people are integrated in social as well as economic framework. The social workers, government officials, medical experts and policy makers should be aware of defeatist aspects of disability as socio-culturally constructed phenomenon (Schuelka, 2012).

The aim of this paper to present a critical exploration about disability in today's scenario keeping the bleak essence of religion & culture and an understanding of gloomy outlook of people towards disability. The article is structured into three contrasting elements i.e. The articles begins with the discussion on positioning of religion and cultural beliefs on disability, then highlights the predicament of terminology/phraseology & language and finally, various dimensions of social prejudice, attitude & stereotypes which directly or indirectly influence the integration and inclusion of disabled people.

## 2. RELIGION AND CULTURAL BELIEFS

There are more than 20 religions in the world and each religion has a different ideology & perspective towards life. Our cultural-religious beliefs guide our behavior towards other people within the same religion and people from different religious backgrounds (Schuelka, 2012). Gods have their own existence in every religion as they are creator of life and supposed to be decision makers of people's destiny. Why there is misery, poverty, suffering, disability in this world if the God is the supreme commander of the galaxy or how God differentiates between his children when he creates them (rich vs. poor, healthy vs. disabled, tall vs. short, etc)? (Yong, 2011). Religion take on the concept of disability has a very complex and has a contradicting approach in the society i.e. firstly, disabled people were excluded from others and were not allowed at religious places but at the same time believers of the same religion were expected to help and show charitable outlook towards the disadvantaged members of the society (Bengtsson, 2014). Majority of religions postulates that sins and disability are interrelated to each other.

For example, The Jew and Christian religions, both share the Old Testament, prohibits the entry of ‘blemished’ individuals into the temple and restrictions on many activities (Leviticus<sup>\*</sup>. 21:16) but at the same time religious devotees were expected to be tender-hearted and charitable towards people with disabilities (Leviticus. 19:14) (Stiker, 1999; Schuelka, 2012). There are contrasting communiqué in the Old and New Testaments; the Old Testament preaches that God will punish and bring misery on his followers if they commit sin or deviate their path from his commandments but in the New Testament, Jesus welcomes his people under his wings so that he can heal and guide them ( Stiker, 1999; Schuelka, 2012). As Leviticus cited in Bengtsson (2014), it can be clearly noted that different aspects of disability had been prominent in the Christian scripture

*And the LORD spoke to Moses, saying, “Speak to Aaron, saying: ‘No man of your descendants in succeeding , who as any defect, may approach to offer the bread of his God. ‘For any man who has a defect shall not approach: a man blind or lame, who has a marred face or any limb too long ‘a man who has a broken foot or broken hand, ‘or is a hunchback or a dwarf, or a man who has a defect in his eye, or eczema or scab, or is a eunuch. ‘No man of the descendants of Aaron the priest, who has a defect, shall come near to offerings made by fire to the LORD. He has a defect; he shall not come near to offer the bread of his God. ‘He may eat the bread of his God, both the most holy and the holy; ‘only he shall not go near the veil or approach the altar, because he has a defect, lest he profane My sanctuaries; for I the LORD sanctify them.’ (Leviticus. 21:16–24).*

Hinduism is the world's fourth largest religion which has four major castes with more than 25,000 sub-castes. The basis of Hinduism and Buddhism, the Karma, has a ultimate understanding in Asian community. The cycle of Karma i.e. cause and effect (good or bad) intents of an individual, is passed on from generations to generations. On the other hand, both religions like others emphasize on the betterment of society by helping disadvantageous individuals. The family is 'blessed' if the new born infant is healthy otherwise 'cursed' if born with recognizable physical disability such as deaf, blind or physical deformity because sins or virtue of parents are passed on to their children (Koosed and Schumm, 2005).

It was also believed that the disability in ancient times was related to presence of an evil spirit within the body of an individual or influence of a demonic activities, , but this belief is still very prominent in the third world countries regarding the existence of demons ( Shapiro,1993; Eskay et al, 2012; Stone-MacDonald, 2012 ). Exorcism, black arts, sorcery and witchcraft were popular in medieval times but their exact philosophy is not transparent as not sure if children were born with disabilities because the parents were involved in these evil practices or they adopted these practises to cure the disabilities of loved ones ( Barnes,1991). Martin Luther, a famous protestant reformist, suggested killing of small children as it is believed that he saw a devil in a small disabled child (Barnes, 1991).

The beginning of 20<sup>th</sup> century witnessed the change in society and attitude of people as religious leaders controlled every aspect of decision making procedures. The people with disabilities were considered the 'responsibility of the community' were segregated from others and were sent to special homes and institutions where they were sexually abused, involuntary sterilized, killed and psychologically traumatized ( Brown and Brown, 2003). Björnsdóttir and. Traustadóttir (2010) in their article pinpoints the role of religion on the existence and survival of disabled people where they to face double constraints in fulfilling social and economic duties; firstly as they are unable to integrate within in the society due to health restrictions and secondly, religion directly or indirectly served as an extra barrier in their path to a better life.

The negative interpose on disability in religious and holy books had a different repercussions on people with disabilities. The discrimination at work, unable to earn decent livelihood, no promotion prospects, limited access to schools and educational institutions, etc. Many researchers in their findings have discussed the contradictory influence of religions against disabled people in many countries. Many Churches in African subcontinent do not allow inclusion of disabled people in ministry (Otieno, 2009), the disabled students did not have access to conventional schools and the disabled community barred to enter few churches in Iceland (Stefánsdóttir, 2008) and parents in Tanzania hiding children in the house rather not exposing to other people or mistreating them, as they were embarrassed and ashamed of their own flesh & blood (Stone-MacDonald,2012).

We live in progressed and liberalized world where people have a right to choose anything, even a religion and expected to follow the righteous path of their religion. The diversified extensions of religions i.e. spirituality, yoga, reiki, meditation and zen helps disabled children and adults to cope up the disability by retaining positive energy within their body and these also promotes healthy lifestyle for future ( Johnstone, Glass and Oliver, 2007; O'Hanlon, 2013).

### **3. DEFINITIONS, TERMINOLOGY AND LANGUAGE BARRIERS.**

There are more than 6,500 languages in the world and each language has its own strength and distinctive features. It is very difficult to choose a exact word to convey the message in a given situation. Let us explain with an example, a teacher has to explain the performance of a child to his parents. He has a option of two words to convey the message i.e. 'sub-average' or 'sub-

normal’ and it would be wiser if he selects ‘sub-average’ because this word has deeper emotional content than the other (Foreman, 2005). The point is that the both words have literally same meaning but the emotional-distress content varies depending on the usage and given situation.

Let us take another example of a word which significantly attributes to a different understanding of synonyms, “the meaning of 'invalid' is clear -in-valid. In general terms it connotes illness. Illness and disability are not the same thing and should never be confused” (Barnes, 1992, p.21).

On the same ideology, a ‘word’ which has a positive attribute in one language but can have a profoundly negative meaning and may also lose uniqueness when translated in a different language. The English words, ‘impairment’ and ‘handicap’, which are the basis of disability but may have negative meaning when translated into some other language. The English word ‘impairment<sup>#</sup>’ is associated with medical trade which means ‘The state or fact of being impaired, especially in a specified faculty’ but means ‘haani<sup>^</sup>’ when translated into Hindi language. The word ‘haani’ is not only has a negative meaning but also propose a different interpretation in Hindi language.

The importance of language is very crucial yet complicated as it can have ‘disabling’ effect on different groups of people regardless of age, gender, race and of course, disability (Oliver, 1996). Therefore, language is a significant tool in translating official legislations and care should be taken while adopting a word or sentence in native language that the actual message is not lost in the translation. On the whole, we have to remember that words or phrases in some language reflects negative attitude and prejudiced mindset which may offend people with disabilities (United Nations, 2014).

The definition of disability, terminology in context to disabled people, influence of the medical and the social model are few important characteristics of disability policy. The definition of disability and ‘words’ adopted in the definition varies from country to country but ‘disability’, ‘handicap’ and ‘impairment’ are commonly used terms. They are presumed to be synonyms but each word has a deeper and distinctive meaning but both have notable presence in the conceptual models (Devlieger, 1999). The terminology/phraseology is very crucial when it comes to addressing the disabled community. The government policies, media instruments, pamphlets & brochures of academic institutions are important in spreading the awareness about correct and legal expressions used.

The terminology/phraseology used to address disabled people has pschycological effect on them and example mentioned in religious scriptures, media, press and official documents are discussed in Table.1

*Table following on the next page*

*Table 1: Terminology/Phraseology in context to disability (Author's own interpretation based on Barnes (1991), Barnes (1992), Foreman (2005), Bengtsson (2014)).*

Religious scriptures	Ancient times	21 <sup>st</sup> century
‘Power legs of lame’, ‘Fool’s mouth’, ‘Marred face’, ‘unclean’, ‘Blind’, ‘Deaf’, ‘Sinner’, ‘lame’.	‘Crippled’, ‘Handicap’, ‘God’s Gift’, ‘Special’, ‘Blemish’, ‘Defective’, ‘Mental’, ‘Psycho’, ‘Disfigured’, ‘Spastic’, ‘Problems to fixed’, ‘Dumb’, ‘Retarded’, ‘Burden’, ‘Normal’, ‘Aged and Infirm’, ‘imbecile’, ‘Half human’	‘Disabled people’, ‘People with disabilities’

A classic case of an Australian journal where the name of the journal was changed many times keeping in mind the impact of language in last 30 yrs. The journal was launched as ‘Australian Journal of Mental Retardation’ in 1970 but the title was changed in 1980 to ‘Australian Journal of Developmental Disabilities’ and then to finally to ‘Journal of Intellectual & Developmental Disability in 1996’(Foreman, 2005). This basically explains that the words and phrases which have negative impact usually gets eliminated from the system or replaced with more positive and acceptable words.

There are some words and phrases which can sound rude, aggressive, sexist, racist, out of context, sensitive and superficial, therefore, the usage of universally accepted and correct terminology and phraseology projects acceptance and respectful attitude (Foreman, 2005; United Nations, 2014). Oliver (1996, p.34) explains the sensitivity of word ‘handicap’ in mindset of disabled community, “A major bone of contention is the continued use of the term ‘handicap’ by the WHO schema. This is an anathema to many disabled people because of its connections to ‘cap in hand’ and the degrading role that charity and charitable institutions play in our lives”. Language or words influences peoples viewpoint towards disability, therefore table.2 underlies the critical evaluation of terminology/phraseology used in the past to the present.

*Table following on the next page*

*Table 2: The critical evaluation of terminology/phraseology (Author's own interpretation based on Barnes (1992), Canada, 1992 cited in Titchkosky, 2001, p. 127); Pati and Bailey (1995); Foreman, (2005); Snow (2009)).*

<b>Past terminology/phraseology</b>	<b>Present terminology/phraseology</b>
<b>The Autistics</b>	Person with autism
<b>Birth defect</b>	Congenital disability
<b>Blind</b>	Visually impaired or impairment
<b>Crazy, Insane</b>	Mentally ill
<b>Crippled</b>	Physically disabled
<b>Deaf</b>	Hearing impaired
<b>Dumb</b>	Unable to speak, non-verbal
<b>Dwarf/Midget</b>	Short stature/ short person
<b>Epileptic</b>	Person with epilepsy
<b>Fits, spells</b>	Seizures
<b>Handicap</b>	Person with a disability
<b>Mongolism</b>	Down-syndrome
<b>Mentally retarded</b>	Development disabilities, Intellectual disabilities, Learning disabilities, Neuro-developmental disorder, Mental disorder.
<b>Normal person</b>	Non-disabled person
<b>Physically challenged</b>	Physically disabled
<b>Wheel-chair bound</b>	Uses a wheel-chair

Disability is a confronted theme worldwide and care should be taken not to hurt sentiments of people unintentionally when we have influence of languages, religions & cultural beliefs on people and decision making process. The World Health Organisation introduced two conceptual models of disability i.e ICIDH and ICF and UNCRPD ratified in more than 200 countries to avoid chaos & bring transparency. The one of the objective of these models were to draft the manual in simple language and with an international perspective, covering all features of the social and the medical models including the definition of disability so all the countries can translate in their national language and implement them (Eskay et al, 2012).

#### **4. ATTITUDES, STEREOTYPING, LABELING, PREJUDICE, GENERALIZATION, DISCRIMINATION AND STIGMA.**

The Attitude of people towards people with disabilities matters a lot for the well being of the community. The negative attitude persistent among people confirms that disabled people are not yet socially integrated and still more to be done to achieve the status of equal rights (Hannon, 2007). Looking back in the history, disabled people were mistreated by undergoing forced drug tests, shock therapies, forced to psychiatric wards without their consent and to make it worse, there are some cases of genocide during world war II where 80,000-100,000 people were killed by Nazis( (Barnes, 1992; United Nations, 2014).

Due to negative attitudes still dominant, individuals with disabilities have to experience adverse and unacceptable reality of life ; this can be explained with diverse examples (WHO 2011; Nota et al, 2014; United Nations, 2014):

- Childhood and school trauma: Children with disabilities at school can be exposed to discouraging behavior, violence, threats, physical abuse and bullish attitude by other students, teachers and school staff. This is the most important and sensitive phase of disabled life which leaves psychological imprints left on child's mind forever.
- Work place discrimination: Employers, managers and colleagues discriminating treatment at work place.
- Gender Inequality: Females are mentally, sexually and physically abused as compared to males.
- Social constraints: Access issues at public places, strangers uncomfortable expressions and slurs, Unhelpful support from staff of public transportation, etc.

There are approximately 150 million children in the world with some kind of disability and has a deep impact on children's personality & development at different stages of life (WHO, 2011). The children are the worst example of negative attitude where they are not allowed to go to school, discouraged to participate in family gatherings, constrained to their house environment and treated in a badly by family (WHO, 2012). The disabled students in case of education and development do not get a chance to enrol their names in schools, not finish education if they start education, kept aloof from other students of same gender & age and are not allowed to participate in specialized skilled tasks such as, Laboratory work and sports & extra-curricular activities (Bjorvatna and Tungodden, 2015). To overcome these barriers, the concept of 'special' schools with 'specialized and professional' teachers was introduced but again it brings us back to same notion of exclusion i.e. alienates disabled children from other children ( United Nations, 2014). The disabled children are also social beings, rather human beings like other adults and they have right to be included in the society like other children.

According to Article 3 of United Nation Convention on the Rights of Persons with Disabilities, there should be equality among men and women, it is the one of the eight general principles of the convention (United Nations, 2006).The Woman with a disability has double disadvantages i.e. experiences ' two minority identities' and face 'double dose of stereotyping' in society dominated by men ; first, she is a 'woman' and second, she posses some kind of 'disability' (Black, 2013 citing in Garland-Thompson, 2001; Olyan, 2008). The disabled women are subject to rough and unimaginable life from the moment they are born until they die. They are discriminated in every possible way known to mankind for example, no balanced diet, worst living conditions, no access to education & health care, discarded by family & friends and no marriage prospects ( Rao, 2004; Parnes et al, 2009; Yoshida et. al, 2011) The United Nation has pointed out that one-third of disabled population globally are vulnerable to physical violence, sexual abuse and rape especially women and children ( United Nations, 2014).

Majority of researchers have pin-pointed in their qualitative and quantitative findings that negative outlook of employers are one of main reasons behind lack of disabled people in job market (Domzal, Houtenville and Sharma, 2008). Managers negative attitude and stereotyped shortsighted vision regarding extra cost to accommodate disabled people, less productive as compared to other employees, employees friction phobia between disabled and non disabled employees, unqualified, misconception about not meeting the organisation's goals and finally, customers image towards the organization (WHO, 2011; Domzal, Houtenville and Sharma, 2008; Livermore and Goodman, 2009). According to Araten-Bergman (2016), there are double standards in the corporate world also, managers pretend as they want to hire disabled people but it is exactly opposite of the intended behavior but this could be for various reasons i.e. job applications, financial and non financial resources, organizational culture etc. The non-disabled people are not to be blamed for discriminating behaviour against disabled people, sometimes it

is the disabled people and their families do not able to realize the potential which again leads to prejudice and ignorance ( O’Keefe, 2009). The main objectives of the companies to make profit and remain in business but there are overprotective laws in some countries which put the employers in dilemma to recruit disabled people, examples include shorter workings shifts, extended work breaks, etc (Kuddo, 2009).

There is a proverb ‘The first impression is the last impression’. It basically means that people’s physical beauty and aesthetic presentation, whether good or bad, helps in making an opinion. This is, unfortunately, another phobia which de-motivates disabled people to mingle with other people. The healthy body signifies that one is physically and mentally fit to take over any task and this is the subjective criteria to be accepted as a whole in the society (Black, 2013). The Olyan (2008) highlights word ‘defects’ in the book, ‘Disability in the Hebrew Bible: interpreting mental and physical differences and physical differences’, in the Biblical context shows a different perspective of abled-bodied dimensions and gives birth to the notion of stigmatization and marginalization. The qualities related to the perfect body i.e. clear skin, physically strong, agility, and wisdom and knowledgeable were given favours & rankings and prompts the world to ‘accept’ the best (beauty) and ‘reject’ the rest (imperfection) (Rose, 1997; Olyan, 2008; Bengtsson 2014; Schuelka, 2012).

Coming to stereotypes, it can be observed that people have ‘true’ or ‘assumed’ stereotypes about different kind of disabilities in context to disabled people’s educational capabilities, job performance, social and personal characteristics (Colella, De Nisi and Varma, 1998). Hence, people need to know different dimensions of disability to understand the negative stereotypes before arriving at any notion or judging disabled persons.

Barnes (1992) in his article holds media, press, television shows, books and movies responsible for misrepresenting disability and influencing negative stereotypes. Examples include books (Tiny Tim in Charles Dickens's 'Christmas Carol', Shakespeare's 'Richard III'), movies ('Dr Jekyll and Mr Hyde', 'The Good, The Bad and The Ugly', 'Children of a Lesser God').

To sum it all, such generalizations, attitudes and stereotypes have long term effect on disabled people which are discussed below (Thornicroft, Rose and Kassam, 2007; WHO, 2011, United Nations, 2014):

- Voluntary exclusion from day-to-day activities and social gatherings as they suffer from inferiority complex.
- Abandon their habits & lifestyles.
- Accept compromising job offers & remuneration.
- Self esteem issues, stress and frustration.
- Perception about them being unintelligent, dangerous & unpredictable.
- Change cities & homes to start again in life.
- Lack of safety and sense of discomfort among family members and friends.

## 5. CONCLUSION

There has been lot of awareness in regards to disability in last few decades where the government and the society realized that they cannot ignore the presence of disabled people around them. Every country has its own extensive legislation in context to disability and the main objective of legislative policy is to acknowledge and address the issues of world’s largest minority i.e. the disabled people where they have been ignored for centuries.

As long as negative attitude & behavior of people, languages, stigma & stereotyped mentality and cultural & religious beliefs persists in our society, it will take centuries for us to remove all

the societal barriers. These factors instigates de-motivated behaviour, prejudiced thinking and source of low self esteem at different stages in the life of disabled people, be at school or work place or social life. Although the transitional progress from ‘negativity’ to ‘positivity’ is rather slow but an open-minded, focused approach and full participation will make a difference in the disability movement.

Religious leaders have a obligation to preach the ‘goodness’ of respective religions to motivate disabled people and also in removing the socio-cultural barriers (Blanks and Smith, 2009). There is a scope of future study involving religious scholars in better understanding of religious manuscripts to address the doubts in people’s mind in context to disability as people tend to depend on religion to overcome their doubts about life. There is so much to learn from our religious scriptures and another domain of disability i.e. rehabilitation can also be explored. The limitation experienced while writing this article was the dearth of published literature on the relationship between disabled children & women and religious beliefs. There is also very little literature on Jainism, Buddhism, Sikhism and their take on people with disabilities.

Author hopes to spread awareness about negative stereotypes and attitudes where we are sometimes voluntarily or involuntarily involved in discriminatory process. Author has only presented negative approach of people, religion and society but future studies will explore on the counter measures to overcome all the social-cultural constraints discussed in this article. There is already so much misery and negativity in this universe and it is high time that non-disabled people ‘open up’ and ‘step up’ to share their phobias and queries in context to disability. It is much needed to overcome the imbalance in attitudes and beliefs. The Chinese proverb explains it, ‘You cannot clap with one hand only’, and therefore, we need the disabled and non-disabled community to embark on this journey of equalization and individualization to attain societal equilibrium.

Note: (\*) Biblical references from The Holy Bible.

(#) Meaning of impairment word from online dictionary ([http://www.oxforddictionaries.com/definition/american\\_english/impairment](http://www.oxforddictionaries.com/definition/american_english/impairment)) and (^) Used Google translator to translate from English to Hindi language.

## LITERATURE:

1. Araten-Bergman, T. (2016). Managers’ hiring intentions and the actual hiring of qualified workers with disabilities. *The International Journal of Human Resource Management*, 27(14), pp.1510-1530, DOI: 10.1080/09585192.2015.1128466.
2. Barnes, C. (1991). A brief history of discrimination and disabled people. *Disabled People in Britain and Discrimination: a case for anti-discrimination legislation*, C. Hurst and Co Ltd.
3. Barnes, C. (1992). Disabling imagery and the media :an exploration of the principles for media representations of disabled people. *Ryburn Publishing Limited*. ISBN 1 85331 042 5.
4. Bengtsson,S. (2014). On the borderline – representations of disability in the Old Testament. *Scandinavian Journal of Disability Research*, 16(3), pp.280-292. <http://dx.doi.org/10.1080/15017419.2013.873077>.
5. Björnsdóttir, K. and Traustadóttir, R. (2010). Stuck in the land of disability? The intersection of learning difficulties, class, gender and religion, *Disability and Society*, 25 (1), pp.49-62, DOI: 10.1080/09687590903363340.
6. Bjorvatna, K and Tungodden, B. (2015). Disabled by stereotype? Experimental evidence from Uganda. *Journal of Economic Behavior & Organization*, 118 (2015), pp. 268–280.

7. Black, H.K.( 2013). Gender, religion, and the experience of suffering: a case study. *J Relig Health*, 52, pp.1108–1119. DOI 10.1007/s10943-011-9544-y.
8. Blanks, B.A. and Smith, D.J. (2009). Multiculturalism, religion, and disability: implications for special education practitioners. *Education and Training in Developmental Disabilities The Journal of the Division on Developmental Disabilities*, 44(3), pp.295-304.
9. Brown, I., and Brown, R.I. (2003). Quality of life and disability: An approach for community practitioners. New York: *Jessica Kingsley Publishers*.
10. Canada (1992). Ministry of Citizenship, Office of disability office(Ontario), 1992. Word choices: a lexicon of preferred terms for disability issues. Toronto. *Queen's printer*.
11. Canada (1998). A visionary paper of federal/provincial/territorial ministers responsible for social services, 1998. In unison: A Canadian approach to disability issues. Hull: *Human Resources Development*, Canada.
12. Colella A., De Nisi A. S. & Varma A. (1998). The impact of ratee's disability on performance judgments and choice as partner: the role of disability-job fit stereotypes and interdependence of rewards. *Journal of Applied Psychology*, 83, pp.102–111.
13. Devlieger, P. J., (1999). From handicap to disability: language use and cultural meaning in the United States. *Disability and Rehabilitation*, 21 (7), pp.346-354.
14. Domzal, C., Houtenville, A., & Sharma, R. (2008). Survey of employer perspectives on the employment of people with disabilities: Technical report. Prepared under Contract to the Office of Disability and Employment Policy, *US Department of Labor*. McLean, VA: CESSI.
15. Eskay, M., Onu, V.C., Igbo, J.N., Obiyo, N. and Ugwuanyi, L. (2012). Disability within the african culture, US-China Education Review B 4 (2012). *David publishing*, pp. 473-484.
16. Foreman, P. (2005). Language and disability (opinions & perspectives). *Journal of Intellectual & Developmental Disability*, 30(1), pp.57–59.
17. Garland-Thompson, E. (2001). Re-shaping, re-thinking, re-defining: Feminist disability studies. Washington, DC: Center for Women Policy Studies, Barbara Waxman Fiduccia Papers on Women and Girls with Disabilities.
18. Hannon, F. (2007). Literature review on attitudes towards disability. *Disability research series 9, National Disability Authority*, Dublin.
19. Ingstad, B. and Whyte, S. R., (eds), (1995). Disability and culture. Berkley, *University of California Press*, 1995.
20. Johnstone, B., Glass, B.A. and Oliver, R. E. (2007). Religion and disability: Clinical, research and training considerations for rehabilitation professionals. *Disability and Rehabilitation*, August 2007; 29(15), pp.1153 – 1163.
21. Koosed, J.L., and D. Schumm. (2005). Out of the darkness: Examining the rhetoric of blindness in the Gospel of John. *Disability Studies Quarterly*,25(1). www.dsq.sds.org. Retrieved 03.08.2016 from : <http://www.dsq-sds.org/article/view/528/705>.
22. Kuddo, A., (2009). Labor Laws in Eastern European and Central Asian Countries: minimum norms and practices. [pdf]. *SP Discussion Paper 0920, World Bank*, 2009. Retrieved 02.08.2016 from <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0920.pdf> .
23. Livermore, G., & Goodman, N. (2009). A review of recent evaluation efforts associated with programs and policies designed to promote the employment of adults with disabilities. *Employment and Disability Institute Collection*. Retrieved 01.08.2016 from <http://digitalcommons.ilr.cornell.edu/edicollect/1262>.

24. Nota, L., Santilli, S., Ginevra, M.C. and Soresi, S. (2014). Employer attitudes towards the work inclusion of people with disability. *Journal of Applied Research in Intellectual Disabilities*, 27, pp.511–520.
25. Oliver, M. (1996). Defining impairment and disability: issues at stake, in Barnes, C. and Mercer, G. (eds) *Exploring the Divide: Illness and Disability*, Leeds: The Disability Press, pp.29 -54.
26. Olyan, S. M. (2008). Disability in the Hebrew Bible: interpreting mental and physical differences and physical differences. Cambridge: *Cambridge University Press*.
27. Otieno, P.A. (2009). Biblical and theological perspectives on disability: Implications on the rights of persons with disability in Kenya. *Disability Studies Quarterly*, 29(4) . Retrieved .08.08.2016 from www.dsq.sds.org.
28. O'Hanlon, E. E. (2013). Religion and disability. the experiences of families of children with special needs. *Journal of Religion, Disability & Health*, 17 (1), pp.42-61. DOI: 10.1080/15228967.2012.731874.
29. O'Keefe, P. (2009). People with disabilities in India: from commitments to outcomes. [pdf]. World Bank Report. Retrieved 03.08.2016 from <http://documents.worldbank.org/curated/en/577801468259486686/People-with-disabilities-in-India-from-commitments-to-outcomes>.
30. Parnes, P., Cameron, D., Christie, N., Cockburn, L., Hashemi, G. and Yoshida, K. (2009). Disability in low-income countries: Issues and implications. *Disability and Rehabilitation*, 31(14), pp. 1170–1180.
31. Pati, G. C. and Bailey, K. E. (1995). Empowering people with disabilities: strategy and human resource issues in implementing the ADA. Organizational dynamics : a quarterly review of organizational behavior for professional managers, Pergamon, *Elsevier Science*, ISSN 0090-2616, 23( 3), pp.52-69.
32. Rao, I. (2004). Equity to women with disabilities in India. Bangalore, CBR Network, 2004. [PDF]. Retrieved 01.08.2016 from <file:///C:/Users/welcome/Downloads/7667871Equity%20to%20women%20with%20disabilities%20in%20India2012%20October.pdf> .
33. Rose, A. (1997). ‘Who causes the blind to see’: Disability and quality of religious life. *Disability and Society*, 12(3), pp. 395–405.
34. Schuelka, M. (2012). Faith in humanness: disability, religion and development, *Disability & Society*, 28(4), pp.500-513, DOI: 10.1080/09687599.2012.717880.
35. Shapiro, J.P. (1993). No pity: People with disabilities forging a new civil rights movement. New York: Three Rivers.
36. Snow, K. (2009). “People first language chart,” disability is natural. [online/pdf]. Retrieved 11.08.2016 from [http://www.inclusionproject.org/nip\\_userfiles/file/People%20First%20Chart.pdf](http://www.inclusionproject.org/nip_userfiles/file/People%20First%20Chart.pdf) or <https://www.disabilityisnatural.com/people-first-language.html> .
37. Stefánsdóttir, G.V. (2008). “Ég hef svo mikið] he[ t að] he[ t segja” Lífssögur Íslending með] þroskahömlun á 20. öld [‘I have so much to say’: Biographical life history research with people with learning difficulties in the 20th century Iceland], in Icelandic. Reykjavík: Háskólaútgáfan .
38. Stone-MacDonald, A. (2012). Cultural Beliefs about Disability in Practice: Experiences at a Special School in Tanzania. *International Journal of Disability, Development and Education*, 59(4), pp. 393–407.
39. Stiker, H.-J. (1999). A history of disability. Trans.W. Sayers. Ann Arbor: *University of Michigan Press*.
40. The Holy Bible [New King James Version] (1982). Thomas Nelson.

41. Thornicroft, G., Rose, D., Kassam, A. (2007). Discrimination in health care against people with mental illness. *International Review of Psychiatry*, 19 (2), pp.113-122.
42. Titchkosky, T. (2001). Disability: a rose by any other name? “People- first” language in Canadian society. *Canadian Review of Sociology*, 38(2), pp-125-140. DOI: 10.1111/j.1755-618X.2001.tb00967.x.
43. United Nations. (2006). Convention on the Rights of Persons with Disabilities and Optional Protocol. [pdf]. Retrieved 10.08.2016 from <http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>.
44. United Nations (2014). The Convention on the Rights of Persons with Disabilities: *training guide. Professional training series no-19*. [pdf]. Retrieved 10.08.2016 from [http://www.ohchr.org/Documents/Publications/CRPD\\_TrainingGuide PTS19\\_EN%20Accessible.pdf](http://www.ohchr.org/Documents/Publications/CRPD_TrainingGuide PTS19_EN%20Accessible.pdf).
45. World Health Organisation (2011). World report on disability. [pdf]. Retrieved 10.08.2016 from [http://www.who.int/disabilities/world\\_report/2011/report.pdf](http://www.who.int/disabilities/world_report/2011/report.pdf).
46. World Health Organisation ( 2012). Early Childhood Development and Disability: A Discussion Paper. World Health Organization, Geneva. [pdf]. Retrieved 10.08.2016 [http://apps.who.int/iris/bitstream/10665/75355/1/9789241504065\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/75355/1/9789241504065_eng.pdf).
47. Yong, A. (2011). Disability and the love of wisdom: de-forming, re-forming, and performing philosophy of religion. *Evangelical Review of Theology*, 35(2), pp.160-176.
48. Yoshida, K., DuMont, J., Odette, F. and Lysy, D. (2011). Factors associated with physical and sexual violence among Canadian women living with physical disabilities. *Health Care for Women International*, (32), pp. 762–775.

## GEO-ECONOMICS AND ALTRUISM: THE CASE OF SUB-SAHARAN AND ASIAN COMMUNITIES

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### **ABSTRACT**

The concept of altruism, first introduced by the sociologist Auguste Comte in the mid XIX th century, appeared in the theory of economics and social integration economics a centruy later, on Gary Becker's initiative. In philosophy and economics, altruism corresponds to extended rationaliy, expanding economic calculation to the relation an individual brings to their social environment. Since 1974, altruism has taken into account the role the other can have in ascendant or descendant intergenerational relations. Yet, the other's integration in economic calculation implies the introduction of moral standards and values, which amounts to modeling human behaviour, such as giving and taking or donations and counter donations. In our analysis, altruism refers to transfers, which have made it possible for the African continent to withstand all types of natual and economic disasters for generations, just as it has, in the meantime, enabled the Chinese community in Asia to build a real economic supremacy. We thus invoke a system of generalized, reciprocal solicarity ( GRS) and ask if these different variants of altruism really enhance the reduction of poverty.

**Keywords:** Altruism, donations and counter donations, extended rationality, generalized reciprocal solidarity

### **1. INTRODUCTION**

The concept of altruism, the opposite of egoism, was first introduced by the sociologist Auguste Comte in the mid XIX th century. The same concept appeared in the theory of economics and social integration economics a centruy later, on Gary Becker's initiative.

In philosophy and economics, altruism corresponds to « *extended rationality*»<sup>1</sup> , expanding economic calculation to the relation an individual brings to their social environment.

Since 1974, altruism has comprised taking into account the role *the other* can have in ascendant or descendant intergenerational relations. Yet, *the other's* integration in economic calculation implies the introduction of moral standards and values, which amounts to modeling human behaviour, such as giving and taking or donations and counter donations.

In our analysis, altruism refers to transfers, which have made it possible for the African continent to withstand all types of natual and economic disasters for generations, just as it has, in the meantime, enabled the Chinese community in Asia to build a real economic supremacy. We thus invoke a system of generalized, reciprocal solicarity ( GRS). However, do these different variants of altruism really enhance the reduction of poverty?

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<sup>1</sup> Mahieu F. R. et Rapoport H. (sous la dir.), « *Altruisme : Analyse économique*», Paris, Economica, 1998, p. 114.

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In our analysis, altruism refers to transfers, which have made it possible for the African continent to withstand all types of natural and economic disasters for generations, just as it has, in the meantime, enabled the Chinese community in Asia to build a real economic supremacy. We thus invoke a system of generalized, reciprocal solicitude (GRS). However, do these different variants of altruism really enhance the reduction of poverty?

## 2. WHAT ALTRUISM IS IT ALL ABOUT?

In spite of the theoretical divergences that we have just cited, there exists a similarity between human societies, namely poverty control. If causes and solutions vary, the objective is largely accepted. The fact that these human beings can face famine, can be doomed to early death, to illiteracy or to a second class citizenship runs counter to what the concept of “justice” means to most of us. We know that all great religions voiced their concern for fairness and equity, by encouraging or even obliging their followers to make of the fight against extreme poverty a moral duty or obligation. In fact, when we address control of poverty through donation, be it in kind (give a little or much of your time) or material (a merchandise) or monetary, it is difficult to dissociate the act per se- described as altruism- from the above mentioned moral obligation.

« The drawback of sociological altruism is that it is marred by values (i.e., good/evil, good/bad, free/totalitarian, just/unjust) which make it less compatible with the economic reasoning... This moral altruism should be corrected by going back to the tradition of philosophy... Altruism, in economic philosophy, corresponds to an extended rationality, expanding economic calculation to the relation the individual has with their social environment»<sup>3</sup>. Basically, « By definition, an altruist wishes to reduce their own consumption in order to increase the others' consumption »<sup>4</sup>. It is a benevolent altruism. A person who gives a coin to a beggar in the street, who grants of his time to an elderly person or shares their home with a poor person ...etc without the act being materialized or even revealed, reflects generosity, solidarity, altruism. The Cancer Research Association ‘ARC’ in France at the end of the previous century is a case in point. It is also the case of some boards of unemployed people and social firms or work integration enterprises.

Payment of state subsidies to help with the integration or reintegration of disadvantaged people or people with work-re-entry difficulties does not mean the ability to ensure social follow-up until re-integration.

This is a case of usurpation of public funds, as it were. Likewise, payment of money to charities can sometimes come under disinterested altruism and sometimes under interested altruism. In France, for example, a monetary donation to an officially recognized non-profit organization such as (Restaurants du cœur) gets a monetary reduction of income tax in return.

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<sup>2</sup> Mahieu F. R. et Rapoport H. (sous la dir.), « *Altruisme : Analyse économique* », Paris, Economica, 1998, p. 114.

<sup>3</sup> Jarret M-F. et Mahieu F.-R. (1998) *Economie publique, théories économiques de l'interaction sociale*, Paris, Ellipses, p. 82

<sup>4</sup> Becker G., (1997) in Jarret et Mahieu op. cit., p. 21

This mechanism implemented by public authorities raises several questions:

- ‘Donations’ are not spontaneously managed, (in the sense of management) by the donating person, but rather by organized and institutionalized. Through ‘tax-deductible contributions or tax incentives’, the government seeks to influence the behaviour of households and it is possible to suppose that such behaviour would have been different for some of them if there had not been a tax reduction in return.
- An objection can be immediately expressed given that not all donating households are subject to income tax. These households do not have any financial benefit in such circumstances. Donating, therefore, has a particular externality for taxable households. This does not mean that they are altruistic, but it is likely that calculations related to tax reduction is an element, among others, which influences the choice and the amount of donations.
- Under these circumstances, Can we consider that donations granted by the two different categories of household come under the same type of altruism? They undoubtedly seek to attenuate the effects of poverty and/or take part in the progress of research that is the concern of all of us. It may be assumed that in a capital system society, the act of donating has a reciprocal donation in return, a donation that is not symbolic as is the case in other societies, but monetary.  
In exchange for their donations, non-taxable households get a social and/ or moral benefit. The other households get a monetary benefit as well, so that the distinction between households depending on their qualifying income remains established beyond their source of income as well as their respective expenditure.

It is still possible to ponder over benevolent or malevolent character of altruism by examining the advertising that accompanies certain acts. If, at first glance, nobody can contest that donating to the poor is an altruistic act, the fact remains that some of them are known by the general public whereas others come under the greatest discretion. Bringing one’s generosity forward, be it with or without monetary compensation, such income tax reduction in France, could mean that the donor is trying to win the respect and admiration of their entourage. Only when such an approach is related to what sociologists refer to as social interaction can it make sense. Therefore, donations and help of the poor are, at least partly, motivated by the attitude of the others, the gratitude and whose approval the donator looks for.

Individual acts are not disinterested and cannot come outside the societal framework. It seems to us that this kind of behavior is more likely when advertising donations become the norm. In a context of massification of information and media sensation and explosion, does the « people-ization » (or celebrity culture) of charity organizations permanently raising donations for

« just causes » come under altruism? Nothing is less certain!

« And if stars were but icons in charge of doing good business for humanitarian industries»<sup>5</sup>. The president of UNICEF France confirms without beating about the bush: « yes, we need celebrities; they offer us easy access to the media and arouse donators’ interest for our cause. A press conference by Emmanuelle Béart witnessing to what she saw in became an event »<sup>6</sup>.

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<sup>5</sup> In Le Nouvel Observateur, 22-28 février 2007 p. 94-97

<sup>6</sup> Idem

In the same article, the actress confirms that she « does not believe in altruism ...but rather in exchange ». However, this non exhaustive example reveals the « commidification » of donations, of the fight against inequality, privatization and suffering; and it is o not certain that it is done in favour of the sole beneficiaries. Other organizations, such as Doctors without Borders (DWB), have chosen to appeal to people's generosity by phone or internet, without television showcase.

Finally, regarding limits of « organized altruism », we would like to cite some of the conclusions that **the court of auditors**, related to the management of donations after the “natural” disaster of Tsunami, published in January 2007. In France, between 340 and 350 million Euros were raised, to which should be added 67 millions of public assistance. The report states that a 1/3 following the congestion of international assistance. The budgets received were sharply bigger than the staff members to manage them on site.

The report also states that part of the donations raised by charities or international agencies is reoriented. The UNICEF, for example, paid in €57.4 million to its head office based in New York. For the Red Cross and Catholic relief, the percentage of the money employed compared to donations is about 40%. The amount still available can be granted to local NGOs, to intermediaries, namely in the building and public works sector.

In an article published in the ‘Nouvel Observateur’, Serge Paugam (2013) pointed out the enthusiasm for private solidarity « in the form of an advertized call for generosity .... The latter would sometimes even reveal virtues deemed superior to public solidarity, often perceived of as bureaucratic and impersonal...Of course, while this generosity should not be disregarded, it should be remembered that it cannot be taken as an alternative to collective solidarity as it was conceived of at the end of the 19th century». Yet, the author further denounces the fact that public authorities often react on an ad hoc basis and the most visible solidarity actions are those that take place urgently. « News regularly highlights all visible signs of solidarity that one regards as spontaneous, but which is, in fact, nurtured and supported by the media ».

Fighting against poverty through public policies and/or private solidarity, comparable to altruism, have limitations and challenges theorists. For Van Parijs (2003), it is important to look for justice, i.e., make it possible for each and everyone- not only in theory (place) - to have access to goods and services. « It concerns more that which is given to everyone and what they do with it; it makes it possible to realize their understanding of life, in whatever form, and not a particular understanding that society considers superior to others ». This amounts to defining a method which will make it possible to provide everyone with opportunities and do this ethically, without preaching. It is a major challenge for the theory of « modern » justice ». According to the author, an acceptable idea of justice should be egalitarian in the sense that « it should express a form of concrete solidarity between members of the society in question .... Justice, therefore, is not a matter of equity of exchanges... It is not more a matter of collective optimality, understood as production of globally effective facts for public interest. Inequality may be fair provided it contributes to the improvement of the fate of the disadvantaged.

Fighting against inequality may entail acting on real opportunities and concrete capacities. It is not a question of expressing intentions to show compassion. Galbraith believes the latter is « the most authentically conservative rule...no paradox to this. Social dissatisfaction and the consequences it can result in will not stem from satisfied people. As long as we can make satisfaction as universal as possible, we will preserve and reinforce social and political peace and tranquility. Isn't this what conservatives should aspire for after all? »<sup>7</sup>

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<sup>7</sup> Van Parijs Ph. (2003) *Ethique économique et sociale*, Paris, La découverte, p.5.

Long before Galbraith, Simmel, in his reflection on the sociology of poverty, focused on « disillusioned view on private and public charity and philanthropy<sup>8</sup>, with the latter being not an end per se, but rather a means to reach societal cohesion » (Paugam, 2013, 47). Does assistance emphasize satisfying the receiver as a priority, the donator or public order? The example of British trade unions (cited by Simmel), which provide assistance for unemployed members, makes it possible to understand that they not only seek to attenuate income inequality but also to spare job seekers, now free, offering their services at lower wages, which would, in turn, result in a decrease in wages in the business sector in question.

The author goes further to say that providing the poor with assistance is tantamount to avoiding rebellion and violence on the part of those seeking higher incomes through various means; it is also tantamount to ensuring an unquestionable societal stability so much so that assistance is in fine conservative. « The purpose of assistance is precisely to mitigate certain extreme demonstrations of social differentiation, so that social structure can be maintained based on such differentiation » (Paugam, 2013, 49).

This criticism leveled to assistance to the poor worldwide is found in Thomas Pogge<sup>9</sup>. He argues that international economic interaction is considerable. Unlike Rawls, he thinks that poverty and extreme poverty do not reveal domestic (or international) causes. If it is true that, in the 1960s, some Asian and African countries had a comparable GDP per capita, but very different 50 years later to the detriment of the latter, this trajectory differentiation cannot be explained in terms of domestic factors; factors, which, according to Rawls, are related to political culture, religious, philosophical and moral traditions as well as to the demographic policies and the nature of the governments etc. For Thomas Pogge, it is important not to be unaware of or to conceal the importance and weight of history marked by slavery, colonialism and even genocide. « Although these crimes belong to the past, they have left a heritage of great inequalities which would be unacceptable even though the peoples now have control over their own development... By considering the problem of poverty solely in terms of assistance, we do not take into account the fact that our enormous economic advantage is deeply marked by the way in which accumulation occurred within the context of a historical process that devastated the societies and cultures of four continents. »<sup>10</sup>.

Since the end of colonization, the world economic order has been based on rules in favour of the richest rich countries by protecting them from imports from developing countries through the world trade organization (WTO). The control of information, expertise, production and access to ICT give rich countries superior negotiating power, so that this world economic order reflects, in the first place, the interests of the citizens, companies of rich countries and, de facto, is less favourable to poor societies.

Under these circumstances, assistance as an adjustment variable cannot reduce inequalities; on the contrary, it makes it possible to maintain a hierarchy in terms of wealth. To support his thesis, the author invokes the image of the child who drowns, attributed to Peter Singer: a professor who sees a young child drowning must save them, even if they get their clothes dirty.

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<sup>8</sup> It will do well if one judges the new followers, such as Bill Gates and Warren Buffet , who bequeathed 31billion dollars to Gates foundation. By « somewhat distancing themselves from the traditional methods of foundation management, they seek to make their organization financially and socially more effective and more efficient, while still dreaming of the advent of the charity business called “philantropic capitalism » The Economist, translated by F. Boisivon in “Problèmes économiques”, n°2. 912, 6 December 2006, p.37.

<sup>9</sup> Pogge Th. (2003), Porter assistance aux pauvres du monde, *Raison publique*, n°1, octobre, Bayard, pp. 104-108, trad. Fr. par P. Savidan.

<sup>10</sup> Pogge Th. (2003), Porter assistance aux pauvres du monde, *Raison publique*, n°1, octobre, Bayard, pp. 104-108, translated into French by P. Savidan.

Likewise, the rich have the obligation to « send money to humanitarian organizations which, thanks to the few Euros they receive, can prevent that children die of hunger »<sup>11</sup>. In Thomas Pogge's view, this perspective reinforces the common moral judgment, according to which rich citizens and countries are not so much responsible for poverty than for the young child. Several reasons can explain this feeling, largely widespread in industrialized countries:

- Psychologically, it is a source of comfort for people living in the developed world.
- considering that domestic factors are responsible for poverty amounts to underestimating or ignoring global factors. In as much as certain countries develop, and others do not, it is possible to eradicate poverty based on domestic factors.
- many governments in the poor countries are corrupt, which can hardly be attributable to the world economic order, but to the behaviour of elites who hardly have any concerns about their compatriots' living conditions. Only when democracy and rule of the law are instituted in these countries can worldwide reforms be started.

Pogge prefers to stress that there is no corruption without corrupt people and corrupting people! Corruption has the effect of making a minority wealthier to the detriment of a majority kept in a state of poverty or extreme poverty: lack of transparency in public contracts, import licenses granted to those offering more, bribes in weapon industry, imports of over invoiced and useless products, etc., that is to say, so much public expenditure wasted and/or receipts misappropriated.

Worse still, « bribed and corrupt political leaders and officials accept the development of sex tourism, imports of toxic wastes, location of polluting companies, forced labour of young children», etc., i.e., so many causes<sup>12</sup> that do not serve the interests of local populations, but rather keeps them away from welfare and, ultimately, from development. The solution for poverty and extreme poverty is, therefore, not public assistance if the latter contributes to maintaining disparity in terms of living standards. The same holds true for private generosity of some and the altruism of others (which one should not neglect), of which the impact is unlimited. For Pogge, without ignoring the (shared) responsibility of certain elites, it is far more necessary to:

- reduce the harm caused.
- avoid taking advantage of injustice to the detriment of those suffering from it.
- compensate the poor, i.e., to reduce the impact of worldwide unequal regulations, which lead to positive externalities for rich countries (such as exploiting natural resources of poor countries) and negative externalities for poor countries (appropriation of their resources, pollution, namely greenhouse effect due, for its most part, to consumption patterns of wealthy countries)

### 3. COMMUNITY TRANSFERS

With regard to community transfers, the approach is François Régis Mahieu's work. In his essay, he tries to compare the standard economic theory and the local contingencies in Africa. The different characteristics of community transfers are analysed based on surveys conducted with Ivorian and Mauritanian communities based in France. According to François Régis Mahieu, « *community transfers result from migration* ».

<sup>11</sup> Singer P., (1972), « Famine, influence and morality », Philosophy and public Affairs, 1, 249-43 in Pogge Th. (2003), Porter assistance aux pauvres du monde, *Raison publique*, n°1, October, Bayard, pp. 104-108, translated into French. by P. Savidan.

<sup>12</sup> The latest statistics from IMF are challenging: the amount of laundered money has increased ten-fold, or even more since 1990. Besides drug smuggling and counterfeiting trade, underground and illegal economy cover trafficking in human organs and endangered species, industrial wastes, forged money, hand guns, nuclear centrifuges.

*This migration, in turn, is due to the distance of a relative and takes the form of cash or in kind transfers.»<sup>13</sup>. This flow takes place mainly between France and the countries of origin. Transfers reflect a certain solidarity, as it were, between migrants and their families. In short, they become self-evident to everyone and are taken as a moral obligation stemming from their social status vis-à-vis the other members of the family. During the first years of independence, fears voiced by anthropologists with regard to the disintegration of the hard core of African societies soon turned out to be certainties due to the impact of what Serge Latouche called «Ethnocentric development».*

*For him, « talking about the causes of the collapse in Africa is just a Western project taken over literally. Such an assertion is absolutely accurate from a historical point of view. Such things like the great society, modernity, economic development, State-nation, representative democracy, human rights were unknown to pre-colonial Africa, and the same holds true for all the other values underlying this civilizational project. Africans have only taken over, on a trunkey basis or after a hasty and incomplete inventory, with conviction, enthusiasm, suspicion or repugnance, the collection proposed by the Wes »<sup>14</sup>:*

François Regis Mahieu questioned this vision, which he describes as «deterministic». According to him, in economies that are very much open on the West, as is the case with Ivorian economy, cultural and economic resistance has been exceptional. Such a resistance, he argues, is intricately related to the adaptation of community bonds to the changes of African societies. In fact, community obligations in Africa have remarkably been adapted to the changes in the living environment. Consequently, community transfers, which are closely related to community obligations and social status, reflect the varying realities of contemporary Africa.

For utilitarians, this solidarity system is utopian. It is nevertheless a reality in African societies. Worst off African tax payers are entitled to redistribution vis-à-vis the well-established members of the community living abroad, except for excluded ones. This is the case of a growing number of young people in the streets of big African cities. For Serge Latouche, social imperialism is apparent through the important role of family relationships or kinship. Kinship extends not only to extended family groups but to friends and neighbours as well, and it is strengthened via ceremonies, ancestors' worships, and land bonds.

«All this results in the famous African solidarity which has no equivalent elsewhere»<sup>15</sup>. Such solidarity even withstands immigration and can be seen in Malian and Senegalese, especially in the outskirts of big cities, with the obligation to provide accommodation for certain members of the tribe and transfers that help families in the country survive, etc.: «When I lived in Paris,» says a Mauritanian student I met in Paris, «I used to have a five-room house. I never knew the number of people who used to eat and spend the night in my house».

Transfers can take many forms: in time, in work, in money. Overall, we can distinguish two types of transfers, namely direct transfers and indirect transfers. From the geographical point of view, transfers can be inter-zone (from city to countryside) or intra-zone (between nationals and diaspora).

The most known form of transfers consists into cash sendings. However, there also exists other forms, which although less classic, play a dominating role in African societies. Transfers related to ceremonies and, more particularly to funerals, are a case in point. Il s'agit, par exemple, des

<sup>13</sup> Mahieu F. R., «Les fondements de la crise économique en Afrique» (*The foundations of the Economic crisis in Africa*), Paris, L'Harmattan, 1990, p. 34.

<sup>14</sup> Latouche S., «L'autre Afrique : Entre don et marché», Paris, Albin Michel, 1998, p. 18.

<sup>15</sup> Ibid., p. 39.

transferts liés aux cérémonies, et plus particulièrement aux funérailles. Thus, in villages, once a death occurs, community members based abroad find themselves obliged to help the bereaved family so as not to miss such an important opportunity of redistribution. Everyone's contribution depends on their social status.

New forms of redistribution have emerged within the framework of redistribution policies. Through nationals' associations, mutual funds and unions, migrants contribute to the implementation of socio-economic projects in their villages of origin. Added to these different forms of transfers is the permanent assistance to the needy of the community.

In African societies, transfers are not only cash transfers. They can be in kind (food sendings, exchange of meals), in work, or even in time. For example, during funerals, visits can constitute « time advance », which will be paid back when the opportunity arises. However, as Régis Mahieu points out in his work « *Les fondements de la crise économique en Afrique* »-(*The foundations of the Economic crisis in Africa*) , cash transfers can be replaced by time transfers and vice versa.

#### 4. GENERALIZED RECIPROCAL SOLIDARITY (GRS)

The second example of altruism that we will address in this section is what has come to be called Generalized Reciprocal Solidarity (GRS). It is another form of widespread solidarity among members of Chinese community based in Malaysia.

Chinese community in Malaysia accounts for over 33% of the global population of this country with about 120,1 million inhabitants. However, Toutefois, its economic supremacy is unquestionable. In Malaysia, regions with the lowest rate of poverty are those that received the largest number of Chinese migrants.

According to Florence Delaune, « *Chinese communities worldwide constitute a “nation”, i.e., a human community with a more or less strong a historical, linguistic, ethical and economic unity. One of the characteristics of this “nation” is, therefore, that they have no territory, no written law and no written constitution* »<sup>16</sup>. The source of the economic specificity of this ‘nation’ lies in the existence of various networks of relations that have enabled the Chinese diaspora to develop a dynamic entrepreneurship. This confirms the relevance of the concept of « network ». In fact, in his work entitled « *Le marché autrement* », Mark Granovetter emphasizes that « *It is no longer possible to (...) think of market as a simple matching between supply and demand by excluding the social networks on which these rest. In order to increase understanding of economic phenomena, adopting a sociological perspective appears to be more heuristic than standard economic theory* »<sup>17</sup>. GRS confirms Mark Granovetter's approach. It focuses on the fact that economic relations are embedded in a network of personal relations that enable individuals to contact each other and a person's choices are related to the choices and behaviour of others.

GRS approach states that the relations which link members of the Chinese community constitute a real asset to fight against poverty.

As is the case of the community solidarity approach, Chinese individuals try to maximize their welfare function in view of the various constraints imposed by their community, on the one hand, and by the host society on the other hand.

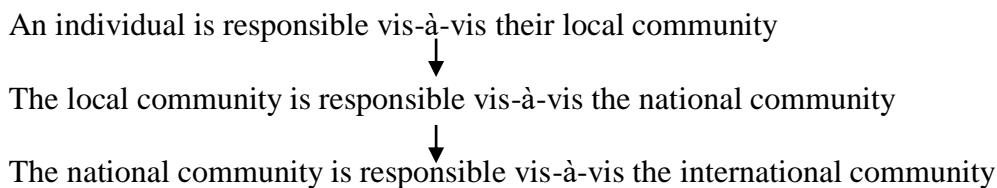
Inside their community, they are expected to meet a variety of requirements for two important reasons: debts towards the other members of their community and the protection that the latter provides for them in an unpredictable environment. As is the case for Africa, declining a gift is likely to result in exclusion, for this may be interpreted as a refusal of reciprocal solidarity, which reduces the chance of getting help in the future.

<sup>16</sup> Mahieu F. R. et Rapoport H. (sous la dir.), « *Altruisme : Analyse économique* », Paris, Economica, 1998, p. 221.

<sup>17</sup> Granovetter M., « *Le marché autrement* », Paris, Desclée De Brouwer, 2000, p. 10.

GRS is similar to the system of community reciprocity examined by Sugden, in which individuals are well advised to behave in solidarity and accept the game rules governing community life. In GRS model, everyone is supposed to be concerned about each other's situation, playing the role of donor in some cases and that of beneficiary in other cases. If a person refuses the game, they are automatically ostracized, a fact which encourages commitment of individuals vis-à-vis their group and constitute the key to economic success of the Chinese community.

In the diagram below, Florence Delaune illustrates the behaviour of the Chinese community:



The diagram above clearly shows a pyramidal control which leads to solidarity being maintained. It represents a sort of insurance for the most cooperative and ultimately the most united members, without there being any written contact. At the same time, it also deters cheaters and «*clandestin passengers* (stowaways)», as per the Mamadou Koulibaly formula. Every individual is, therefore, a donor and beneficiary. Individuals can constantly benefit from sufficient solidarity on the part of others provided they do likewise towards their compatriot. Those who have benefited from solidarity are persuaded that they have to return it if they intend to benefit again in the future. Therefore, one can hardly run into unemployed people or poor people within the community.

Those who have nothing to exchange but their capacity for hard work will remain all their lives at the mercy of their boss. They tolerate their conditions not out of kindness and generosity, but rather out of interest, given that they expect their employer to provide them with accommodation, food, medical care and support in case of police checks. This kind of dynamism with the Chinese community allows quick money circulation and prevents hoarding.

Family businesses are not only a source of fulfilment and thriving for the Chinese community, but also a dynamic system of social security totally independent of that provided by the host country. One of the comparative advantages of Chinese migrants in Malaysia stems from the availability of capital, which, had there been no solidarity between the members of the group, would have been badly exploited. In fact, those who owned capital lent it to their compatriots at preferential rates, while lending it at higher rates to Malays and Indians. However, while preserving higher levels of social inequality, the Chinese community has an advantage because it provides opportunities to access credit for everyone, a fact which has made it possible for a large number of Chinese people to climb the (social) ladder and improve their own destiny. If at all family businesses continue to reflect the Chinese economic genius, it is thanks to family commitment as a heritage from old generations. This reminds us of Hassan Zaoual's emphasis on the role of shared beliefs in economic development<sup>18</sup>. According to him, any fulfillment and thriving is the result of synergy between history, beliefs and rituals. In fact, the rules and institutions of the site derive from shared beliefs. They impregnate the values and the rules on which membership networks rest. Any individual decision takes into account the community dimensions where cohesion and solidarity remain vital.

Reciprocity, thus, is the very basis of Chinese solidarity. Upholding such solidarity is ensured by a strict supervision which, for its part, makes it possible to reduce risks that egocentric and

<sup>18</sup> Zaoual H., «*Du rôle des croyances dans le développement économique*», (The Role of Beliefs in Economic Development) L'Harmattan, 2002.

opportunist behavior of certain «*clandestin passengers (stowaways)*». At the same time, GRS rests on the values having upheld it, such as tethics, confidence and reciprocity.

Finally, unlike African community solidarity, in GRS, the rich do not have to give to the poor unless their interests are satisfied. This excludes relations of excessive dependence, which is missing in African communities where free donations are widespread. Each person, be they rich or poor, strong or weak, is supposed to play the game of the community. It is in their interest to give as much as they receive, which is a cultural constraint. However, the idea of transferring the same behaviour to another community is a utopia.

## LITERATURE:

1. Aghassion M., *Les migrations africaines : Réseaux et processus migratoires*, Paris, Maspero, 1976.
2. Amiraux V., *Acteurs de l'Islam en Allemagne et Turquie*, Paris, L'Harattan, 2001.
3. Cours des comptes de France, *L'accueil des migrants et l'intégration des populations issues de l'immigration*, Paris, Direction des journaux officiels, 2004.
4. Delaune F., *Les entreprises chinoises en Malaisie*, Villeneuve d'Ascq, Presse Universitaire de Septentrion, 1998.
5. Galloro P., *20 ans de discours sur l'intégration*, Paris, L'Harmattan, 2005.
6. Granovetter M., *Le marché autrement*, Paris, Desclée De Brouwer, 2000.
7. Haut Conseil à l'Intégration, *Affaiblissement du lien social, enfermement dans le particularisme et intégration dans la cité*, Paris, La documentation française, 1997.
8. Latouche S., *L'autre Afrique : Entre don et marché*, Paris, Albin Michel, 1998.
9. Lebras H., *L'adieu aux masses : Migration et politique*, Paris, Edition de l'Aube, 2003.
10. Mamung E., *Mobilité et investissement des immigrés : Maroc, Tunisie, Turquie, Sénégal*, Paris, l'Harmattan, 1997.
11. Mahieu F. R. et Rapoport H. (sous la dir.), *Altruisme : Analyse économique*, Paris, Economica, 1998.
12. Mahieu F. R., *Les fondements de la crise économique en Afrique*, Paris, L'Harmattan, 1990.
13. Muzard P., *En finir avec la guerre contre la pauvreté*, Paris, Temps des cerises, 2001.
14. Remy G., *Les migrations de travail et le mouvement de colonisation Mossi*, Paris, O.R.S.O.M, 1973.
15. Sidonie A., *Fécondité et immigration africaine : Les nouveaux enjeux*, Paris, L'Harmattan, 2004.
16. Stora B., *Aide mémoire de l'immigration algérienne*, Paris, L'Harmattan, 1992.
17. Zaoual H., *Du rôle des croyances dans le développement économique*, Paris, L'Harmattan, 2002.

## **Enterprise in Turbulent Environment**

## MULTIMOORA AS SYSTEMS ENGINEERING FOR MODERN BUSINESS AND INDUSTRY

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### **ABSTRACT**

*Managerial Issues in Modern Business and Industry are to be based on Systems Engineering, meaning an objective minded approach. Mostly people are solution instead of objective minded. Cost-Benefit Analysis is an example of this way of thinking. For the researcher in multi-objective decision making the choice between many methods is not very easy. Indeed numerous theories were developed based on forerunners since the XVIII<sup>th</sup> Century and followed by a mass of methods for Multi-objective Optimization. The authors of this article developed new methods, first MOORA composed of two methods: Ratio Analysis and Reference Point Method, each controlling each other. Even a third method was added namely the Full Multiplicative Method, arriving finally to three methods brought together under the name of MULTIMOORA. An Ordinal Dominance Theory summarizes the results of the three methods. Finally these methods are in general use in the Industry and Service Sectors.*

**Keywords:** MOORA, MULTIMOORA, Systems Engineering

### **1. INTRODUCTION**

Managerial Issues in Modern Business and Industry are to be based on Systems Engineering, meaning an objective minded approach. Mostly people are solution instead of objective minded. Cost-Benefit Analysis is an example of this way of thinking (Foster, Beesley, 1963). The Cost-Benefit Analysis for a new underground in London is an example of this solution mindedness. Instead one has to study other solutions too like work at home, tele-conferences, special lines for bicycles etc. whereas the following criteria (objectives) have to be taken into account: just-in-time, extra employment and investment, total costs, pollution etc.

For the researcher in multi-objective decision making the choice between many methods is not very easy. Indeed numerous theories were developed since the forerunners: Condorcet (the Condorcet Paradox, against binary comparisons, 1785, LVIII), Gossen (law of decreasing marginal utility, 1853) Minkowski (Reference Point, 1896, 1911), Pareto (Pareto Optimum and Indifference Curve Analysis 1906, 1927,) and Kendall (ordinal scales, since 1948), namely: ELECTRE (Roy et al. since 1966), MULTIPLICATIVE FORM (Miller, Starr 1969), TOPSIS (Hwang, Yoon, 1981), AHP (Saaty since 1980), DEA (Data Envelopment Analysis since 1978, Seiford) and VIKOR (Opricovic, Tzeng 2004), PROMETHEE (Brans, Mareschal, 2005). Nevertheless superiority of MOORA and MULTIMOORA (Brauers, Zavadskas 2010) is proven in the field of Manufacturing and Services.

MOORA is composed of two methods: Ratio Analysis and Reference Point Method, each controlling each other. Even a third method is added, the Full Multiplicative Method, finally arriving to three methods brought together under the name of MULTIMOORA. An Ordinal Dominance Theory will summarize the results of the three methods.

## 2. CHOICE OF A METHOD FOR MULTI-OBJECTIVE OPTIMIZATION

In this study the assumption of many alternative solutions facing many objectives (criteria) characterizes the starting point for optimization. It presents the following problems:

- 1) **choice of alternative solutions** like Projects, at least two
- 2) **choice of objectives** (criteria), at least two, all expressed in different units like \$ or €, kg, liter, meter, kilowatt-hour, calories etc.
- 3) **normalization** of the units of the objectives
- 4) **importance of the objectives**
- 5) **number of objectives**.

The whole operation can be made by one person but it is more advisable that all stakeholders, i.e. everybody interested in the issue, are involved

The objectives are expressed in different units. Synthesis is necessary by a multi-objective method, for which MULTIMOORA is chosen for its robustness and superiority from many points of view (Brauers; Zavadskas, 2011; Chakraborty, 2011; Brauers, 2004).

MULTIMOORA is composed of 3 methods controlling each other: MOORA composed of the Ratio System and the Reference Point Method and finally the Multiplicative Method. Once agreement reached about alternative solutions and objectives, a decision has to be taken how to read a Decision Matrix.

A **Decision Matrix** assembles raw data with vertically numerous objectives, criteria (a weaker form of objectives) or indicators and horizontally alternative solutions, like projects.

### 2.1. Horizontal reading of the Decision Matrix

SAW, followed by many other methods, reads the response matrix in a horizontal way. The Additive Weighting Procedure (MacCrimmon, 1968, 29-33, which was called SAW, Simple Additive Weighting Method, by Hwang and Yoon, 1981, 99) starts from:

$$\text{Max. } U_j = w_1 x_{1j} + w_2 x_{2j} + \dots + w_i x_{ij} + \dots + w_n x_{nj} \quad (1)$$

$U_j$  = overall utility of alternative  $j$  with  $j = 1, 2, \dots, m$ ,  $m$  the number of alternatives

$i = 1, 2, \dots, n$ ;  $n$  the number of attributes or objectives

$x_{ij}$  = response of alternative  $j$  on attribute  $i$ .

$w_i$  = weight of attribute  $i$  indicates as well as normalization as the level of importance of an objective, with:

$$\sum_{i=1}^{i=n} w_i = I$$

As the weights add to one a new super-objective is created and consequently it becomes difficult to speak of multiple objectives.

With weights importance of objectives is mixed with normalization. Indeed weights are mixtures of normalization of different units and of importance coefficients.

### 2.2. Vertical Reading of the Decision Matrix

Vertical reading of the Decision Matrix means that normalization is not needed as each column is expressed in the same unit. In addition if each column is translated in ratios dimensionless measures are created and the columns become comparable to each other. Indeed they are no more expressed in a unit. Different kind of ratios are possible but Brauers and Zavadskas (2006) proved that the best one is based on the square root in the denominator.

Vertical reading of the decision matrix and the Brauers-Zavadskas ratios are practiced in the MOORA method.

A concrete example can illustrate the decision matrix. Suppose a national government being very active with enterprise creation under the form of an investor's guide, launching project ideas, giving legal assistance and of other forms of coaching (Industry Promotion Agency). Assume that the Government would have the choice to promote one of three projects.

*Table 1: Decision Matrix Composition (expressed in fictive cardinal numbers)*

	1. More Competition MAX.	2. Large Δ in foreign capital MAX.	3. Amortization MIN	4. Increase Cost of Living MIN.	5 Optimal Price- Quality Relation MAX.	6. Better Legislation MAX.	7 Government promotion MAX.
Project A.	14.08	15	50	0.1	5.25	0.1	0.1
Project B.	0.1	0.1	100	5	5.25	5.5	3.75
Project C.	1	0.1	100	0.1	0.1	5.5	3.75

Reading vertically means creating **Dimensionless Measurements** meaning no need any more for Normalization and no more problems with the number of objectives.

Consequently of the 5 problems only remain:

- i. choice of objectives
- ii. importance of objectives
- iii. choice of alternative solutions.

The vertical reading of the Response Matrix is applied in the Ratio Analysis of MOORA (Multi-Objective Optimization by Ratio Analysis) and in the Reference Point Method.

### 2.3. Ratio Analysis of MOORA

Simple averages are inconsistent as they may change the sign and even lead to no sense results. The study of 2006 showed several other solutions with as conclusion as the best one:

$$x_{ij}^* = \frac{x_{ij}}{\sqrt{\sum_{j=i}^m x_{ij}^2}} \quad (2)$$

with no problem for the number of objectives and with all objectives of the same importance leading to:

$$y_j^* = \sum_{i=1}^{i=g} x_{ij}^* - \sum_{i=g+1}^{i=n} x_{ij}^* \quad (3)$$

i = 1,2,...,g, objectives to be maximized

i = g+1, g+2,..., n objectives to minimized

y<sub>j</sub><sup>\*</sup> = alternative j concerning all objectives and showing the final preference

Given importance to the objectives is done by introducing Significance Coefficients s:

$$\hat{y}_j^* = \sum_{i=1}^{i=g} s_i x_{ij}^* - \sum_{i=g+1}^{i=n} s_i x_{ij}^* \quad (4)$$

## 2.4. Second Part of MOORA: the Method of Reference Point Which Reference Point?

### 1) Maximal Objective Reference Point

Suppose 2 points: A(100,20) and B (50,100)

Dominating coordinates      **Rm(100;100)**

**Maximal Objective Reference Point**

$$\{r_i\} = \{r_1, r_2, \dots, r_n\}$$

### 2) Utopian Objective Reference Point

is farther away than the Maximal Objective Reference Point

### 3) Aspiration Objective Reference Point

is more nearby than the Maximal Objective Reference Point

The **Maximal Objective Reference Point** is preferred on which the Tchebycheff formula is applied:

$$\text{Min}_{(j)} \left\{ \max_{(i)} |r_i - x_{ij}^*| \right\} \quad (5)$$

with  $|r_i - x_{ij}^*|$  the absolute value necessary if  $x_{ij}^*$  is larger than  $r_i$

In the ratio system of MOORA to give more importance to an objective its response on an alternative under the form of a dimensionless number could be multiplied with a significance coefficient. If this would be done for the reference point approach the outcome will not change due to the *Tchebycheff* formula (5). If the importance coefficients are only used for the ratio system the double control system of MOORA would disappear. Therefore, another approach has to be followed applicable in both methods. Replacement of an objective by some sub-objectives, as valuable as the original objectives, will solve the problem of importance for the original objective. Introduction of **Sub-Objectives** is possible like:

- the significance coefficient 2 of employment is replaced by the objectives direct and indirect employment
- the significance coefficient 3 of pollution is replaced by three kind of pollution instead of a single one, etc.

## 2.5. The Full Multiplicative Form

The Full Multiplicative Form adds a third method to MOORA by simply multiplying all objectives per alternative, in this way becoming **MULTIMOORA**, all together 3 methods controlling each other.

The following  $n$ -power form for multi-objectives is called from now on a *full-multiplicative form* in order to distinguish it from the mixed forms:

$$U_j = \prod_{i=1}^n x_{ij} \quad (6)$$

with:

$j = 1, 2, \dots, m$ ;  $m$  the number of alternatives,

$i = 1, 2, \dots, n$ ;  $n$  being the number of objectives,

$x_{ij}$  = response of alternative  $j$  on objective  $i$ ,

$U_j$  = overall utility of alternative  $j$ .

The overall utilities ( $U_j$ ), obtained by multiplication of different units of measurement, become dimensionless.

How is it possible to combine a minimization problem with the maximization of the other objectives? Therefore, the objectives to be minimized are denominators in the formula:

$$U'_j = \frac{A_j}{B_j} \quad (7)$$

$$A_j = \prod_{g=1}^i x_{gj}$$

where:

$j = 1, 2, \dots, m$ ;  $m$  the number of alternatives,  
 $i$  = the number of objectives to be maximized.

$$B_j = \prod_{k=i+1}^n x_{kj}$$

where:

$n-i$  = the number of objectives to be minimized,  
 $U'_j$  = the utility of alternative  $j$  with objectives to be maximized and objectives to be minimized.

The Full Multiplicative Form is read horizontally in the Decision Matrix of Table 1. Nevertheless with the full-multiplicative form, the overall utilities, obtained by multiplication of different units of measurement, become dimensionless measures.

In The Full Multiplicative Form per row of an alternative all objectives are simply multiplied, but the objectives to be minimized are parts of the multiplication process as denominators. A single zero or a negative number for one of the objectives would make the final product zero or entirely negative. In order to escape of this nonsense solution, 0.001 replaces zero and for instance -1 becomes 0.0001 and -2 becomes 0.00001 but only for the objective under consideration.

## 2.6. The Ordinal Dominance Theory

For MOORA the ranking for the two methods is done on view, no more possible for MULTIMOORA with its three methods. Therefore the Ordinal Dominance Theory will interfere.

Adding of ranks, ranks mean an ordinal scale (1st, 2nd, 3rd etc.) signifies a return to a cardinal operation ( $1 + 2 + 3 + \dots$ ). Is this allowed? The answer is “no” following the Noble Prize Winner Arrow:

### *The Impossibility Theorem of Arrow*

“Obviously, a cardinal utility implies an ordinal preference but not *vice versa*” (Arrow 1974).

#### *Axioms on Ordinal and Cardinal Scales*

1. A deduction of an Ordinal Scale, a ranking, from cardinal data is always possible.
2. An Ordinal Scale can never produce a series of cardinal numbers.
3. An Ordinal Scale of a certain kind, a ranking, can be translated in an ordinal scale of another kind.

In application of axiom 3 the rankings of three methods of MULTIMOORA are translated into another ordinal scale based on *Dominance, being Dominated, Transitivity and Equability*.

**Dominance.** *Absolute Dominance* means that an alternative, solution or project is dominating in ranking all other alternatives, solutions or projects which are all being dominated. This absolute dominance shows as rankings for MULTIMOORA: (1–1–1). *General Dominance in two of the three methods* is of the form with a  $< b < c < d$ :

(d–a–a) is generally dominating (c–b–b);

(a–d–a) is generally dominating (b–c–b);

(a–a–d) is generally dominating (b–b–c);  
and further transitiveness plays fully.

*Transitiveness.* If  $a$  dominates  $b$  and  $b$  dominates  $c$  than also  $a$  will dominate  $c$ .

*Overall Dominance of one alternative on the next one.* For instance (a–a–a) is overall dominating (b–b–b) which is overall being dominated.

**Equability.** *Absolute Equability* has the form: for instance (e–e–e) for 2 alternatives. *Partial Equability* of 2 on 3 exists e. g. (5–e–7) and (6–e–3).

## **2.7. Some Examples of Practical Experience with the different Methods**

**Chakraborty** (India, 2011, 1165) studying Machine Manufacturing presents more information on all above mentioned methods concerning: computational time, simplicity, mathematical calculation involved, stability and informative type.

*Table 2: Comparative performance of some general used MODM methods*

MODM method	Computational time	Simplicity	Mathematical calculation involved	Stability	Information Type
MOORA	Very less	Very simple	Minimum	Good	Quantitative
AHP	Very high	Very critical	Maximum	Poor	Mixed
TOPSIS	Moderate	Moderately critical	Moderate	Medium	Quantitative
VIKOR	Less	Simple	Moderate	Medium	Quantitative
ELECTRE	High	Moderately critical	Moderate	Medium	Mixed
PROMETHEE	High	Moderately critical	Moderate	Medium	Mixed

In addition **Karuppanna and Sekar** (India, 2016, 61) now studying the Service Sectors looked after computational time, calculation and simplicity.

*Table 3: Comparison of MOORA with other Approaches*

MADM methods	Computational Time	Simplicity	Mathematical calculations	
MOORA	very less	very simple	Minimum	
AHP	very high	very critical	Maximum	
ANP	Moderate	Moderately critical	Moderate	
VIKOR	Less	Simple	Moderate	
TOPSIS	Moderate	Moderately critical	Moderate	
ELECTRE	High	Moderately critical	Moderate	
PROMETHEE	High	Moderately critical	Moderate	

Turning to MULTIMOORA, Dai et al. (China, 2016) proved for Group Decision Making the superiority of MULTIMOORA above PROMETHEE via TOPSIS and VIKOR.

*Table following on the next page*

*Table 4: Comparison of MULTIMOORA with other Approaches*

<b>RANKING</b>				
	<b>MULTIMOORA</b>	<b>TOPSIS</b>	<b>VIKOR</b>	<b>PROMETHEE</b>
<b>A1</b>	4	4	4	3
<b>A2</b>	3	3	3	4
<b>A3</b>	2	2	2	2
<b>A4</b>	1	1	1	1

From their side Karanda et al. (2016, 419) concludes: "MULTIMOORA is the most robust system of multiple objectives optimization with respect to stakeholders (decision makers), objectives, and interrelations between objectives and alternatives as it is non-subjective and based on cardinal data".

### **3. APPLICATIONS OF MULTIMOORA IN INDUSTRY AND SERVICES**

**MULTIMOORA** was used in the field of industry, construction, services and selection, in countries like Spain, Serbia, Poland, Lithuania, Rumania, Russia, Slovakia, Turkey, India, Iran, China and Mexico. For reason of space only own work is mentioned here.

#### **3.1. Construction**

1. Which material to be used for construction of a highway in previous Eastern Germany? (Brauers et al. 2008,a)
2. Contractor's ranking for a construction of an apartment building (Brauers et al., 2008, b)
3. Ranking Heating Losses in a Building by Applying MULTIMOORA (Kracka et al. 2010)
4. Building External Walls and Windows (Kracka et al., 2010)
5. Restoration Buildings from the Soviet Time (Brauers et al., 2012)
6. Test for the Facilities Sector (Brauers and Zavadskas, 2009)
7. Construction Sector Anti-Cyclical during recession 2008-9? (Brauers et al. 2014)
8. Facilities Sector in Lithuania: 2003-2013 (Brauers and Lepkova, 2003)

#### **3.2. Transport**

1. Sea transport (Brauers, 2014)
2. China transport (Brauers and Zavadskas, 2010a and b)

#### **3.3. Services**

1. Location Department Store (Brauers and Zavadskas, 2008)
1. Cities ranked for the BENELUX (Brauers and Zavadskas, 2014)
2. Privatization (Brauers and Zavadskas, 2006)
3. BEL-20 ranking of Shares (Brauers and Ginevičius,2013)

#### **3.4. Europe 2020**

1. Ranking of European countries after their Well-Being in 2020 (Brauers and Zavadskas, 2013).
2. Are the Rating agencies correct to predict the future well-being of the European countries? (Brauers and Zavadskas, 2013).

#### 4. CONCLUSION

Managerial Issues in Modern Business and Industry are to be based on Systems Engineering, meaning an objective minded approach and rather a multi-objective approach where previously a mono-objective one was usual. At that moment one has to take into account the following items:

- as mentioned multi-objectives mostly expressed in different units
- many alternative solutions to fulfil the objectives
- normalization of the different units of the objectives
- importance of each objective.

The method MULTIMOORA is superior to all other approaches as only:

- the determination of many objectives
- many alternatives  
are needed.

Moreover MULTIMOORA is composed of three methods each controlling each other, namely:  
1) Ratio Analysis 2) Reference Point Method and 3) Full Multiplicative Form.

An Ordinal Dominance Theory summarizes the results of the three methods. Finally these methods are in general use in many countries in the field of industry, construction and services like for management, business and selection.

#### LITERATURE:

1. Arrow, K. J. (1974). General Economic Equilibrium: Purpose, Analytic Techniques, Collective Choice, *American Economic Review*, June, 256.
2. Brans, J-P., Mareschal, B. (2005). PROMETHEE Methods. In: *Multiple Criteria Decision Analysis: State of the Art Surveys*, ed. Jose Figueira, Salvatore Greco, and Matthias Ehrgott, 163-195. Boston: Springer.
3. Brauers, W. K. M. (2013). Multi-objective seaport planning by MOORA decision making, *Annals Operations Research*, 206, 39–58.
4. Brauers, W. K. M. (2004a). *Optimization Methods for a Stakeholder Society. A Revolution in Economic Thinking by Multiobjective Optimization*. Kluwer Academic Publishers and Springer, Boston.
5. Brauers, W. K. M. (2004b). Multi-Objective Optimization for Facilities Management, *Journal of Business Economics and Management*, 5(4): 173-182.
6. Brauers, W. K. M. Ginevičius, R. (2013) How to invest in Belgian shares by MULTIMOORA optimization, *Journal of Business Economics and Management*, 14:5, 940-956, <http://dx.doi.org/10.3846/16111699.2013.837244>.
7. Brauers, W. K. M., Lepkova, N. (2003). The application of the nominal group technique to the business outlook of the facilities sector of Lithuania over the period 2003-2012. *International Journal of Strategic Property Management*, 7(1): 1-9.
8. Brauers, W. K. M., Zavadskas, E. K. (2014). The ordinal dominance theory as applied to the most attractive retail cities of the Benelux area, *Economic Research-Ekonomska Istraživanja*, Journal homepage: <http://www.tandfonline.com/loi/rero20>, Vol. 27, No. 1, 899–915.
9. Brauers, W. K. M., Zavadskas, E. K. (2013). Multi-Objective Decision Making with a large Number of Objectives. An Application For Europe 2020, *International Journal of Operations Research*, Vol. 10, No. 2, 67□-79.
10. Brauers, W. K. M., Zavadskas, E. K. (2013). Multi-Objective Economic Evaluation of the European Union Member States. As Opposed to Credit Rating Agencies Opinions, *Transformations in Business & Economics*, Vol. 12, No 2 (29), 102-124.

11. Brauers, W. K. M., Zavadskas, E. K. (2011). MULTIMOORA Optimization used to decide on a Bank Loan to buy Property, *Technological and Economic Development of Economy*, 17-1, 174-188
12. doi: 10.3846/13928619.2011.560632
13. Brauers, W. K. M., Zavadskas, E. K. (2010a). Project Management by MULTIMOORA as an instrument for Transition Economies, *Technological and Economic Development of Economy*, 16-1, 5-24.
14. Brauers, W. K. M., Zavadskas, E. K. (2010b). From a Centrally Planned Economy to Multi-Objective Optimization in an Enlarged Project Management. The Case of China, report Consulting.
15. Brauers, W. K. M., Zavadskas, E. K. (2009). Robustness of the Multi-Objective MOORA method with a test for the facilities sector, *Technological and Economic Development of Economy* 15(2): 352-375.
16. Brauers, W. K. M., Zavadskas, E. K. (2008). Multi-Objective Optimization in Location Theory with a Simulation for a Department Store, *Transformations in Business & Economics*, vol. 7, 3 (15), 1-21.
17. Brauers, W. K. M., Zavadskas, E. K. (2006). The MOORA method and its application to privatization in a transition economy, *Control and Cybernetics* 35(2): 445-469.
18. Brauers, W. K.M., Balezentis, A., Balezentis T., (2011). “MULTIMOORA for the EU Member States updated with Fussy Number Theory.” *Technological and Economic Development of Economy*, 17(2): 259-290.
19. Brauers, W. K. M., Ginevičius, R., Podvezko, A. (2012). Evaluation of Performance of Lithuanian Commercial Banks by Multi-Objective Optimization.  
[http://leidykla.vgtu.lt/conferences/BM\\_2012/enterprise\\_management/1042\\_1049](http://leidykla.vgtu.lt/conferences/BM_2012/enterprise_management/1042_1049).
20. Brauers, W. K. M., Zavadskas, E. K., Kildienė, S. (2014). Was the Construction Sector in 20 European Countries Anti-Cyclical during the Recession Years 2008-2009 as measured by Multicriteria Analysis (MULTIMOORA)? *Procedia Computer Science* , 31, 949 – 956.
21. Brauers, W. K. M., Kracka, M., Zavadskas, E. K. (2012). Lithuanian Case Study of Masonry Buildings from the Soviet Period, *Journal of Civil Engineering and Management*, 18(3): 444–456, doi:10.3846/13923730.2012.700944
22. Brauers, W. K. M., Zavadskas, E. K., Peldschus, F., Turskis, Z. (2008,a). Multi-objective decision makingfor road design, *Transport*, 23/3,183-193.
23. Brauers, W. K. M.; Zavadskas, E. K.; Turskis, Z , Vilutiene, T. (2008,b). Multi-Objective Contractor's Ranking by applying the MOORA Method, *Journal of Business Economics and Management* 9(4): 245-255.
24. Chakraborty, S. (2011). Applications of the MOORA method for decision making in manufacturing environment, *International Journal Advanced Manufacturing Technology*, 54; 1155-1166, Springer, DOI 10.1007/s00170-010-2972-0.
25. Condorcet, Marquis de (1785). *Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*, Paris, l'Imprimerie royale.
26. Dai, W-F., Zhong, Q-Y., Qi, C-Z. (2016). Multi-stage multi-attribute group decision making method based on triangular fuzzy MULTIMOORA, HINDAWI, *Mathematical Problems of Engineering*, in press.
27. Foster, C.D., Beesley, M.E. (1963). *Estimating the social benefit of constructing an underground railway in London*, Journal of the Royal Statistical Society, 46-92.
28. Gossen, H H. (1853). *Entwicklung der gesetze des Menschlichen Verkehrs und der daraus Fließenden Regeln für Menschliches Handeln*, 3 Auflage, Prager, Berlin, 1927.
29. Guriev, S., Zhuravskaya, E. (2009). (Un)Happiness in Transition, *Journal of Economic Perspectives*, AEA, Vol. 23, N°2, 143-168.
30. Hwang, C-L, Yoon K. (1981). *Multiple Attribute Decision Making, Methods and Applications*.

- Lecture Notes in Economics and Mathematical Systems, 186, Berlin, Springer.
31. Karanda P., Zavadskas E. K., Chakraborty S. (2016). A study on the ranking performance of some MCDM methods for industrial robot selection problems, *International Journal of Industrial Engineering Computation*, 7 (3), 399-422.
32. Karuppappa P. N., Sekar K. (2016). Selection of Best Alternative in Manufacturing and Service Sector using Multi Grade Decision Approach - A Review, *Computer Science and Information Technology*, 57-74, DOI : 10.5121/csit.2016.60406.
33. Kendall, M. G. (1948). *Rank Correlation Methods*, Griffin, London.
34. Kracka, M., Brauers, W. K. M., Zavadskas, E. K. (2010). Ranking Heating Losses in a Building by Applying MULTIMOORA, *Inzinerine Ekonomika-Engineering Economics*, 21(4), 352-359.
35. Kracka, M., Brauers, W. K. M., Zavadskas, E. K. (2010). Multi- Objective External Walls and Windows Ranking by applying the MOORA and MULTIMOORA Methods, *Inzinerine Ekonomika-Engineering Economics*, ISSN 1392- 2785.
36. MacCrimmon, K. R. (1968). *Decision Making among Multiple Attribute Alternatives. A Survey and Consolidated Approach*. RM-4823- ARPA, the Rand Corporation, Santa Monica (CAL).
37. Miller, D.W., Starr M.K. (1969). *Executive Decisions and Operations Research*, 2nd Edition, Prentice-Hall Inc. Englewood Cliffs(N.J.), 237-239.
38. Minkowsky, H. (1896). *Geometrie Der Zahlen*, Teubner, Leipzig.
39. Minkowsky, H. (1911). *Gesammelte Abhandlungen*, Teubner, Leipzig.
40. Opricovic S., Tzeng G-H. (2004). Compromise solution by MCDM methods: a comparative analysis of VIKOR and TOPSIS, *EJOR*, 156, 445-455.
41. Pareto, V. (1906). *Manuale di Economia Politica*, Translation revised by Pareto Himself: *Manuel d'économie politique*, Second Ed., Paris,1927.
42. Roy, B., Benayoun, R., Sussman B., (1966). *ELECTRE*, Société d'Economie et de Mathématique appliquées, Paris.
43. Saaty, T. L. (1988). *The Analytic Hierarchy Process*. McGraw-Hill, New York.
44. Seiford, L.M., (1994). A DEA Bibliography (1978-1992) in: Charnes, Cooper, Lewin and Seiford, *Data Envelopment Analysis: Theory, Methodology and Applications*, Boston, Kluwer.

## EFFECT OF CSR ON PRODUCT DIFFERENTIATION IN THE PRESENCE OF COST ADVANTAGE

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### **ABSTRACT**

*Corporate social responsibility (CSR), once thought of only a philanthropic activity of a firm, is now treated as a serious business strategy that can contribute to a firm's profitability. The seemingly altruistic activity helps build the firm's image with all the stakeholders including its customers so that it has the potential to increase the firm's profit. This fact is now well established in research literature. Product differentiation is another corporate strategy that is pursued by some companies in order to offer a distinctive product in the market to avoid competition, charge premium price, and increase profit. What is not known is that when two firms compete in a Hotelling type product differentiation line, how much this product differentiation is affected by the extent of the CSR activity of a firm. Our study is conducted in a game-theoretic setting where the CSR firm is competing with a non-CSR firm. The CSR firm maximizes a convex combination of its own profit and a form of social utility function, while the non-CSR firm maximizes its own profit only. The CSR firm is also assumed to have a technological advantage that reduces its production cost. The interaction of the effects of both the extent of CSR and the extent of this production cost advantage is also considered. We also study a scenario of asymmetric information. Our main results include that the degree of product differentiation is reduced when CSR is practiced. On the other hand, product differentiation increases with the production cost advantage. The interaction between the two factors – CSR activity and cost advantage – is also studied.*

**Keywords:** Asymmetric information; Corporate social responsibility; Game theory; Product differentiation; Spatial price discrimination

### **1. INTRODUCTION**

In recent times, Corporate Social Responsibility (CSR) has become an important part of corporate strategy. Many companies are establishing CSR as a separate functional area with its own objectives and policies. A majority of companies actually issue a CSR report annually. In 2011, 83% of top 100 US companies by revenue issued such report compared to 74% in 2008 and only 37% in 2005. Globally, this figure is 95% of the top 250 largest companies (KPMG 2011). Recently, the UN started a Global Compact Initiative for companies to pledge support for human rights, labor standards, and environmental protection. As a measure of success of this initiative, 8000 businesses around the world have signed this pledge (Knowledge@Wharton, 2012). Bateman and Snell (2002) defined CSR as a set of corporate actions that positively affects an identifiable social stakeholder's interests and does not violate

the legitimate claims of another identifiable social stakeholder. CSR activities should do some social good and should be beyond that is required by law (McWilliams and Siegel, 2001). They also say that CSR activities would increase the social utilities of the companies' activities. Common examples include recycling, pollution reduction and product design that have social attributes and characteristics.

Product differentiation is another corporate strategy that is pursued by some companies in order to offer a distinctive product in the market to avoid competition, charge premium price, and increase profit. Usually, when the products are less differentiated in a particular industry, the firms therein will encounter more intense competition. A common tool for depicting product differentiation in a duopoly is to use the Hotelling's Principle. Hotelling considers a stretch of physical street of finite length along which customers are uniformly distributed. Two shops are deciding about the physical location along the street. Assuming that customers will choose the nearest shop, Hotelling's law predicts that both shops will find themselves next to each other at the halfway point. This law has been applied to product differentiation in some characteristic of the product, for example color, sweetness or size. Applying Hotelling's law will mean that, given price and all other product attributes remaining the same, the characteristic in question will eventually be the same for both products making them identical to each other. In our paper, we use an “augmented version”, called the SPD (Spatial Price Discrimination) model. In this model, a firm charges consumers different prices according to different locations. For markets with differentiated products or large transportation costs, spatial price discrimination is an important and useful strategy for firms. Greenhut (1981) conducted a survey which showed that, in areas like the US, Europe and Japan where the transportation cost can be as high as five percent of the total cost such price discrimination is definitely resorted to. For example, in the ready-mixed concrete market, a producer could observe each customer's location and then charge different prices. In addition to the transportation of this kind of bulky product, spatial model could also be applied to horizontal differentiation. As long as producers can identify the location, (for example, taste), price discrimination would exist. Breakfast cereals vary in sweetness; airlines choose different flight time in a day. As a result, many studies in literature used this model to analyze various questions concerning both firm' best strategy and social policy.

While product differentiation strategy makes a firm's product different from others', the firms are also increasingly adopting CSR for improving their image. The research question studied in this paper is: Is there any link between a firm's CSR strategy and its product differentiation strategy? There are some anecdotal connections shown in popular media which shows that high CSR-intensive industries are often associated with low product differentiation. For example, among top US companies, automobile industry is highly CSR-intensive. This industry, however, engages in low product differentiation across firms, that is each major auto-maker produces similar types of products and covers full range of cars, including coupe, sedan, SUV, minivan, and so on. An article published in Forbes (Fernandez-Kranz, 2010) shows some stylized facts regarding the relationship between firm's CSR strategy and the product differentiation; specifically, how low product differentiation indicates intense market competition. According to their study, more intensive CSR strategy is associated with fiercer marketplace competition. Their further empirical evidence shows that firms can use CSR strategy as a substitute for the product differentiation strategy. For example, firms tend to rely less on CSR strategy in industries which already show a high degree of product differentiation (achieved by innovation that measured by expenses on R&D). This anecdotal reference motivates us to study this link and develop a theoretical model to analyze this issue. In this paper, we investigate how the CSR activities of a firm would influence product differentiation in the market, and if it does, whether the analytical results support the anecdotal conjectures.

We consider two firms each producing and marketing a single product. One of the firms is a traditional profit-maximizing firm. The other is a CSR firm in the sense that they maximize not only their own profit but also some identifiable stakeholder's (the firm's customers) interests. In our model setting, the CSR firm has a cost advantage with a lower marginal production cost since a CSR firm in the real world is usually associated with competitive advantage in the industry. CSR would entail additional costs to the firm, but it would also bring in some kind of CSR premium. In our model the products are differentiated along a spatial competition type line. We explore the effect of a firm's CSR objective on the extent of product differentiation in the industry. We also explore the effect of cost advantage on the extent of product differentiation. Finally, we study the interaction of the two effects (CSR and cost advantage) together on the extent of product differentiation.

## 2. BRIEF LITERATURE SURVEY

Our paper is at the crossing of the CSR and the product differentiation literature. There is increasingly more awareness in the corporate sector that CSR activities do probably increase profit. The mechanism is an enhanced respect for the company that will, in turn, increase sales and make employees loyal (Robins, 2011). McWilliams and Siegel (2001) found that there exists an optimum level of CSR that will maximize profit, and at the same time, fulfill the CSR demand from various stakeholders. Siegel and Vitaliano (2007) studied the strategic engagement of firms in profit-maximizing CSR. The fact that firms can use CSR to increase private profits is also highlighted in Hernandez-Murillo and Montinek (2009). Fisman, Heal and Nair (2014) found some evidence that CSR is motivated by profits and is especially profitable in consumer-oriented industries, and in competitive industries. Hsueh and Chang (2008) consider a three-tier supply chain and contrast its performance without and with CSR activities. The positive relationship between CSR activities and firms' profits is empirically found by Crifo et al. (2016) using data from French industry. Similar correlation between CSR and profitability was also found by Zhu, Liu and Lai (2016) among Chinese enterprises. An article by van Wassenhove (2006) on the co-operation between private and humanitarian sectors through CSR activities outlines the best strategies for such a co-operation. From a supply chain co-ordination point of view, a model developed by Hsueh (2014) showed that by suitably designing a revenue sharing contract can improve total supply chain profit. While the link between CSR activity and increased profit seems to be currently intuitively well-known, there does not exist any model to analytically demonstrate this. At the same time, there is no research done about the link between other variables like product differentiation and a firm's cost efficiencies, and CSR. This paper seeks to bridge this gap in literature.

The product differentiation literature is quite mature. Product differentiation can be horizontal or vertical. A horizontal product differentiation is when the quality of the product is not easily distinguished and customers resort to different rankings for different products even when the price is same. Examples can be breakfast cereals and cola brands. In vertical product differentiation, the products have different levels of quality that is objectively measurable by the customer, with prices being same or different. Vertical product differentiation has been widely studied in several papers, for example, Gabszewicz and Thisse (1980), and Shaked and Sutton (1982). Lacourbe, Loch and Kavadias (2009) study a market where there is a mix of vertical differentiation (in case of product performance) and horizontal differentiation (for product features). The role of variable costs and volume-dependent manufacturing costs is studied.

As for horizontal product differentiation, researchers usually use spatial competition model to study it, which was first brought up by Hotelling (1929), focusing on location on a bounded linear market by two firms. In contrast to Hotelling model that did not consider spatial price discrimination, Hoover (1937) studied the market where price discrimination is through freight

absorption, which is common when goods have a relatively high transportation cost compared with its value. By assuming that each firm has a single fixed location, he concludes that in the neighborhood of the market area, the seller at the nearest location is able to fix the delivered price at an amount that equals the sum of marginal cost at the next nearest selling point and the transportation cost from that point. The spatial model can be interpreted as a model of product location in the characteristics space, where individual firm's location choice can be interpreted as its product specification. This is studied by Macleod, Norman and Thisse (1985), Lederer and Hurter (1986) as well as Greenhut, Norman and Hung (1987). Anderson and de Palma (1988) extend the spatial discrimination model to heterogeneous products and show many of the strong properties in the standard homogeneous goods case no longer hold, and particularly, unless products are very different, social optimum is not sustainable any more. A paper that is similar to ours is by Kopel, Lamantia and Szidarovszky (2014) where they find that a CSR firm can have higher profit compared to a profit maximizing rival. Our paper analyzes CSR within the spatial price discrimination model.

### **3. THE MODEL**

In this section, we will first introduce the classical spatial competition model and then its application for the case of product differentiation as used in our paper. In classic Hotelling's model, where price is exogenous and thus no price discrimination exists, at the equilibrium, the shops will locate next to each other. Each shop will capture half the market. Recall that the customers want to minimize the distance travelled and therefore would buy from the nearest shop. Let  $t$  be the unit cost of transportation for each customer. Then, it is easy to see that the total cost of transportation for all the customers in the system is  $(t/4)$ . But, if one is concerned about the socially beneficial solution, the above solution is not the optimum. For example, suppose the shops are located one quarter of the way along the street from each end. The shops will still get the same number of customers (half of total each), but the total distance covered by all the customers will be reduced to  $(t/8)$ . Thus, we can see that it is possible to obtain a socially responsible solution that could also be optimum for the firms. In our model, we will use such a CSR model for one of the firms, to study the role played, if any, by a CSR objective. The spatial competition street can be a metaphor for product differentiation. The relative positions of the products along the street give the extent of differentiation between the two products and this can be for any product characteristic. We consider two firms each producing a product. Customers' preferences are uniformly distributed along a unit line segment. To the customers, the products are horizontally differentiated. The position of Firm 1's product on the line is denoted by  $L_1$  and that of Firm 2 by  $L_2$  (see Figure 1). Let us assume, without loss of generality,  $L_1 < L_2$ . We also assume that Firm 1 as a CSR company possesses superior production technology and therefore enjoys an advantage in marginal cost of production. Without loss of generality, we normalize this cost to zero. Let  $k$  be the production cost of Firm 2 (over and above that of Firm 1). So, we have  $k_1 = 0$  and  $k_2 = k$ . Note that the value of  $k$  can be negative, which means the production cost of Firm 1 is more than that of Firm 2. In other words, it is the case where CSR firm is associated with cost disadvantage but our main analysis remains same.

Figure 1 here

Each consumer has inelastic demand for one unit of the good, with a reservation price  $r$ , where  $0 < k_2 < r$ . Transport cost is  $t$  per unit of distance, which can also measure firms' cost of customizing the standard product to align with each customer's taste. The total cost for company

$i$  to supply all consumers in the line segment  $x_0$  to  $x_1$  is  $C_i = \int_{x_0}^{x_1} (c_i + tx) dx$  where  $c_i = t/x - L_i + k_i$ . The firm can use its rival's cost of customizing the product to charge discriminative prices and therefore the equilibrium delivered price schedule for any consumer located at  $x$  is as follows:

$$p^*(x, L_i) = \max\{|L_i - x|t + k_i, |L_{\sim i} - x|t + k_{\sim i}\}, i = 1, 2 \quad (1)$$

$|L_i - x|$  is the deviation of the product  $i$  from the preference of a customer given by  $x$ . Consider again a customer located at  $x$  buying product  $i$ . The first argument in Equation (1) is the cost to Firm  $i$ . The second argument is the cost to the same customer buying the other product. The rationale of Equation (1) is as follows. Say Firm 1 sees that the cost  $c_2$  to a customer to buy from the rival is higher than its own cost,  $c_1$ . Then Firm 1 can set its price at (or an infinitesimal amount less than)  $c_2$ . If its own cost  $c_1$  is higher, then that would be the price to avoid loss.

Let  $\bar{x}$  be the customer who faces the same delivered cost from each of the firms. Then  $|L_1 - x|t + k_1 = |L_2 - x|t + k_2$ . We get (noting that  $k_1 = 0$  and  $k_2 = k$ ):

$$\bar{x} = \frac{t(L_1 + L_2) + k}{2t}$$

Figure 1 shows the price schedule derived in Equation (1) for all customers in the line segment  $[0,1]$  given by the bold line (being the maximum of the two arguments). We assume that the indifferent customer will buy from the closest firm. Therefore, Firm 1 will get all outcomes in the segment  $[0, \bar{x}]$  and Firm 2 will get all customers in the segment  $(\bar{x}, 1)$ . Also recall that the price charged by Firm 1 will be  $c_2$  (Firm 2's cost, this being the higher) and price of Firm 2 is  $c_1$ . This gives the profit functions of the two firms as:

$$\begin{aligned} \pi_1(L_1, L_2) &= \int_0^{\bar{x}} (c_2 - c_1) dx \\ \pi_2(L_1, L_2) &= \int_{\bar{x}}^1 (c_1 - c_2) dx \end{aligned} \quad (2)$$

Firm 2, which is not a CSR firm will maximize  $\pi_2(L_1, L_2)$  given in Equation (2). Firm 1 on the other hand, is a CSR company and will maximize a convex combination of  $\pi_1(L_1, L_2)$  and its own consumer surplus (CS) in the market. This is because a CSR firm cares about its stakeholders' (including consumers) interest. Therefore, the CSR firm takes its own consumers' surplus into account. By definition, CS of buying a product is the difference between the consumer's willingness-to-pay and the product price, and thus total CS of firm 1 becomes the difference between the market reservation price and the sum of its profit and cost. This gives:

$$CS_1 = \int_0^{\bar{x}} (r - c_2) dx = r\bar{x} - (\pi_1 + C_1)$$

Thus the utility function  $U$  that Firm 1 will maximize is:

$$U = (1 - \alpha)\pi_1 + \alpha CS_1 \quad (3)$$

Where  $\alpha$  is a measure of the degree of the CSR consideration,  $\alpha \in [0, 1]$ . A higher  $\alpha$  indicates that the company cares more about its customers' surplus, indicating higher CSR. When  $\alpha = 0$ , the company cares only about profit; when  $\alpha = 1$ , the company behaves like an NGO.

The product differentiation decisions of the two firms are played as a game. The game is played in two stages. In stage one, firms make locations (i.e., differentiation) decision. In stage two, firms announce prices. Our objective in this paper is to explore the role of CSR strategy (adopted by Firm 1 in rivalry with Firm 2 which is a traditional firm) on the optimum level of product differentiation.

Note that the benchmark without CSR is the case when  $\alpha = 0$  and both firms maximize profit.

$$L_1^B = \frac{2k + t}{4t}$$

Simultaneous profit maximization of two firms generates equilibrium locations as

$L_2^B = \frac{2k + 3t}{4t}$  and  $\nu^B = |L_2^B - L_1^B| = \frac{1}{2}$ . Thus, the market product variation becomes and our main results are given in the next section and we will compare the equilibrium with that of the benchmark.

#### 4. MAIN RESULTS

In this section, we state the main results. For brevity, we omit the derivation and the proof. Equation (3) shown in the earlier section gives the objective function of firm 1 (the CSR firm). Firm 2 maximizes  $\pi_2(L_1, L_2)$  given in Equation (2). In the first stage of the game the two firms develops the best response functions as follows:

$$\begin{aligned} Br_1 : L_1 &= \frac{\alpha(2r - 3k) - 2k + (2 - 3\alpha)tL_2}{t(6 - 7\alpha)} \\ Br_2 : L_2 &= \frac{k + 2t + tL_1}{3t} \end{aligned} \quad (4)$$

Solving two best response functions simultaneously generates equilibrium locations

$$\begin{aligned} L_1^* &= \frac{2k(2 - 3\alpha) + 3\alpha(r - t) + 2t}{t(8 - 9\alpha)} \\ L_2^* &= \frac{k(4 - 5\alpha) + \alpha(r - 7t) + 6t}{t(8 - 9\alpha)} \end{aligned} \quad (5)$$

Equation (5) gives the equilibrium product designs of the two firms.  $L_1$  and  $L_2$  give the absolute locations while their difference is a measure of the product differentiation in the market. If  $L_1$  and  $L_2$  are sufficiently close to each other, then the products are essentially similar with no distinguishing features. On the other hand, if the difference is large then the two products are significantly different.

Thus, the degree of product differentiation measured by the market product variation becomes:

$$\nu = |L_2^* - L_1^*| = \frac{4t - \alpha(2r + 4t - k)}{t(8 - 9\alpha)} \quad (6)$$

One of the main objectives of this paper is to find the role CSR plays in product differentiation. The next proposition establishes the relationship.

**PROPOSITION 1:** *At the Sub-game Perfect Nash Equilibrium, there exists a negative relationship between the degree of the company's CSR and degree of product differentiation in the market.*

Intuitively, product differentiation is a measure used by firms to attract consumers with certain tastes in order to get a higher profit. But a CSR-friendly company also cares about the surplus of its own consumers, so it will act more aggressively and move toward its rival's position in order to get more consumers, resulting in a decreased product differentiation.

**PROPOSITION 2:** *At the Sub-game Perfect Nash Equilibrium, the competitive advantage (in production cost) by the CSR-friendly company increases the equilibrium degree of product differentiation.*

Since  $k$  is the product cost difference, the larger the  $k$ , the greater is the disadvantage of firm 2 in production cost and also in price. In this case, the CSR firm intends to move towards the middle to obtain more market share, but firm 2 will be more willing to increase the product differentiation by moving farther to the right to avoid head-on competition where it is associated with cost disadvantage.

**PROPOSITION 3:** *At the Sub-game Perfect Nash Equilibrium, the competitive advantage (in production cost) by the CSR-friendly company softens the negative relationship between the degree of the company's CSR and the degree of product differentiation in the market.*

An analysis of Propositions 1 and 2 shows that the effects of  $\alpha$  and  $k$  on product differentiation are opposite. Intuitively, as  $k$  increases, the product disadvantage will become a more and more important concern of firm 2 when choosing location. Thus in order to make up for this, firm 2 has more incentive to move to the right to preserve the product differentiation in order to attract consumers, which leaves the impact of  $\alpha$  on product differentiation trivial. Thus, the increase of competitive advantage (in production cost) by the CSR-friendly company will soften the negative relationship between the degree of the company's CSR and the degree of product differentiation in the market.

**COROLLARY 1:** *The CSR activity increases the profit of CSR-friendly company until it reaches the optimal degree of the company's CSR. This optimal level of the company's CSR is increasing with both its cost advantage and the unit transportation cost.*

## 5. EXTENSION WITH ASYMMETRIC INFORMATION

In this section, we keep all conditions the same as earlier, except the information structure of firms' production cost. Firm 2 still produces with a constant marginal cost of production  $k_2$ ,  $0 < k_2 = k < r$ . However, we now assume that there may be different types of firm 1 with different production costs  $k_1$ , which is the private information only to itself. Specifically, there is a probability  $\beta$  that firm 1 may be low type (“L”) with a production technology advantage (giving a lower production cost), and in this case, without loss of generality,  $k_1$  can be normalized to zero ( $k_1 = 0$ ). Firm 1 is of high type (“H”) with a probability  $1 - \beta$  with no cost advantage  $k_1 = k_2 = k$ . This distribution is common knowledge.

We now turn to derive the Sub game Perfect Nash Equilibrium and solve it by backward induction. In this asymmetric information case, we have two utility functions for the CSR-friendly Company's given by

$$\begin{aligned} U_L &= (1 - \alpha)\pi_{1L} + \alpha CS_{1L} \\ U_H &= (1 - \alpha)\pi_{1H} + \alpha CS_{1H} \end{aligned} \tag{7}$$

Firm 2's expected profit function is given by

$$\begin{aligned} E\pi_2(L_{1L}, L_{1H}, L_2) &= \beta \int_{\bar{x}_L}^1 (c_{1L} - c_2) dx + (1 - \beta) \int_{\bar{x}_H}^1 (c_{1H} - c_2) dx \frac{1}{2} \\ \text{where } \bar{x}_L &= \frac{t(L_{1L} + L_2) + k}{2t}, \bar{x}_H = \frac{L_{1H} + L_2}{2} \end{aligned} \tag{8}$$

In the first stage, the two kinds of CSR-friendly company maximize  $U$  according to their own utility function (7) and its rival maximizes its own expected profit function (8). Firms develop their best response functions of location, as follows:

$$\begin{aligned} Br_{1L} : L_{1L} &= \frac{\alpha(2r - 3k) + 2k + (2 - 3\alpha)tL_2}{t(6 - 7\alpha)} \\ Br_{1H} : L_{1H} &= \frac{\alpha(2r - 2k) + (2 - 3\alpha)tL_2}{t(6 - 7\alpha)} \\ Br_2 : L_2 &= \frac{\beta(k + tL_{1L}) + 2t + tL_{1H}(1 - \beta)}{3t} \end{aligned} \tag{9}$$

Solving three best response functions simultaneously generates equilibrium locations:

$$\begin{aligned}
 L_{1L}^* &= \frac{8\beta k + 12t + 16k + (18r - 20\beta k - 44k - 32t)\alpha + (12\beta k + 21t - 21r + 30k)\alpha^2}{t(6-7\alpha)(8-9\alpha)} \\
 L_{1H}^* &= \frac{8\beta k + 12t + (12\beta k + 21k + 21t - 21r)\alpha^2 + (-20\beta k - 18k - 32t + 18r)\alpha}{t(6-7\alpha)(8-9\alpha)} \\
 L_2^* &= \frac{(r - 7t - k)\alpha + 4(1-\alpha)\beta k + 6t}{t(8-9\alpha)}
 \end{aligned} \tag{10}$$

Equation (10) gives the equilibrium product design of the CSR-firm and firm 2.  $L_{1L}^*$ ,  $L_{1H}^*$ , and  $L_2^*$  are the absolute locations of low type firm 1, high type firm 1 and firm 2 respectively. Thus the degree of product differentiation under both types “H” and “L” measured by the location distance becomes:

$$\begin{aligned}
 v_L^* &= \frac{(14r + 16\beta k - 23k + 28t)\alpha^2 + (-12r - 32\beta k + 38k - 52t)\alpha + 24t + 16\beta k - 16k}{t(6-7\alpha)(8-9\alpha)} \\
 v_H^* &= \frac{2[(8\beta k + 14t + 7r - 7k)\alpha^2 + (-6r - 16\beta k + 6k - 26t)\alpha + 12t + 8\beta k]}{t(6-7\alpha)(8-9\alpha)}
 \end{aligned} \tag{11}$$

Next, we establish propositions to show how the role of asymmetric information impacts the relationship between CSR and the product differentiation.

**PROPOSITION 4:** *At the Sub-game Perfect Nash Equilibrium with asymmetric information, there exists a positive relationship between the probabilities  $\beta$  of the CSR-friendly company being a low type and the degree of the product differentiation.*

**PROPOSITION 5:** *At the Sub-game Perfect Nash Equilibrium with asymmetric information, the relationship between the degree of the company’s CSR  $\alpha$  and degree of product differentiation remains negative, and this relationship would be strengthened if the CSR-firm is of low type.*

**PROPOSITION 6:** *At the Sub-game Perfect Nash Equilibrium with asymmetric information, the competitive advantage  $k$  (in production cost) by the CSR-friendly company diminishes the equilibrium degree of product differentiation under the low type case when the likelihood of CSR-friendly company being a low type ( $\beta$ ) is relatively low, and vice versa. Results remain same as the symmetric information when the CSR-friendly company is of high type.*

**PROPOSITION 7:** *At the Sub-game Perfect Nash Equilibrium with asymmetric information, the competitive advantage of the low type CSR-friendly company moderates the negative relationship between the degree of the company’s CSR and the degree of product differentiation when the CSR-friendly company is a high type. However, when the CSR-friendly company is low type, the relationship may become ambiguous, which depends on probability  $\beta$ .*

**COROLLARY 2:** *At the Sub-game Perfect Nash Equilibrium with asymmetric information, CSR-friendly company’s profit increases when it first initiates the CSR strategy. This holds under both the low type and high type case.*

$$\text{Proof: } \left. \frac{\partial \pi_{1L}}{\partial \alpha} \right|_{\alpha=0} = \frac{(2\beta k + 4k + 3t)(4r + 2\beta k - 4k - t)}{192t} > 0$$

$$\left. \frac{\partial \pi_{1H}}{\partial \alpha} \right|_{\alpha=0} = \frac{(2\beta k + 3t)(4r + 2\beta k - 4k - t)}{192t} > 0$$

Underlying intuition of this result is same as corollary 1. The initiation of a CSR-strategy will lead the firm to act more aggressively and move towards the middle to obtain more market share, resulting in higher profit.

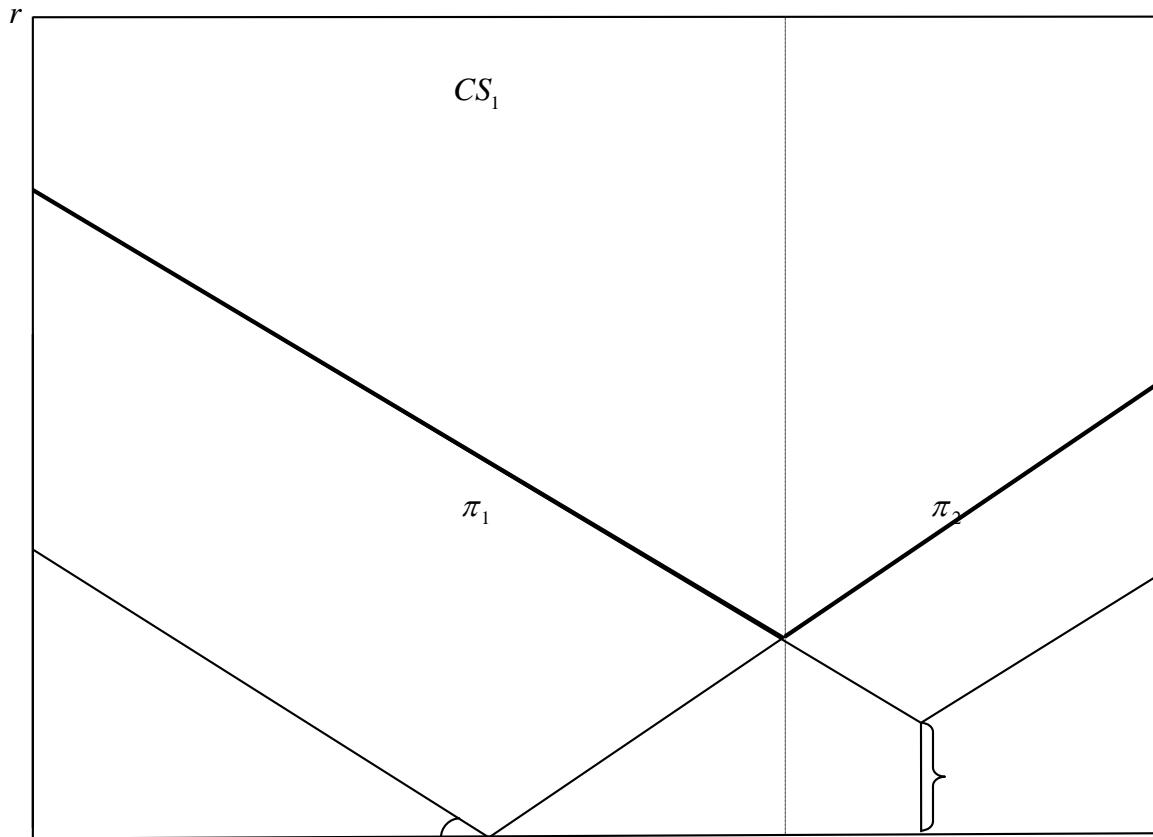
## 6. DISCUSSION AND FURTHER RESEARCH

In recent times, companies are considering corporate social responsibility (CSR) as a serious business strategy. CSR is not only good for building a positive image of the company for its stakeholders, but it could also make a positive contribution to its bottom line. Because of this, and also because of motivation from various external bodies like governments and UN bodies, more and more companies are incorporating CSR in their operations. One relevant research question that arises from this is explicitly what benefits a firm gets following a CSR strategy compared to another firm that does not adopt CSR. We have considered a game theoretic model that include two firms – one CSR and the other non-CSR – both competing in the same market with substitutable products. We operationalize the CSR firm by making its objective as maximizing a linear combination of its own profit and a form of social utility. We also assume that the CSR firm has a technological advantage so that its marginal cost of production is lower than the non-CSR firm. Our goal is to find to what extent the two firms differentiate their products from each other's (measured along a Hotelling type line), and how this degree of differentiation is influenced by the extent of cost advantage and the degree of CSR activities. First, a benchmark case where both firms are profit-maximizing (without the CSR objective) was solved to generate a benchmark product differentiation. When the game is played out between the two firms, we find that the degree of product differentiation is reduced when CSR is practiced. On the other hand, product differentiation increases with the production cost advantage. The interaction between the two factors – CSR activity and cost advantage – is also studied. Further, we study an asymmetric information scenario where the extent of production cost advantage of the CSR firm is private information and is not known to the other firm. The cost could be at two levels, a high level with no advantage and a low level as previously considered, with a probability that is common knowledge. The effect of the production cost advantage and the extent of CSR activity are studied in this scenario. We find to what extent the product differentiation is affected by the high and low type firms as well as their effect on each other.

Our work can be extended in various ways. The effect of the CSR activity can be studied in interaction with variables other than the production cost advantage as used in our paper. Another example variable could be an elastic demand for each customer that is dependent on the discriminative price. We can also incorporate a variable search cost on part of the customers in the model. The optimal level of CSR for the firm and for the whole value system might be of interest to study as well. Our one-dimensional Hotelling model used for the product differentiation can be extended to a two-dimensional spatial model.

*Figure following on the next page*

**Figure 1: Spatial Price Discrimination with Demand Constraints**



**LITERATURE:**

1. Anderson, S. P. and de Palma, A., 1988. Spatial Price Discrimination with Heterogeneous Products. *The Review of Economic Studies*, 55 (4): 573-592.
2. Bateman, T. S. and Snell S. A., 2002. Management: Competing in the New Era (5th ed.). McGraw-Hill/Irwin: New York.
3. Crifo, P., Diaye, M-A. and Pekovic, S., 2016. CSR related management practices and firm performance: An empirical analysis of the quantity-quality trade-off on French data. *International Journal of Production Economics*, 171(3): 405-416.
4. Fernandez-Kranz, D., 2010. How competitors use CSR when market conditions change. Forbes India, Jan 29.
5. <http://forbesindia.com/article/ie/how-competitors-use-csr-when-market-conditions-change/7712/1>, last accessed March 25, 2016.
6. Fisman, R., Heal, G. and Nair, V., 2014. Corporate Social Responsibility: Doing Well by Doing Good? Available at: <http://apps.olin.wustl.edu/jfi/pdf/corporate.social.responsibility.pdf>, last accessed March 25, 2016.
7. Gabszewicz, J. and Thisse J-F., 1980. Entry (And Exit) in a Differentiated Industry. *Journal of Economic Theory*, 22: 327-338.
8. Greenhut, M. L., 1981. Spatial pricing in the United States, West Germany and Japan. *Economica*, 48(189): 79-86.
9. Greenhut, M. L., Norman, G. and Hung C-S., 1987. The Economics of Imperfect Competition-A Spatial Approach (Cambridge: Cambridge University Press).

10. Hernández-Murillo, R. and Martinek C. J., 2009. Corporate Social Responsibility Can Be Profitable. *The Regional Economist*, Available at <http://www.stlouisfed.org/publications/re/articles/?id=1258>, last accessed March 25, 2016.
11. Hsueh, C-F., 2014. Improving corporate social responsibility in a supply chain through a new revenue sharing contract. *International Journal of Production Economics*, 151: 214-222.
12. Hotelling, H., (1929). Stability in Competition, *Economic Journal*, 39: 4-57.
13. Hsueh, C-F and Chang, M-S., 2008. Equilibrium analysis and corporate social responsibility for supply chain integration. *European Journal of Operational Research*, 190 (1): 116-129.
14. Knowledge@Wharton., 2012. From Fringe to Mainstream: Companies Integrate CSR Initiatives into Everyday Business, [http://www.governance.com.au/board-matters/fx-view-article.cfm?loadref=2&article\\_id=3782172A-BB69-7410-6C9FD1349159AEAB](http://www.governance.com.au/board-matters/fx-view-article.cfm?loadref=2&article_id=3782172A-BB69-7410-6C9FD1349159AEAB), last accessed March 25, 2016.
15. Kopel, M., Lamantia, F. and Szidarovszky, F., 2014. Evolutionary competition in a mixed market with socially concerned firms. *Journal of Economic Dynamics & Control*, 48: 394-409.
16. KPMG., 2011. International Survey of Corporate Responsibility Reporting of 2011.
17. <https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/2011-survey.pdf>, last accessed March 25, 2016.
18. Lacourbe, P., Loch, C. H. and Kavadias, S., 2009. Product Positioning in a Two-Dimensional Market Space. *Production and Operations Management*, 18(3): 315-332.
19. Macleod, W. Norman, B., G. and Thisse, J-F., 1985. Price Discrimination and Equilibrium in Monopolistic Competition. (CORE Discussion Paper 8506).
20. McWilliams, A. and Siegel, D., 2001. Corporate social responsibility: a theory of the firm perspective. *Academy of Management Review*, 26(1): 117–127.
21. Robins, R., 2011. Does Corporate Social Responsibility Increase Profits? <http://www.environmentalleader.com/2011/05/26/does-corporate-social-responsibility-increase-profits/>, last accessed March 25, 2016.
22. Shaked, A. and Sutton, J., 1982. Relaxing Price Competition Through Product Differentiation. *The Review of Economic Studies*, 49(1): 3-13.
23. Siegel, D. S. and Vitaliano, D. F., 2007. An Empirical Analysis of the Strategic Use of Corporate Social Responsibility. *Journal of Economics and Management Strategy*, 16(3): 773-92.
24. Thisse, J. F., and Vives, X., 1988. On the strategic choice of spatial price policy. *The American Economic Review*, 78(1): 122-137.
25. Van Wassenhove, L. N., 2006. Humanitarian aid logistics: supply chain management in high gear. *The Journal of the Operational Research Society*, 57 (5), 475-489.
26. Zhu, Q., Liu, J. and Lai, K-H., 2016. Corporate social responsibility practices and performance improvement among Chinese national state-owned enterprises. *International Journal of Production Economics*, 171(3) : 417-426.

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## DIALECTICS OF HIGH-PERFORMANCE WORK SYSTEMS: DISENTANGLING EFFECTS OF HUMAN RESOURCE INVESTMENTS AND UTILIZATION ON OCCUPATIONAL HEALTH

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### **ABSTRACT**

*Extensive interdisciplinary research on high-performance work systems (HPWS) has studied the use of integrated sets or “bundles” of human resource management practices to improve organizational outcomes. Against this backdrop, the present study develops and tests a dual model of HPWS and their impact on worker well-being and health. HPWS were conceptualized as a combination of high-commitment management (HCM) and high-involvement management (HIM). HCM refers to employer investments in human resources through the provision of working conditions that support employee welfare, including occupational safety and health promotion, broad-based benefits, fair pay, and suitable work environment. HIM was operationalized as intensified utilization of employee potentials through intrinsically motivating and empowering, participatory, and autonomy-supportive work and leadership practices. Integrating disciplinary perspectives on HPWS, these two dimensions were hypothesized to have parallel, converse, as well as interactive effects on two types of employee-oriented outcomes – positive cognitive-affective motivational states of job engagement and occupational health; the latter was operationalized with the concept of work ability. Hypotheses were tested in a latent-variable structural equation model, based on data from a large-scale survey of N = 14,372 municipal employees, including administrative and technical staff, teachers, and healthcare workers. Confirming theoretical assumptions, both HCM and HIM had positive indirect effects on work ability, mediated via employee engagement. Additionally, HCM had a positive direct effect, whereas the direct association between HIM and work ability was negative. Converse interactive effects of HCM and HIM on these two outcomes further corroborated the dialectic mechanisms of investments and utilization. Stimulating intrinsic work motivation, HIM also implies intensified expenditure of employees’ work capacity. Processes through which HPWS impose new strains and tensions on employees are discussed, along with ways to buffer or offset these negative side-effects.*

**Keywords:** High-commitment Management, High-involvement Management, High-performance Work Systems, Human Resource Utilization, Employee Engagement, Occupational Health, Work Ability, Work Intensification

## 1. INTRODUCTION

Backdrop of this study is an extensive and growing stream of interdisciplinary research on high-performance work systems (HPWS) and related concepts, capitalizing on the use of integrated sets of human resource (HR) management practices to achieve desired outcomes (Boxall, 2012; Pil and Macduffie, 1996; Posthuma, Campion, Masimova, and Campion, 2013; Ramsay, Scholarios, and Harley, 2000). Core assumptions of HPWS include synergistic, i.e., complementary or mutually reinforcing, effects of specific configurations or “bundles” of HR practices on organizational (or unit-level) performance, via their positive impact on employee attitudes and behaviors. Although HPWS include technocratic varieties, centering on technology, labor costs, and performance-based pay, the behavioral management literature tends to focus on employee-oriented approaches, targeting improvements in the motivation, capabilities, and productivity of HR (Evans and Davis, 2005; Kehoe and Wright, 2013; Wood, Van Veldhoven, Croon, and de Menezes, 2012). Associated high-commitment, high-investment, or high-involvement HR practices, are assumed to benefit both employers and employees (Boxall and Macky, 2009; Lepak, Taylor, Tekleab, Marrone, and Cohen, 2007). Meta-analytic results support a connection between HPWS practices and organizational outcomes, such as productivity and financial performance (Combs, Liu, Hall, and Ketchen, 2006; Rabl, Jayasinghe, Gerhart, and Kühlmann, 2014). However, whereas the majority of empirical investigations have focused on positive HR effects as mediating processes between HPWS and organizational outcomes, some have reported negative side-effects on worker well-being (Heffernan and Dundon, 2016; Kroon, van de Voorde, and van Veldhoven, 2009). Contradictory results have fueled a controversy on the consequences of HPWS for workers, including potential “hidden costs” of tensions and trade-offs with employee well-being and health. A critical proposition ascribes a paradox “dual” role to high-involvement management and related practices in increasing work motivation and satisfaction alongside with work stress and strain (Godard, 2004; Kashefi, 2009; Ramsay et al., 2000). The present study seeks to clarify different pathways through which HPWS affect worker health. Data from a large-scale employee survey in the public sector are used to examine associations between two dimensions of employee perceptions of HPWS and occupational health. Hypotheses comprise direct, indirect, and interactive effects of perceived high-commitment management (HCM) and high-involvement management (HIM) on work ability – as the basis for sustainable performance (Ilmarinen, 2009; van den Berg, Elders, de Zwart, and Burdorf, 2009). Positive job attitudes of employee engagement were included as a mediator between HPWS perceptions and worker health (Rich, Lepine, and Crawford, 2010). This study contributes to the literature by introducing a dialectic two-dimensional model that integrates different disciplinary perspectives on the implications of HPWS for the quality of work.

## 2. HYPOTHESES

Extensive research notwithstanding, a generally accepted and precise definition of HPWS is lacking (Boxall, 2012; Godard, 2004). The term HPWS is used loosely for work settings, where sets of HR practices are implemented to achieve desired outcomes. Practices considered core to HPWS vary, including employee participation, grievance procedures, teamwork, enriched work design, extensive training and skill development, selective hiring, systematic performance appraisal, above-market pay, incentive compensation, internal career paths, and employment security (Combs et al., 2006; Posthuma et al., 2013). The present study draws on a two-dimensional conceptualization of HPWS as a combination of HCM and HIM practices. HCM refers to employer provision of supportive conditions, promoting employee welfare through workplace practices targeting occupational safety and health, fairness in pay and benefits, and adequate equipment and work environment (Geare, Edga, and McAndrew, 2009; Lepak et al., 2007). HIM signifies enhanced utilization of employee performance potentials by promoting

participation in managerial decision-making and empowerment through higher autonomy, learning, and mastery experiences (Boxall and Macky, 2009; Pil and Macduffie, 1996). HCM represents investments in HR, referring to more traditional, extrinsically rewarding (tangible, material, or “hard”) aspects of decent work. In contrast, HIM reflects a form of HR utilization, facilitating broader employee contributions based on more intrinsically motivating (intangible, social-psychological, or “soft”) job features and opportunities for achievement and self-actualization (Allan, O’Donell, and Peetz, 1999). Combinations of these dimensions can serve as a work systems taxonomy (Lepak et al., 2007). Whereas genuine HPWS support high degrees of both HR investments (HCM) and utilization (HIM), unfavorable working conditions and HR underutilization characterize low-quality work systems, based on transactional employment of low-cost labor (e.g., simple manual or service jobs). Paternalistic modes of relational employment, emphasizing loyalty and welfare, offer high investments combined with low utilization (e.g., traditional public and administrative employment). Low investments in working conditions in conjunction with high utilization of employee potentials can be found in underdeveloped work systems (e.g., volunteer work and start-up companies). In the following, hypotheses will be developed on the dialectic interplay of HCM and HIM in predicting employee outcomes.

## **2.1. Investment hypothesis (conservation)**

The investment perspective assumes causal effects of the quality of working conditions on employee welfare. Employer efforts to provide decent working conditions, inherent in the HPWS dimension of HCM, correspond with strategies of resource conservation or regeneration, and are expected to yield returns in terms of improving worker wellbeing and health – as the long-term basis for sustainable organizational performance (Geare et al., 2009; Lawson, Noblet, and Rodwell, 2009; Lepak et al., 2007). Consequently, according to the investment hypothesis (H1), HCM will have a positive direct effect on occupational health.

## **2.2. Internalization hypotheses (motivation)**

The mediating role of psychological processes between HRM practices and organizational outcomes reflects a core assumption of HPWS, which becomes evident in the labels of “high-commitment” and “high-involvement” management (Evans and Davis, 2005; Kehoe and Wright, 2013; Wood et al., 2012). The internalization (or motivational) perspective comprises both extrinsic and intrinsic motivational processes, corresponding with the two distinguished HPWS dimensions. The associated hypothesis (H2), thus, consists of two parts.

### **2.2.1 Inducement hypothesis (extrinsic)**

The inducement (or, alternatively, commitment) hypothesis refers to the assumed mediating role of positive job-related motivational states between employer provision of decent work and employment conditions and occupational health (Geare et al., 2009). This perspective implies motivational processes based on extrinsic job features, focusing on work context and conditions. According to the inducement hypothesis (H2a) HCM will have a positive indirect effect on occupational health, mediated via increased employee engagement.

### **2.2.2 Involvement hypothesis: (intrinsic)**

In contrast to extrinsic inducements, the involvement perspective focusses on intrinsic job features, such as opportunities for self-determination, influence, learning, and growth. More strongly tied to job content, work organization, and management relationships, these aspects are at the core of the HIM approach (Boxall and Macky, 2009; Pil and Macduffie, 1996). The involvement hypothesis (H2b) parallels the inducement hypothesis, but differs in the assumed

underlying motivational basis and corresponding HRM practices, such that a positive indirect effect of HIM on occupational health will be mediated via increased employee engagement.

### **2.3. Intensification hypothesis (utilization)**

The intensification perspective draws on labor process theory (Braverman, 1974) and related critical views on HPWS, postulating negative side-effects of escalating performance requirements (Kashefi, 2009; Ramsay et al., 2000). HIM, conceptualized as an utilization strategy, was assumed to play a dual role of exerting both positive indirect and negative direct effects on worker health, based on more intrinsically motivating work, combined with increases in job demands. Thus, the intensification hypothesis (H3) suggests that, in addition to a positive indirect effect, HIM will have a negative direct effect on occupational health.

### **2.4. Interaction hypotheses (moderation)**

The existence and relevance of joint or interactive effects of HR practices, above and beyond their additive or cumulative impact, reflects another core assumption of the HPWS paradigm, which draws on central premises of systems theory (Boxall, 2012; Godard, 2004). Based on the conceptualization of HCM and HIM as forms of HR conservation, respectively utilization, the interaction hypothesis (H4) postulates differential moderation effects of these dimensions on the two outcomes of employee engagement and occupational health.

#### **2.4.1 Synergistic motivation hypothesis (booster)**

Motivational theory suggests that the joint presence of job features stimulating both extrinsic and intrinsic motivation exerts mutually reinforcing or synergistic effects (Amabile, 1993). Thus, according to the synergistic motivation hypothesis (H4a), the positive effect of HCM on employee engagement should be accentuated (boosted) by the extent of HIM.

#### **2.4.2 Sustainable utilization hypothesis (buffer)**

Sustainability in HR utilization entails providing employees with positive working conditions and adequate job-related resources to support high performance and low work strain (Gollan, 2005). Therefore, the sustainable utilization hypothesis (H4b) posits that the negative direct effect of HIM on occupational health will be attenuated (buffered) by the extent of HCM.

## **3. METHODS**

The study draws on a large-scale employee survey conducted in 2013 among municipal workers in the civil service of a major Germany city. Based on a collaboration agreement with a local university, scientific consulting services were provided in exchange for data access.

### **3.1. Setting and sample**

Out of approximately 30.000 employees, N = 14.372 participated (47.9%); 8074 (56.2%) were women; the median age group was “40 to 49 years”; 1089 (7.6%) reported to suffer from a severe disability. The majority worked full-time (10214; 71.1%); median employment tenure was “10 to 20 years”; 3119 (21.7%) held a supervisor position. The largest occupational group was administration clerks (5715; 39.8%); second came technical services (3372; 23.5%); followed by school teachers (1486; 10.3%); childcare workers (1544; 10.7%); social services (819; 5.7%); and health services (145; 1.0%); a number had missing information (1113; 7.7%) or had chosen the category “other area” (178; 1.2%).

### **3.2. Materials and measures**

The survey was administered by the HR department and consisted of three parts. The first was a best employer survey (Joo and Mclean, 2006; Love and Singh, 2011). Response format was

a 5-point scale (1 = “Not at all”; 5 = “To a very great extent”). From this pool of 63 items, three 6-item scales were extracted. These are provided in Table 1 along with exploratory factor analysis (EFA) results. Factors reflected HIM, employee engagement (EE), and HCM. The second part was an occupational health self-screening, based on the extensively validated work ability index (WAI; Ilmarinen, 2009). The last section comprised questions on personal, job-related, and occupational background information, used as control variables.

*Table 1: EFA of best employer survey items*

	I	II	III
Managers honestly seek and respond to suggestions and ideas from employees.	<u>.81</u>	.24	.21
Managers understand that honest mistakes can happen at work.	<u>.79</u>	.14	.18
Managers involve employees in decisions affecting their jobs or work environment.	<u>.77</u>	.23	.21
Managers show recognition for good work and extra efforts.	<u>.74</u>	.26	.22
Managers trust that employees do a good job without constantly monitoring them.	<u>.73</u>	.19	.15
Managers have a clear understanding of organizational goals and how to attain them.	<u>.66</u>	.26	.22
My work has a special meaning to me, more than just a “job”	.07	<u>.77</u>	.05
I am proud of what we achieve here together.	.35	<u>.76</u>	.14
I believe that I can make a difference here.	.26	<u>.75</u>	.16
I am proud to tell others that I work here.	.32	<u>.70</u>	.33
I am satisfied about the way in which we contribute to society.	.21	<u>.69</u>	.30
I would like to continue to work here for a long time.	.31	<u>.61</u>	.34
Workplace safety is a high priority here.	.19	.08	<u>.66</u>
Employees are offered supportive programs for health-promotion.	.22	.18	<u>.65</u>
Employees are paid adequately for their contributions here.	.11	.11	<u>.64</u>
I get the necessary means and equipment to do my job well.	.33	.09	<u>.60</u>
We have special and unique employee benefits here.	.05	.22	<u>.60</u>
Our buildings and facilities contribute to a favorable work environment.	.16	.22	<u>.58</u>
Initial Eigenvalues	7.45	1.59	1.45
Variance Explained (%)	41.4	8.8	8.1
Internal Consistency (Cronbach's alpha)	.90	.88	.74

Note: N = 14.372; principal components analysis; varimax rotation; primary loadings underlined.

### **3.2.1 High-commitment management**

HCM was conceptualized in terms of employer efforts to support employee welfare through the provision of decent work and employment. The six items in this scale referred to occupational safety and health promotion, pay and benefits, and equipment and facilities. A Cronbach's coefficient alpha of  $\alpha = .88$  indicated satisfactory internal consistency.

### **3.2.2 High-involvement management**

HIM refers to enhanced utilization of employees' motivation potentials through the use of empowering, participatory, and autonomy-supportive work and leadership practices. This scale comprised six items on opportunities for participation in managerial decision-making, delegation and autonomy, and goal setting and feedback. Reliability was high at  $\alpha = .90$ .

### **3.2.3 Employee engagement**

EE was operationalized as the experience of positive work-related motivational states and favorable cognitive-affective evaluations of one's work and employment (Judge and Kammeyer-Mueller, 2012; Rich et al., 2010). The six items in this scale had a high internal consistency of  $\alpha = .90$ , combining aspects of job significance and meaning, sense of achievement and pride, and identification with and affective attachment to the organization.

### 3.2.4 Occupational health

Developed as a self-screening tool for occupational health, the WAI integrates factors that determine the capacity of employees to perform their jobs (Ilmarinen, 2009; van den Berg et al., 2009). Based on 11 items, point values are assigned to seven dimensions. Conventionally, these are added up to a sum score, for which norms on different levels of work ability exist. Table 2 shows EFA results of WAI dimensions, which confirm findings of a psychometric study (Martus, Jakob, Rose, Seibt, and Freude, 2010), suggesting a two-dimensional structure of subjectively estimated work ability (WAI-S: WAI1/2/6/7;  $\alpha = .76$ ) and more objective or quantifiable aspects of health status (WAI-O: WAI3/4/5;  $\alpha = .63$ ).

*Table 2: EFA of WAI dimensions*

	Range	M	SD	WAI-S	WAI-O
WAI1: Work ability relative to lifetime best	[0-10]	7.71	1.76	.79	.17
WAI2: Work ability relative to job demands	[2-10]	7.80	1.65	.80	.31
WAI3: Diagnosed diseases	[1-7]	4.49	1.98	.22	.78
WAI4: Work impairment due to disease	[1-6]	5.26	0.99	.31	.73
WAI5: Sick leaves	[1-5]	3.75	0.91	.09	.76
WAI6: Work ability prognosis	[1-7]	6.52	1.23	.58	.28
WAI7: Mental resources	[1-4]	3.35	0.76	.81	.08
Initial Eigenvalues				3.27	1.06
Variance Explained (%)				46.7	15.1
Internal Consistency (Cronbach's alpha)				.75	.63

Note: N = 14.372; principal components analysis; varimax rotation; primary loadings underlined.

### 3.2.5 Control variables

Person-related controls were sex, age (6 categories), and severe disability. Job-related controls were employment tenure (5 categories), supervisor position, and part-time. Occupational group (7 categories) was recoded into six dummy variables (1 = administration; 2 = technical services; 3 = teachers; 4 = childcare; 5 = health and social services; 7 = unspecified).

## 4. RESULTS

Based on EFA results, confirmatory analysis (CFA) was used to establish the measurement model for subsequent hypothesis testing through structural equation modeling (SEM). Analyses were conducted with AMOS 18.0. Model evaluation was based on a battery of fit indices and conventional cut-offs; for details, see Brown (2006) and Byrne (2001).

### 4.1. Scale analyses

To reduce parameters and increase measurement stability, item pairs from the best employer survey were combined into nine parcels, three per latent construct. The theoretical 3-factor model (HIM, HCM, EE) was acceptable (CFA 1; Table 4). To establish construct distinctness, a 1-factor (CFA 2) and three 2-factor models were tested (CFA's 3-5), systematically collapsing any two of the three constructs. None fulfilled fit conventions. After a general 1-factor CFA of the WAI was not acceptable, several 2-factor models were tested (CFA's 7-9). In the final model (CFA 9), WAI-S was based on WAI1/2/7; WAI-O combined WAI3/4/5; WAI6 cross-loaded on both. The integrated model, comprising five latent constructs (HCM, HIM, EE, WAI-S, WAI-O) and 16 manifest indicators, displayed adequate fit (CFA 10). Means, standard deviation and inter-correlations of constructs are provided in Table 3.

*Table 3: Descriptive statistics and correlations*

	Range	M	SD	1.	2.	3.	4.
1. High-commitment management (HCM)	[1-5]	3.39	0.73				
2. High-involvement management (HIM)	[1-5]	3.42	0.89	.53**			
3. Employee engagement (EE)	[1-5]	3.69	0.85	.61**	.54**		

4. Subjective work ability aspects (WAI-S)	[4-31]	25.44	4.24	.41**	.44**	.53**
5. Objective work ability aspects (WAI-O)	[3-18]	13.53	3.14	.19**	.25**	.21** .50**

Note: N = 14.372; M = mean; SD = standard deviation; \*\*p < .01; \*p < .05.

#### 4.2. Model specification

The final CFA was converted into a SEM by replacing factor correlations with eight directed paths: 2 from HCM on WAI-S and WAI-O (H1); 2 from HCM and HIM on EE and another 2 from EE on WAI-S and WAI-O (H2a/b); and 2 from HIM on WAI-S and WAI-O (H3); Fit of this baseline model was acceptable (SEM 1; Table 4). Next, altogether 11 person-related (sex, age, and disabilities), job-related (tenure, position, part-time), and occupational (5 groups) variables were added with direct effects on all dependent constructs. This controlled model (SEM 2) also showed satisfactory fit. Finally, a latent interaction term of HIMxHCM was included, modeled by three mean-centered product terms combining the manifest indicators of both scales (i1xj1, i2xj2, i3xj3). Again, model fit responded positively (SEM 3).

*Table 4: Fit indices for CFA and SEM*

	$\chi^2$	df	$\chi^2/df$	IFI	TLI	CFI	CN	RMSEA [CI]
CFA 1: BES (3)	426.84	24	17.78	.99	.99	.99	1227	.034 [.031-.037]
CFA 2: BES (1)	13251.37	27	490.79	.80	.67	.80	14	.185 [.182-.187]
CFA 3: BES (2); HIM+HCM	4417.16	26	169.89	.94	.89	.94	127	.108 [.106-.111]
CFA 4: BES (2); HIM+EE	10810.71	26	415.80	.84	.72	.84	52	.170 [.167-.173]
CFA 5: BES (2); HCM+EE	4262.39	26	163.94	.94	.89	.94	132	.106 [.104-.109]
CFA 6: WAI (1)	3334.77	14	238.19	.88	.75	.88	103	.128 [.125-.132]
CFA 7: WAI (2)	646.93	13	49.76	.98	.95	.98	497	.058 [.054-.062]
CFA 8: WAI (2); CL: 4/6	416.43	11	37.86	.98	.96	.98	679	.051 [.047-.055]
CFA 9: WAI (2); CL: 6	425.31	12	35.44	.98	.96	.98	711	.049 [.045-.053]
CFA 10: WAI/BES (5)	2965.24	93	31.88	.97	.96	.97	565	.046 [.045-.048]
SEM 1: Baseline model	5361.59	94	57.04	.95	.93	.95	316	.062 [.061-.064]
SEM 2: Controlled model	8239.43	215	38.32	.94	.90	.94	437	.051 [.050-.052]
SEM 3: Moderated model	9409.69	280	33.61	.94	.90	.94	489	.048 [.047-.048]

Note: BES = best employer survey; WAI = work ability index; CL = cross-loadings;  $\chi^2$  = chi-square (all p < .01); df = degrees of freedom; IFI = Incremental Fit Index; CFI = Comparative Fit Index; ; CN = Hoelter's critical N (p > .05); RMSEA = Root Mean Square Error of Approximation; CI = 90% confidence interval.

#### 4.3. Structural paths

Supporting the investment hypothesis (H1), HCM had positive direct effects on both work ability dimensions (WAI-S:  $\beta = .51$ , p < .01; WAI-O:  $\beta = .63$ , p < .01). Both HCM ( $\beta = .45$ , p < .01) and HIM ( $\beta = .37$ , p < .01) related positively to EE, which, in turn, was positively associated with WAI-S ( $\beta = .40$ , p < .01), thus mediating positive indirect effects of HPWS dimensions on occupational health. Although both parts of the internalization hypothesis, extrinsic induction (H2a) and intrinsic involvement (H2b), therefore, were supported, some constraints arise from the fact that EE was unrelated to the more objective health status factor (WAI-O:  $\beta = -.01$ , p > .05). Substantiating the intensification hypothesis (H3), positive indirect effects of HIM on occupational health were complemented by counter-directional negative direct effects on both WAI-S ( $\beta = -.14$ , p < .01) and WAI-O ( $\beta = -.26$ , p < .01). Fully supporting interaction hypotheses, the joint presence of HCMxHIM positively affected EE ( $\beta = .02$ , p < .05), suggesting synergistic motivational implications (H4a), while relating negatively to both WAI-S ( $\beta = -.04$ , p < .01) and WAI-O ( $\beta = -.04$ , p < .01). The latter finding suggests buffering of negative HIM side-effects through HCM (H4b), likely by making high-performance demands more sustainable through providing enhanced workplace resources.

#### 4.4 Control variables

Out of the 33 direct effects of controls on dependents constructs, 23 were significant ( $p < 0.5$ ) but only few had effects sizes of  $\beta > .10$ . Age and employment related more negatively to WAI-O ( $\beta = -.14$ ,  $p < .01$  and  $\beta = -.18$ ,  $p < .01$ ) than to WAI-S ( $\beta = -.03$ ,  $p < .01$  and  $\beta = -.10$ ,  $p < .01$ ). A similar pattern applied to severe disability, the strongest single person-related predictor of work ability (WAI-O:  $\beta = -.31$ ,  $p < .01$ ; WAI-S:  $\beta = -.09$ ,  $p < .01$ ). Importantly, structural paths among constructs were not affected by the inclusion of control variables.

### 5. DISCUSSION

Based on a large-scale sample, this study successfully integrated rarely tested assumptions on the ambivalent relationships between HPWS and worker wellbeing. The strongest and most clear-cut effects were found for a positive impact of HCM, operationalizing employer investments in decent working conditions, on both employee engagement and occupational health. Prioritizing employee welfare reflects a strategy of HR conservation, which may include foregone short-term economic benefits for the sake of longer-term HR sustainability (e.g., off-the-job training, paid time off, investments in facilities and equipment). Organizational efforts to provide supportive employee-oriented working conditions, thus, generate alternative payoffs in terms of worker wellbeing and health as the foundations of sustainable HR utilization. In line with conventional wisdom, HR practices supporting employee welfare and HIM practices facilitating employee empowerment, were both associated with improved work ability via increasing job engagement (Boxall, 2012; Wood et al., 2012). These two pathways correspond with extrinsic and intrinsic motivational processes and represent what might be called inducement and identification perspectives on HPWS. Corresponding to the intensification proposition, rooted in a labor process theory perspective on HPWS, HIM played an ambiguous dual role in simultaneously stimulating worker motivation and fostering intensified utilization of their work capacity (Kashefi, 2009; Ramsay et al., 2000). The health-depleting effects of HIM seem to be based not primarily on environmental pressures or external coercion, but to stem from autonomously enacted forms of self-overtaxing and self-hazardous or self-damaging behavior, triggered by intrinsically motivating work and associated elevated levels of engagement – in conjunction with escalating performance expectations (Allan et al., 1999). This new quality of intrinsically motivated and self-enacted or “subjectivized” work intensification corresponds with critical assumptions on the efficacy of indirect and internalized control mechanisms in modern HR systems (Ramsay et al., 2000). The dialectics of HPWS become evident in the fact that empowering and autonomy-supportive HIM practices not only depleted, but also contributed to worker health by stimulating intrinsic motivation and positive job-related experiences and attitudes. Additionally, a positive role of HIM was also demonstrated in the interactive synergistic motivational effects of HCM and HIM on employee engagement. The converse (i.e., negative) interactive effect on work ability further suggests that higher performance demands imposed by HIM systems are (only) partly compensated or buffered by supportive working conditions. Although results provide a coherent and persuasive picture of the dialectic effects of HPWS on workers, they should be viewed as tentative and interpreted with caution. Underlying reasons are connected to study limitations, which include reliance on cross-sectional single-source data, ad-hoc measures of HPWS, and pending questions regarding generalizability from the public employment context to other work organizations.

### 6. CONCLUSION

High-involvement approaches to HPWS are often portrayed as a “magic wand” or “silver bullet”. This study suggests that they should be more accurately viewed as a “mixed blessing” or a “double-edged sword”, offering not only enhanced opportunities for self-determination and

impact, but also imposing new strains and tensions, potentially resulting in constraints and trade-offs with regard to occupational health and HR sustainability. The form of employee involvement, however, affects the outcomes (Batt and Appelbaum, 1995). The ambivalent effects reported here are likely tied to the instrumental logic of HPWS, capitalizing on employee involvement as a psychologically honed HR utilization strategy (Braverman, 1974; Ramsay et al., 2000). From a critical point of view, it may well be interpreted as an ideologically warranted delusion or “blind spot” that the majority of scholarly work on HPWS honestly seems to assume that the imperative of high-performance can indeed be achieved without incurring any negative side-effects or human costs.

## LITERATURE:

1. Allan, C., O'Donell, M., and Peetz, D. (1999). Three dimensions of labor utilization: Job broadening, employment insecurity and work intensification. *Current Research in Industrial Relations*, 1, 13-24.
2. Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, 3, 185-201.
3. Batt, R., and Appelbaum, E. (1995). Worker participation in diverse settings: Does the form affect the outcomes? *British Journal of Industrial Relations*, 33, 353-378.
4. Boxall, P. (2012). High-performance work systems: What, why, how and for whom? *Asia Pacific Journal of Human Resources*, 50, 169-186.
5. Boxall, P., and Macky, K. (2009). Research and theory on high-performance work systems: progressing the high-involvement stream. *Human Resource Management Journal*, 19, 3-23.
6. Braverman, H. (1974). *Labor and monopoly capital: The degradation of work in the twentieth century*. New York, NY: Monthly Review Press.
7. Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Press.
8. Byrne, B. M. (2001). *Structural equation modeling with Amos: Basic concepts, applications, and programming*. Mahwah NJ: Erlbaum.
9. Combs, J. G., Liu, Y., Hall, A., and Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59, 501-528.
10. Evans, W. R., and Davis, W. D. (2005). High-performance work systems and organizational performance: The mediating role of internal social structure. *Journal of Management*, 31, 758-775.
11. Geare, A., Edga, F., and McAndrew, I. (2009). Workplace values and beliefs: An empirical study of ideology, high commitment management and unionisation. *The International Journal of Human Resource Management*, 20, 1146-1171.
12. Godard, J. (2004). A critical assessment of the high-performance paradigm. *British Journal of Industrial Relations*, 42, 349-378.
13. Gollan, P. J. (2005). High involvement management and human resource sustainability: The challenges and opportunities. *Asia Pacific Journal of Human Resources*, 43, 18-33.
14. Heffernan, M., and Dundon, T. (2016). Cross-level effects of high-performance work systems (HPWS) and employee well-being: The mediating effect of organisational justice. *Human Resource Management Journal*, 26, 211-231.
15. Ilmarinen, J. (2009). Work ability—a comprehensive concept for occupational health research and prevention. *Scandinavian Journal of Work, Environment & Health*, 35, 1-5.
16. Joo, B. K., and Mclean, G. N. (2006). Best employer studies: A conceptual model from a literature review and a case study. *Human Resource Development Review*, 5, 228-257.

17. Judge, T. A., and Kammeyer-Mueller, J. D. (2012). Job attitudes. *Annual Review of Psychology*, 63, 341-367.
18. Kashefi, M. (2009). Job satisfaction and/or job stress: The psychological consequences of working in 'high performance work organizations'. *Current Sociology*, 57, 809-828.
19. Kehoe, R. R., and Wright, P. M. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of Management*, 39, 366-391.
20. Kroon, B., van de Voorde, K., and van Veldhoven, M. (2009). Cross-level effects of high-performance work practices on burnout. Two counteracting mediating mechanisms compared. *Personnel Review*, 38, 509-525.
21. Lawson, K. J., Noblet, A. J., and Rodwell, J. J. (2009). Promoting employee wellbeing: The relevance of work characteristics and organizational justice. *Health Promotion International*, 24, 223-233.
22. Lepak, D. P., Taylor, M. S., Tekleab, A. G., Marrone, J. A., and Cohen, D. J. (2007). An examination of the use of high-investment human resource systems for core and support employees. *Human Resource Management*, 46, 223-246.
23. Love, L. F., and Singh, P. (2011). Workplace branding: Leveraging human resources management practices for competitive advantage through "best employer" surveys. *Journal of Business and Psychology*, 26, 175-181.
24. Martus, P., Jakob, O., Rose, U., Seibt, R., and Freude, G. (2010). A comparative analysis of the Work Ability Index. *Occupational Medicine*, 60, 517-524.
25. Pil, F. K., and Macduffie, J. P. (1996). The adoption of high-involvement work practices. *Industrial Relations*, 35, 423-455.
26. Posthuma, R. A., Campion, M. C., Masimova, M., and Campion, M. A. (2013). A high performance work practices taxonomy: Integrating the literature and directing future research. *Journal of Management*, 39, 1184-1220.
27. Rabl, T., Jayasinghe, M., Gerhart, B., and Kühlmann, T. M. (2014). A meta-analysis of country differences in the high-performance work system-business performance relationship: The roles of national culture and managerial discretion. *Journal of Applied Psychology*, 99, 1011-1041.
28. Ramsay, H., Scholarios, D., and Harley, B. (2000). Employees and high-performance work systems: Testing inside the black box. *British Journal of Industrial Relations*, 38, 501-531.
29. Rich, B. L., Lepine, J. A., and Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, 53, 617-635.
30. van den Berg, T. I. J., Elders, L. A. M., de Zwart, B. C. H., and Burdorf, A. (2009). The effects of work-related and individual factors on the work ability index: A systematic review. *Occupational and Environmental Medicine*, 66, 211-220.
31. Wood, S., Van Veldhoven, M., Croon, M., and de Menezes, L. M. (2012). Enriched job design, high involvement management and organizational performance: The mediating roles of job satisfaction and well-being. *Human Relations*, 65, 419-445.

## AN APPROACH TO PLANNING AN ADVERTISING CAMPAIGN

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### **ABSTRACT**

*An operations research approach to planning an advertising campaign of goods is employed to demonstrate the expediency of the use and the power of applied mathematics tools in solving business and trade problems. In this work we propose a new approach to plan an advertising campaign using three models. It is shown that under certain natural assumptions, the considered planning problem can be formulated as an optimization one, namely, as an integer linear programming problem and nonlinear programming problem with linear constraints, in which the constraints represent the value of the advertising budget, total number of commercials and expected revenue., whereas the goal function is the GRPs of advertising. We also conducted comparative assessment of advertising campaign effectiveness to applying data envelopment analysis method to classify channels according to the level of efficiency.*

**Keywords:** advertising campaign, DEA method, expected revenue, Gross Rating Points, Nonlinear programming

### **1. INTRODUCTION**

Today any organization to maintain and develop its position in the market uses advertising. In this regard, the organization's task is to correctly plan and implement advertising campaign from point of view of marketing objectives. In this work we proposed a new approach to planning an advertising campaign using three models. To plan an advertising campaign is necessary:

- Make a preliminary selection of TV channels guided by the index of audience share.
- Determine the number of commercials for each channel, in which the Gross Rating Points of advertising will be maximum, within the limits of budget and preferable expected revenue.
- Determine the best and most probable allocations of TV Commercials.
- Estimate the comparative effectiveness of the Advertising Campaign.

#### **1.1. Explanations of terms used in this study**

**Advertising breaks** - the airtime, during which is made in advertising.

**TV channel audience** - the number of people watching the channel.

**TV Rating**: the estimate of the size of television audience relative to the potential audience, expressed as a percentage. The estimated percent of all TV households or persons tuned to a specific station.

**Share of audience (Shr)** - Share is the audience of particular television program or time period expressed as a percent of the population viewing TV at that particular time.

**Gross Rating Points (GRP)** – A unit of measurement of audience size. It is used to measure the exposure to one or more programs or commercials, without regard to multiple exposures of the same advertising to individuals.

$$GRPs = \sum_{i=1}^m q_i n_i,$$

Where

$q_i$  – represents the TV ratings for the time period  
 $n_i$  – represents the number of broadcast commercials

## 2. COMMERCIALS ALLOCATION PROBLEM.

### 2.1 Problem description.

The company would like to advertising their products through the m different channels ( $TV_i \leftrightarrow i$ ,  $i=1, 2, \dots, m$ ) and get the maximum GRP of advertising within the limits of C budget allocated for advertising, at the same time we should assure.

- some preferable expected revenue
- a certain amount of commercials for advertising and so on.

#### 2.1.1 Mathematical model.

To solve this problem we apply the integer linear programming methods. The mathematical model can be formulated as follows:

Objective function: maximization of the Gross rating points of advertising.

$$GRPs = \sum_{i=1}^m q_i n_i \rightarrow \max \quad (1)$$

Constraints below:

1. limitation on total number of commercials

$$\sum_{i=1}^m n_i = N \quad (2)$$

2. limitation on advertising budget

$$\sum_{i=1}^m d_i n_i * t / 60 \leq C \quad (3)$$

3. limitation on preferable expected revenue

$$\sum_{i=1}^m r_i n_i * t / 60 \geq R \quad (4)$$

4. limitation on variables

$$n_i \geq 0, n_i \in (Z), (i=1,2,\dots,m): \quad (5)$$

where:

$q_i$  - represents the TV ratings for the time period

$d_i$  - The cost per minute of advertising /AMD/

$r_i$  - The preferable expected revenue from per minutes of advertising /AMD/

$t$  – Length (in unit) of commercial

As the advertising prices are expressed at 1 minute's value, then in constraints (3) and (4) the number of commercials turned into a minute:  $n_i * \frac{t}{60}$

## 3. THE MOST PROBABLE CHOICE OF COMMERCIALS ACCORDING TO TV CHANNELS

We remind that the values of any linear programming problem parameters should be exact. This obligatory condition does not act for parameters of integer linear programming problem when we chose above mentioned commercial, as mainly they have been determined based on the statistical data, which means that they are not determined exact values and they contain uncertainty. Therefore, the group of feasible solutions of the problem has probabilistic characteristic. For solving the optimization problems in the uncertainty conditions, using the Entropy maximization principle, which is represented below:

### 3.1 Problem description.

Find the most probable allocation of commercials according to the channels by providing:

- The best value of GRP derived from commercials allocation problem
- Advertising budget
- Some preferable expected revenue

### **3.1.2 Mathematical model.**

Find the most probable allocation of commercials applying the maximum entropy principle.

The mathematical model can be formulated as follows:

Find the most probable allocation of commercials through the channels:

$$H(n) = - \sum_{i=1}^m n_i \ln n_i \rightarrow \max \quad (6)$$

The following conditions:

1. Assure (1) - (5) problems' objective function - GRP best value

$$\sum_{i=1}^m q_i n_i \geq \text{GRPs}^{**} \quad (7)$$

Where GRPs<sup>\*\*</sup> corresponds to the value of GRP derived from the solution of integer linear programming problem of commercials allocation.

2. Assure the total number of commercials.

$$\sum_{i=1}^m n_i = N \quad (8)$$

3. Satisfy the constraint of advertising budget

$$\sum_{i=1}^m d_i n_i * t/60 \leq C \quad (9)$$

4. Assure preferable expected revenue

$$\sum_{i=1}^m r_i n_i * t/60 \geq R \quad (10)$$

5. Limitation on variables

$$n_i \geq 0, n_i \in (Z), (i=1,2,\dots,m): \quad (11)$$

## **4. ASSESSMENT OF ADVERTISING CAMPAIGN EFFECTIVENESS.**

We conducted comparative assessment of advertising campaign effectiveness to applying data envelopment analysis method. The budget allocated to each channel we received as an input, and the GRP and the preferable expected revenue as an output.

Are considered the n decision-making units. During the period the j-th ( $j=1,2,\dots,n$ ) decision-making unit to use the number of input  $x_{ij}$  type of i-th ( $i=1,2,\dots,m$ ) and issued the number of output  $y_{rj}$  type of i-th r-th ( $r=1,\dots,l$ ) and ( $x_{ij} > 0, y_{rj} > 0$ ).

In CCR models for each j-th ( $j=1,2,\dots,n$ ) DMU builds on weighted sum of outputs ( $-\sum_{r=1}^l u_r y_{rj}$ )

and weighted sum of inputs  $-\sum_{i=1}^m v_i x_{ij}$

Where  $u_r$  ( $r=1,\dots,l$ ) and  $v_i$  ( $i=1,\dots,m$ ) weighting multipliers are to be determined.

In the Resource-oriented model comparative efficiency for each j-th DMU is estimated in the following relation:

$$h_j(u, v) = \frac{\sum_{r=1}^l u_r y_{rj}}{\sum_{i=1}^m v_i x_{ij}}$$

which is the quantity of generalized "weighted output" issued by the "weighted resource" from j-th DMU.

The Comparative effectiveness assessment for j<sub>o</sub> DMU activity is formulated as:

$$\begin{aligned}
 h_{j_0}(u, v) = & \frac{\sum_{r=1}^l u_r y_{rj_0}}{\sum_{i=1}^m v_i x_{ij_0}} \rightarrow \max \\
 & \frac{\sum_{r=1}^l u_r y_{rj}}{\sum_{i=1}^m v_i x_{ij}} \leq 1, \quad j = 1, \dots, n, \\
 & \sum_{i=1}^m v_i x_{ij} \\
 u_r, v_i \geq 0, \quad r = 1, \dots, l; \quad i = 1, \dots, m
 \end{aligned} \tag{12}$$

This model can be converted into a linear programming model. With some modification the (12) problem is brought to the following linear programming problem.

$$\begin{aligned}
 z^* = \max z = & \sum_{r=1}^l u_r^* y_{rj_0} \\
 & \sum_{r=1}^l u_r^* y_{rj_0} - \sum_{i=1}^m v_i x_{ij} \leq 0, \quad j = 1, \dots, n \\
 & \sum_{i=1}^m v_i x_{ij_0} = 1 \\
 u_r, v_i \geq 0, \quad r = 1, \dots, l; \quad i = 1, \dots, m
 \end{aligned} \tag{13}$$

The dual model of Resource-oriented problem (Farrell's model). It is a dual problem of (13) linear programming problem expressed vector form.

$$\begin{aligned}
 \min_{\theta, \lambda} \theta \\
 -y_i + Y\lambda \geq 0 \\
 \theta x_i - X\lambda \geq 0 \\
 \lambda \geq 0
 \end{aligned} \tag{14}$$

## 5. TASKS AND PRACTICAL APPLICATION OF RESULTS

The models are presented on two practical examples. The calculations has been done based on data's given by “SHARK” LLC for the purpose to execute advertising campaign for “Lek a Sandoz” Company.

### 5.1 Practical Example N1:

#### 5.1.1 Calculation and result of commercials allocation problem for the example N1:

**Problem formulation.** Company in order to advertise its products applied to two channels. Data necessary to solve the problem are shown in table 1.

Table 1. Initial Data of practical example N1 (*Continues on the next page*)

1	Data	TV1	TV 2
		indexes ratios	indexes ratios
2	18:00 - 24:00 airtime raiting	q <sub>1</sub> =7.4	q <sub>2</sub> = 0.5
3	The cost per minute of advertising - d, /AMD/	d <sub>1</sub> =120000	d <sub>2</sub> =24000
4	The expected revenue from per minutes of advertising - r /AMD/	r <sub>1</sub> =200000	r <sub>2</sub> = 60000
5	advertising budget - C	5100000	
6	total number of commercials- N, /minutes/	110	

7	the expected revenue- R, /AMD/	9500000
8	Length (in unit) of commercial /sec/	t = 60

The mathematical model can be formulated as follows:

Objective function is a maximization of the Gross rating points of advertising.

$$\text{GRPs} = q_1 n_1 + q_2 n_2 \rightarrow \max \quad (15)$$

Constraints below:

1. Limitation on total number of commercials.

$$n_1 + n_2 = N \quad (16)$$

2. Limitation on advertising budget.

$$d_1 n_1 * \frac{t}{60} + d_2 n_2 * \frac{t}{60} \leq C \quad (17)$$

3. Limitation on preferable expected revenue.

$$r_1 n_1 * \frac{t}{60} + r_2 n_2 * \frac{t}{60} \geq R \quad (18)$$

4. Limitation on variables.

$$n_1, n_2, \geq 0, n_i \in (Z), \quad (i=1,2,\dots,m): \quad (19)$$

To solve (15)- (19), we get  $n_1 = 25$ ,  $n_2 = 85$ ; GRPs = 227.5, C=5040000, R=10100000;

Therefore in the N1 TV channel should provide 25 spot, N2 TV channels should provide 85 spot and maximum Gross Rating Points is GRPs=227.5.

We have conducted calculations change of the commercials total number in order to find the maximum budget.

Calculation results for modifications in total number of commercials /the other conditions are not modified /are presented in table 2/:

In particular consider

- 7-th case when  $\sum n_i \leq 110$ :

The results are as follows:  $n_1=32, n_2= 52$ ; GRPs = 262.8, C=5088000,  $N = 84$ :

- 8-th case when  $\sum n_i \geq 110$ :

The results are as follows:  $n_1= 25, n_2= 87$ ; GRPs = 228.5, C=5088000,  $N = 112$  :

Table 2: Calculations results of changes of the total commercials number

	# commercials	n <sub>1</sub>	n <sub>2</sub>	GRPs
1	104	24	80	217.6
2	109	25	84	227
<b>3</b>	<b>110</b>	<b>25</b>	<b>85</b>	<b>227.5</b>
4	111	25	86	228
5	112	25	87	228.5
6	113	24	89	222.1
7	$\sum n_i \leq 110$	32	52	262.8
8	$\sum n_i \geq 110$	25	87	228.5

As we see on both cases the maximum budget that can be spent in case of integer values is 5,088,000 AMD. Compared with initial budget it remains 12,000 AMD which is not enough for additional results. We see that in the 7-th the GRP is greater, than the 3-rd case, then the question arises, why chosen 3-th case, if in this case GRP is less by 35.3 unit. Selection explanation lies in the fact that the high rate of GRPs not always ensures the full effectiveness of the Advertising Campaign. There are other factors, one of which the daily frequency of

broadcast commercials /to remain in memory the average frequency of screening is considered to be 3/. In Table 2 shows that the commercials difference between 3-th and 7-th cases of 26 ad spots. The practical example N1 is represented as linear programming problem and to build an appropriate dual problem for estimate the resources costs. Let's solve (15) – (13), but we do not consider that variables  $n_1, n_2$  are integers.

The results of linear programming problem for examples N1.  $n_1=25.625$ ,  $n_2=84.375$ ; GRPs=231.8, C=5100000, R=10187500.

The results of dual problem of LP for examples N1.  $y_1 = 1.225$ ,  $y_2 = 0,0000718$ ,  $y_3 = 0$ : where  $y_1$ , and  $y_2$ ,  $y_3$  are estimates which correspond to respectively to the shadow prices of resources (16), (17) and (18). They estimate the lack of resources, also shows by how much the objective function will be changes if the resources increased by 1 unit. As we see

- $y_1=1.225$ , it means if we reduce the objective function /GRP/ is 1.225, then the resource corresponding to  $y_1$  /the total number of commercials/ will increase by 1 unit. In this case will be placed 111 commercials.
- $y_3=0$ , it means that the resource (preferable expected revenue) corresponding to (18) limitation is not small, it is excessive /R=10187500>9500000/: It is additional benefit for the company.
- $y_2$  very close to zero, so the changes of the GRPs will be very little.

### **5.1.2 Calculation and result of the most probable allocation problem of commercials for the example N1**

Solve the problem (15) - (19) for the example N1 applying the maximum entropy principle. The mathematical model can be formulated as follows:

Find the most probable allocation of commercials through the channels:

$$H(n) = - \sum_{i=1}^m n_i \ln n_i \rightarrow \max \quad (20)$$

The following conditions:

1. Assure (15) - (19) problems' objective function - GRP best value

$$q_1 n_1 + q_2 n_2 \geq \text{GRPs}^{**} \quad (21)$$

Where GRPs<sup>\*\*</sup> corresponds to the value of GRP derived from the solution of integer linear programming problem of commercials allocation.

2. Assure the total number of commercials.

$$\sum_{i=1}^m n_i = N \Rightarrow n_1 + n_2 = N \quad (22)$$

3. Satisfy the constraint of advertising budget.

$$\sum_{i=1}^m d_i n_i * t/60 \leq C \Rightarrow d_1 n_1 * \frac{t}{60} + d_2 n_2 * \frac{t}{60} \leq C \quad (23)$$

4. Assure preferable expected revenue.

$$\sum_{i=1}^m r_i n_i * t/60 \geq R \Rightarrow r_1 n_1 * \frac{t}{60} + r_2 n_2 * \frac{t}{60} \geq R \quad (24)$$

5. Limitation on variables.

$$n_1, n_2 \geq 0, n_i \in (Z), (i=1,2,\dots,m): \quad (25)$$

To solving the nonlinear programming problem of (20-25) /see data in the table 1/, we get`  $n_1=25$ ;  $n_2=85$ ;  $C=5040000$ ,  $R=10100000$ ; the (21) condition turned into equation and GRPs = 227,5:

As we see the allocation results of advertising commercials matches with integer linear programming results of the example N1. So, we see that the solutions of problems' integer linear programming and nonlinear programming correspond, when we apply the entropy maximum principal. Hence the solutions are also endowed with the ability to be the most probable.

## 5.2 Practical example N2:

### 5.2.1 Calculation and result of commercials allocation problem for the example N2:

№	data	TV chanells:		
		i =1	i =2	i =3
		Variables: n		
		n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>
2	airtime rating	q <sub>1</sub> =0.3	q <sub>2</sub> =1.8	q <sub>3</sub> =6,8
3	The cost per minute of advertising - d, /AMD/	d <sub>1</sub> =24000	d <sub>2</sub> =68000	d <sub>3</sub> =120000
4	The expected revenue from per minutes of advertising - r /AMD/	r <sub>1</sub> ≥60000	r <sub>2</sub> ≥115000	r <sub>3</sub> ≥200000
5	advertising budget - C	9600000		
6	the expected revenue- R, /AMD/	17000000		
7	Advertising budget dedicated the third TV chanells should be no more than 65% of the total.			
8	Length (in unit) of commercial /sec/ t= 25 sec.			

**Problem formulation.** The company is ready to advertising his product on the three channels /first i=1, second i=2, third i=3/ It is necessary, within limits of the advertising budget, to get

- the maximum of advertising GRP,
- some preferable expected revenue,
- assure limitation of advertising budget allocated to 3rd channel (presented in percentages).

Data necessary to solve the problem are shown in table 3. The mathematical model can be formulated as follows:

Objective function: maximization of the Gross rating points of advertising.

$$\text{GRPs} = q_1n_1 + q_2n_2 + q_3n_3 \rightarrow \max \quad (26)$$

Constraints below:

1. Advertising budget dedicated the third TV chanells should be no more than 65% of the total.

$$d_3n_3 * t/60 \leq (d_1n_1 * t/60 + d_2n_2 * t/60 + d_3n_3 * t/60)0.65 \quad (27)$$

2. Limitation on advertising budget.

$$d_1n_1 * t/60 + d_2n_2 * t/60 + d_3n_3 * t/60 \leq C \quad (28)$$

3. Limitation on preferable expected revenue.

$$r_1n_1 * t/60 + r_2n_2 * t/60 + r_3n_3 * t/60 \geq R \quad (29)$$

4. Limitation on variables.

$$n_1, n_2, \geq 0, n_i \in (Z), (i=1,2,\dots,m):$$

(30)

Table 3: Initial data of the example N2

To solve (26)- (30), we get n<sub>1</sub>=117, n<sub>2</sub> =79, n<sub>3</sub>=124, GRPs=1020.5 , C=9592960, R=17016480: Example N2 is represented as linear programming problem and to build an appropriate dual problem for estimate the resources costs. Let's solve (26) – (30), but we do not consider that variables n<sub>1</sub>, n<sub>2</sub>, n<sub>3</sub> are integers.

The results of linear programming problem for examples N2.

$$n_1=113.6363, n_2=78.6703, n_3=125,0006, \text{GRPs} = 1025.7; C=9600000, R=170000000:$$

The results of dual problem of LP for the examples N2.

$$y_1=0.0000715, y_2=0.00018, y_3=0.0000415:$$

$y_1, y_2, y_3$  correspond to shadow prices of to (27), (28) and (29) limitations resources. Because  $y_1, y_2, y_3$  values are very close to zero, it means that, if we increase appropriate resources the effectiveness will be slight.

Continuing research we tried to find out of the selected channels which are not effective. Clients usually avoid advertising on the channel with low ratings, as the low rating does not justify spending. In our case, we have a channel with a low rating /see first TV  $q_1=0.3$ / .let's try to find out the effectiveness of advertising on this channel or not, and how much will GRP, if we ignore the /27/ condition.

Let's solve (26. 28--30) problem. We get  $n_1 = 126, n_2 = 0, n_3 = 167, \text{GRPs} = 1173.4$ ; In this case the GRPs higher than 1020.5, However in the 2<sup>nd</sup> TV channel advertisement is missing / $n_2 = 0$ / and we see that in this advertising campaign for advertising is not efficient not in the 1<sup>st</sup> channel (where  $q_1=0.3$ ) but in the 2<sup>nd</sup> channel where  $q_2=1.8$ .

We can conclude that the 2<sup>nd</sup> TV channel, in the frame of its rating, has quite high price of advertisement in contrast to the 1<sup>st</sup> channel. So, the opinion that there is no sense to advertise in channel with low rating is not so true. In our case the channels have been chosen for provision of different segment audience at the expense of rating.

### **5.2.2 Calculation and result of the most probable allocation problem of commercials for the practical example N2**

Solve the problem (26) - (30) applying the maximum entropy principle. The mathematical model can be formulated as follows:

Find the most probable allocation of commercials through the channels:

$$H(n) = - \sum_{i=1}^m n_i \ln n_i \rightarrow \max \quad (31)$$

The following conditions:

1. Assure (26) - (30) problems' objective function - GRP best value

$$q_1 n_1 + q_2 n_2 + q_3 n_3 \geq \text{GRPs} ** \quad (32)$$

Where GRPs\*\* corresponds to the value of GRP derived from the solution of integer linear programming problem of commercials allocation.

2. The advertising budget dedicated the third TV chanells should be no more than 65% of the total.

$$d_3 n_3 * 25/60 \leq (d_1 n_1 * 25/60 + d_2 n_2 * 25/60 + d_3 n_3 * 25/60) 0.65 \quad (33)$$

3. Satisfy the constraint of advertising budget.

$$\sum_{i=1}^m d_i n_i * t/60 \leq C \Rightarrow d_1 n_1 * t/60 + d_2 n_2 * t/60 + d_3 n_3 * t/60 \leq C \quad (34)$$

4. Assure preferable expected revenue.

$$\sum_{i=1}^m r_i n_i * t/60 \geq R \Rightarrow r_1 n_1 * t/60 + r_2 n_2 * t/60 + r_3 n_3 * t/60 \geq R \quad (35)$$

5. Limitation on variables.

$$n_1, n_2, n_3, \geq 0, n_i \in (Z), (i=1,2,\dots,m): \quad (36)$$

To solve the nonlinear programming problem of (31-36) /see data in the table 3/, we get `  $n_1=117, n_2=79, n_3 = 124, \text{GRPs} = 1020.5, C=9592960, R=17016480$ :

the (32) condition turned into equation and GRPs = 1020.5:

As we see the allocation results of advertising commercials matches with integer linear programming results of the example N2.

So, we see that the solutions of problems' integer linear programming and nonlinear programming correspond, when we apply the entropy maximum principal. Therefore we come to a very interesting conclusion which is the solutions of practical example N1 and N2 has also the character of being the most probable. We mention also that such result has been obtained in case of solutions of matrix games[3].

### **5.2.3 Assessment Results of Effectiveness Advertising Campaign for the example N2**

To assessment the effectiveness of advertising campaign we apply DEA method. The budget allocated to each channel we received as a input, and the GRP and the preferable expected revenue as a output.

Table 4. Comparative Effectiveness for Practical Example N2.

T V	Advertising budget (imput)	GRPs (output)	preferable expected revenue ( output)	comparative effectiveness ( $\Theta$ )
1	1168128	35.1	2920320	1
2	2234752	142.2	3779360	0.8
3	6190080	843.2	10316800	1

The problem has been solved input orientation. It follows, that to advertise on the first and third channels are more effective  $/\Theta=1/$ . Advertising effectiveness is evident on the third channel, because the results obtained for the costs are quite high. Advertising campaign effectiveness on the first channels is due to the small expenses. Advertising campaign on the second channel is ineffective, because obtained GRPs and preferable expected revenue are not so great in comparison with expenses.

## **6. CONSLUSION**

- During the problems of advertisement management the allocation of advertising commercials according to channels can be executed in the way that the GRP will be the maximum but in the frame of the minimal advertising budget and the maximum expected revenue. Moreover, there is a connection between the the distribution of commercials, GRPs, costs and expected revenue, and if we change of one point for each resource will be another indicator of the GRPs.
- For determination of the most probable choice of advertising commercials according to TV channels, we have proposed and applied the principle of the maximum of entropy. We have obtained that the solutions of the problems' integer linear programming and nonlinear programming correspond. Therefore we come to a very interesting conclusion which is the solutions of practical example 1 and 2 have also the character of being the most probable.
- Using the DEA method we can classify channels according to the level of efficiency

## **LITERATURE:**

1. J. Sissors, Roger B. *Advertising Media Planning* 2010;
2. J.N.Kapur, H.K.Kesavan *Entropy, Optimization, Principles with Application*, Academic Press,1992
3. Chandan Bikash Das1 and Sankar Kumar Roy, An Approach to Solve Two-Person Matrix Game via Entropy AMO-Advanced Modeling and Optimization, Volume 11, Number 4, 2009
4. Jacques Bughin, Steven Spittaels, §Advertising as an economic-growth engine | , Media Entertainment and Information p. 1-3 2012
5. Zhang, X. 'Mathematical models for the television advertising allocation problem', Int. J. Operational Research, Vol. 1, No. 3, p. 302-322; 2006
6. Brown A.R. Selling television time: An optimization problem; *Computer Journal* 12; p. 246; 1969
7. Sahakyan M. A. "Prediction of the most probable distribution of the national economic potential" conference Proceedings "Hayk" Yerevan, 1995 oct.
8. Sahakyan M. A, Tumanyan G. V. "Advertising Campaign Planning and assessment of effectiveness" YSU yearbook, faculty of economy, 2013, page 450-458

## INCREASING THE MARKET SHARE BY IMPROVING THE QUALITY OF PRODUCTS OR SERVICES

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### **ABSTRACT**

*Companies that thoroughly know the quality of their products or services can effectively participate in determining the quality of an effective strategy. The objective analysis of the current state of quality is a starting point for the development and implementation of the defined strategy. When such an analysis is conducted, the company will be better prepared for productive work aimed at increasing its market share and its development into a leading company in terms of quality in its industry. The article was supported by the example of the authors' research.*

**Keywords:** *analysis of the state of quality, influential factors, methods of analysis*

### **1. INTRODUCTION**

An increasing amount of information and research results in today's professional and scientific literature indicates that the quality of a product or service has an impact on the market share and total sales. The survey (Bojanic, 2013, p.116) conducted in more than 500 business organisations has confirmed that “the quality, being defined as the buyer's grade for the production/service package of a producer compared to the one produced by the competitive organisation, generally has a favourable effect on all measures of the financial results”. This has been also confirmed by other research, such as (Tunjić, 2013, p.24]. An increased market share can also be a result of quality improvements of a product. However, if the aim is to achieve the most efficient increase of the market share, such effort directed at quality improvement has to be aimed at improving the most important aspects of a product or service.

### **2. INCREASING THE MARKET SHARE THROUGH QUALITY**

#### **2.1 General approach**

There are three important preliminary steps in defining a programme for increasing the market share by means of improving the quality of a product or service. First, a thorough analysis of the current functioning and performance of an organisation has to be carried out (determining the current organisational context) as well as the state of quality of its key products. Second, the key product indicators and their relative importance for the buyer have to be determined and considered systematically. Finally, an organisation should use the obtained information to develop and establish a strategy to achieve the quality that will be efficient in increasing the market share (Tunjić, maglić, Kondić, Kljain, 2013, p.2].

An organisation should start with the evaluation and assessment of all factors and indicators affecting the state (physiognomy) of the quality of its product or service. In addition to written quality specifications, these factors also include many non-specified factors that can, in reality, be part of the business choice of the highest management. For example, these can include:

- Recognising buyer's needs,
- Recognising wants and expectations of potential buyers,
- Readiness for post-sale cooperation,
- Cooperation with suppliers and buyers in the designing process,
- Evaluation and selection of reliable suppliers,
- Recognising the current and future trends,
- Support to product advertising,
- Selection of organic materials for production,
- Rational and economical use of energy,
- Quality of competitor's products, etc.

The next step in analysing the state of quality is to consider the key indicators of the quality of a product or service. Industrial products as well as services have to continuously meet specifications and buyers' demands. Producers or service providers often misunderstand the ideas or demands of buyers, i.e. what is important to them. This results in undesirable situations such as complaints or a loss of buyers. Buyers' demands have to be met. This is what a buyer pays for or is willing to pay for. If they are met, the buyer is satisfied, which guarantees that the buyer will return or buy more goods or recommend the organisation to his or her business partners and friends.

If the buyer is approached with the philosophy that, in addition to his or her demands, also his or her needs, wants and expectations are considered, then this is a sure way to make the buyer even more satisfied with products and services, i.e. to make him or her enthusiastic or thrilled. To achieve this, specific indicators should be reached through conversations, questions, analysis and similar procedures.

When ranking the importance of particular indicators of quality of, for example, technical goods, one should bear in mind their functional and constructional characteristics and indicators of suitability for servicing and maintenance during exploitation.

In terms of functional characteristics of organisations one should consider demands in terms of safety and energy consumption, easiness and speed of work as well as the simplicity of product transportation. In terms of constructional characteristics one should consider reliability of products and its parts, life cycle, weight, firmness, demands in terms of packaging as well as other factors. The factors that should be considered in terms of product service and maintenance include critical point analysis, probability of a breakdown occurrence, service support, spare parts supply, etc.

Information on the analysis of the current state and indicators of quality should be used to define realistic plans for improvement of quality and all processes in the business system. For example, programmes that include improvement of the quality management system can take analysis of the material from supplier as input information to improve the procurement process.

Information obtained from the analysis of serviceability can significantly contribute to improvement of product construction in terms of easier access to some components during maintenance, by building in more reliable components, etc.

Analysis of the state of quality has to be adjusted to the context of the organisation. This particularly applies to the research process that is part of the analysis. Research process is a group of critical activities in the analysis of the state of quality and it is based on the type of the marketing structure used by the organisation. If there is a formal organisation of marketing, it has to play the key role in programme development because it has already established contact with buyers. However, it is important to include representatives of all the processes in the business system. Organisations with small marketing departments that carry out sale through sales representatives or wholesale traders should consider using experts in market analysis and other specific areas.

To provide useful analyses and achieve maximum results, organisations should explore the opinion of buyers as well as other relevant parties (constructors, scientists, product quality experts, economists, etc.). The aim of the survey is to collect subjective and quality information on the needs, wants and expectations of survey participants in relation to the key products and services. Surveys are also used to collect information on functioning (effect) of the product. If available, information can be also obtained about the relation between the competitor's product and the product being analysed.

## **2.2 The importance of the quality in the market**

Products and services offered today are those products and services that are required by the market, that is, buyers. They are expected to have a particular level of quality and acceptable price and delivery terms. The times when quality, costs and rationality of business operations were not taken into account obviously belong to the past. Production capacities worldwide have reached such an extent that any comparison to the past times would be pointless. Globalisation has made large changes in the ways of thinking and doing business. The main goal of organisations in such economic scales is to survive in the market and be competitive, which is not simple. To be able to compete against stronger, better organised and more capable competitors in all aspects (marketing, transport, productivity, prices, etc.) requires top management to continuously monitor the market and look for the space that is less interesting to the strongest competitors. The difference between successful and less successful companies is exactly in the fact that the successful ones recognise their place, abilities and role in the market and they respect the needs and demands of buyers. They also put the quality of their products and services in business processes to the first place.

The quality is considered to be the most important phenomenon of our time, with rising significance as a permanent trend. Quality is considered to be the key to the Japanese business success. In terms of wealth, Japan is the second or the third richest country in the world. This has been achieved by combining quality improvement, productivity and profitability growth. The Japanese people owe the gratitude for the beginning of this growth to a famous American, W. Edwards Deming, who was invited by the organisation JUSE (Japanese association of

scientists and engineers) to give seminars on quality control at the beginning of 1950, emphasising the significance of statistical control of quality. After introducing initial ideas on statistical control of quality in Japan, a great progress was made based on the assumption that the key resource of any system are people who are educated to apply “statistical” methods. Japanese business boom in the 70-ies shocked the West and it took about ten years to western business world to discover the secret of the Japanese success, which was based on a new philosophy of quality (Mudronja, 2002.,p .4).

Buyers became aware of the quality aspect and they always demand more. They know and feel the quality of a product that they will pay for. After becoming aware that product quality and producer reputation have become more important in a competitive struggle for buyers than price, many producers are forced to think in a long term and understand the term “quality”. Quality has become the key factor in economic efficiency and the basic principle in doing business for all successful organisations. This has resulted in the revolution in the field of quality, which has spread to all types of products and services (Kondić, 2002, p.277).

Increased importance of quality occurred as a response of the civilisation to the consequences of industrial development. After conquering Japan and America, quality as a global phenomenon spread to Europe and in the past years it has been trying to reach other countries as well. The ISO 9000 standards have become a foundation for establishing a system of quality and assuring conditions for required quality of a product or service.

To talk about quality of products and services today without taking care of other aspects of business is unimaginable. Business processes include demands related to energy efficiency and consumption of energy sources and natural goods and demands related to emission of polluters into air, water and soil, respecting at the same time the aesthetic quality of the environment. In addition to these two key international requirements there are also specific requirements in particular fields of activity as well as requirements of regional and local communities. This primarily refers to requirements related to the system for occupational health safety, the system of social responsibility in doing business, food safety, special requirements related to automobile industry, telecommunications, protection of forests, etc. The modern market sets demands and obligations for businesses, taking care of all of the mentioned requirements. Such approach imposes obligations on companies to take care not only of the quality, but also of all of the above aspects. Quality management system is here used as a base which integrates all other requirements. Separated systems for managing particular aspects would be unsustainable and uneconomical. For these reasons integrated management systems are used today.

### **3. ANALYSIS ALGORHYTHM**

Figure 1 shows the methodology that can be successfully applied in the analysis of quality and other aspects and in the process of undertaking measures to improve the market share. The procedure consists of 10 phases in the process of finding a solution [1], where each phase is followed by the logical question “satisfied”. The possible answers are “yes” and “no”. If the answer is affirmative, the process moves on to the next phase, and if it is negative, the process requires going back to one of the previous phases.

The process includes the following activities or groups of activities: noticing a problem, orientation, problem definition, selection of criteria and parameters, determining the current situation, exploring the current situation, optimisation, developing a solution, applying the solution and improvement.

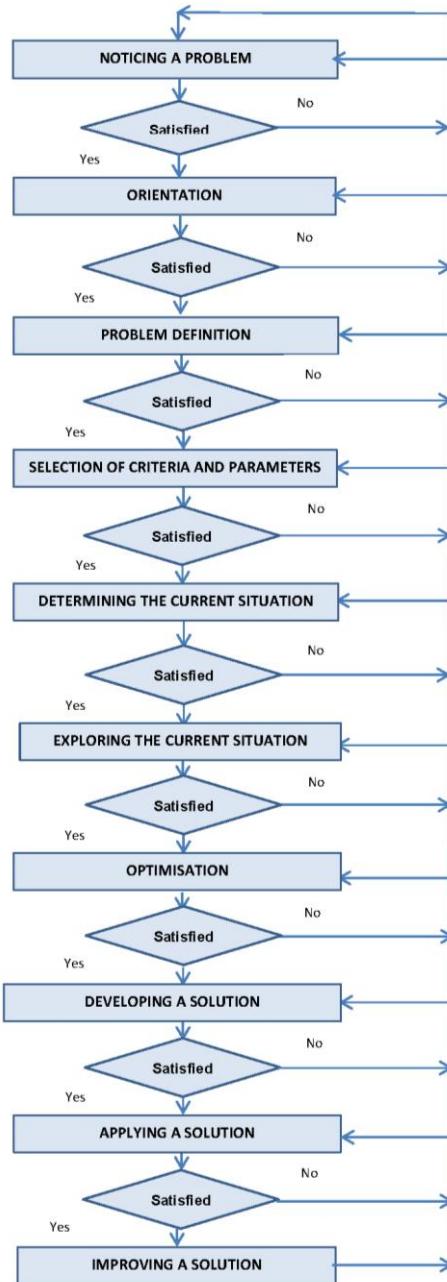


Figure 1. Project method for analysis and improvement (Bojanic, 2013, p.149)

#### 4. CONCLUSION

The analysis of the state of quality can help organisations improve their position in the market. A good analysis can provide:

- A true and objective assessment of the effect that quality has on making a decision about buying a product;

- An objective assessment of the current strategy for quality and organisation efficiency in relation to buyers' expectations and competitors' plans;
- A better insight into future demands in terms of quality, as seen by the current and potential buyers, distributors, producer representatives and competition.

Such systematic approach provides targeted information that can be used as a base to give recommendations for future plans and improvement programmes. This information can be used as a source of ideas that could be used to increase efforts in the field of quality. By applying objective analysis of the factors involved in the process of making decisions about a purchase of a product or service as well as applying a professional approach to the issue of quality, organisations can define activities to ensure a maximum effect to improve their results in the market.

If European countries want to be competitive, they have to take into account all the changes going on in the international market of production and services and aim for a systematic approach to quality, environment, safety and other systems. New trends point to the necessity of changes in business philosophy and approach to buyers, i.e. the market. Today's market does not support static organisations. Dynamics is omnipresent; it imposes changes, adjustments, development, fashion trends, meeting the constantly varied needs of the modern market, etc. Such an approach has to be organised, planned and implemented, which requires great knowledge of employees and specialists and full involvement of the top management of organisations. In addition to specialist and technical knowledge which employees are expected to have, knowledge related to statistics, management organisation, team work and application of tools and methods for practical realisation of problems in processes and systems are also needed.

## LITERATURE:

1. Bojanić, B. (2013). *Prilog istraživanja metoda za poboljšavanje u integriranim sustavima upravljanja uslužnih organizacija*, Internacionlni univerzitet Travnik, Ekonomski fakultet
2. Hodžić, E. (2005). *Kvalitet kao temeljni oslonac konkurenčkih prednosti Elektroprivrede Bosne i Hercegovine*, Ekonomski fakultet u Sarajevu, Sarajevo
3. Kondić, Ž. (2002). *Kvaliteta i ISO 9000 – primjena*, Tiva, Varaždin
4. Kondić, Ž. (2008). *Prilagodba metodologije 6σ u proizvodnim organizacijama*, Doktorska disertacija, FSB, Zagreb
5. Mudronja, V. (2002). *Program upravljanja kvalitetom Šest sigma*, Priručnik kvalitete-FSB, Zagreb, Sveučilište u Zagrebu, p. 9-11
6. Tunjić, Đ. (2013). *Učinkovitost certifikacije sustava upravljanja kvalitetom prema normi ISO 9001 u metaloprerađivačkoj industriji*, SFSB, Sveučilište Josipa Jurja Strossmayera u Osijeku
7. Tunjić, Đ.; Maglić, L.; Kondić, Ž.; Kljajin, M. (2013). *Utjecaj certifikacije sustava upravljanja kvalitetom na konkurentnost u hrvatskom gospodarstvu*, 8. naučno-stručni skup sa međunarodnim učešćem "KVALITET 2013", Neum, B&H

## THE IMPACT OF MOTIVATING AND STIMULATING GENERATION Y EMPLOYEES ON COMPANY PERFORMANCE

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### **ABSTRACT**

*In today's global market, companies are faced with competition. Employees are a key factor in an enterprise's performance. Human resource management is the overall system of personnel techniques that results in an organization's prosperity. One of its elements is motivating and stimulating employees. Organizations need to determine the best way to motivate and stimulate their employees. Forms of motivation and stimulation have been changing with the advent of Generation Y. Members of Generation Y are often referred to as echo boomers, the internet generation, iGen, or the net generation. In comparison to Generation X, members of Generation Y are more technologically savvy due to growing up in the information age and are very good at using media in everyday life. Effectively motivating and stimulating these workers can help businesses develop innovation, contribute to increasing business performance, and provide a competitive advantage. This paper deals the specific needs of Generation Y on the labor market. The research questions focus, for example, on the most attractive financial advantages, benefits, and forms of job satisfaction – as well as on what Generation Y expects from a professional career. Furthermore, the paper also deals with the question of the extent motivation and stimulation affects business performance. The research methodology is based on a questionnaire conducted in the Czech Republic in 2016.*

*The research results show a correlation between the motivation and stimulation of employees and business performance. This paper concludes that Generations X and Y show certain differences in the intrinsic and extrinsic factors for their motivation.*

**Keywords:** Company Performance, Generation Y, Motivation, Stimulation

### **1. INTRODUCTION**

The entrepreneurial environment is currently changing at a very fast pace. These changes are primarily caused by global competition, quickly developing information and communication technologies, decreasing product development time, and rapidly changing consumer needs. Naturally, all these influences have an impact on businesses. The processes that make a company successful today do not guarantee success in the upcoming years. Therefore, if managers would also like to ensure the success of their company in the future, they must know how to make good decisions. In order to make good decisions, they must have access to relevant information on company performance and use this as the basis for managing the company. A financially healthy company is attractive for investors; this can be seen both in the investors' interest in investing and appreciating capital via the activities of this type of company as well as by using capital market indicators. A company's performance and financial stability is one of the main areas that deserves attention. Regular evaluation of a company's financial health helps to identify and determine the causes of poor management (Neumaierová & Neumaier, 2002, p. 15).

## 1.1. Company Performance

On the basis of changes in the socioeconomic situation, companies are pressured into a strategy that focuses on balancing between focusing on individual needs and the requirement of increasing company performance. Managing company performance requires the creation of a system that makes it possible to quantify company performance. In order for a company to exist and fulfill its vision, strategy, and the owners' objectives, it needs financial and human capital (Dedouchová, 2001, p. 10). A company's financial performance and financial health, as a necessary prerequisite of its financial condition, are determined by its ability to create value added (profit) – thus, the overall profitability of company activities, return on invested capital, and the profitability of the provided inputs. From the perspective of the resulting effect, maximum activity is essential as a key prerequisite for effectively evaluating the basic factors. When evaluating company performance from the financial perspective, a whole range of benchmarks are used – from traditional ones such as profit, sales, expenditures, and the growth of cash flow to financial analysis ratios (liquidity, activity, debt, and productivity indicators as well as the indicators of a company's market value) and various methods that evaluate return on investment. The financial perspective is primarily founded on value-based management (Tomek & Vávrová, 2009, pp. 53-54). According to Wagner, performance is defined as follows: “*the component that describes the way – or, respectively, the process in which – the examined entity performs a specific activity on the basis of similarity with a referential way of performing (the process of) this activity.*” (Wagner, 2009, p. 17) However, this definition is very general. It points to the fact that there is no precise definition of company performance in practice, because company performance must be evaluated differently for each entity. The company's owner can define company performance as meeting their own expectations regarding return on invested resources, i.e., the company's ability to use its invested resources. It is necessary to keep in mind that the activity whose performance is evaluated is always intentional, i.e., it will result in a specific state or activity in the future, or at least in the attempt to achieve such a result. Two mutually dependent dimensions of performance exist in conjunction with intentionally directed activities (Wagner, 2009, pp. 18-19). The first aspect is focused on effectiveness, i.e., “do the correct things”; this points to the possibility of choosing activities. The second aspect is focused on efficiency, i.e., “do things correctly”; here, performance is understood as the way of executing the selected activity.

## 2.1. Motivating and Stimulating Generation Y Workers

Human capital is one resource that is able to react actively to turbulence and changes in the surrounding environment. The authors Barney and Agarwala agree that human capital and its management and creation result in higher competitiveness and productivity (Barney, 1995; Agarwala, 2003). Thus, intellectual capital helps companies increase competitive advantages and values (Wen-Ying & Chingfu, 2005). However, each generation has its own particular character. It is possible to label individual generations that are distinct and specific in their behavior and expression by defining them chronologically. The first outstanding generation was the so-called baby boomers, who were born in the post-war period – roughly between 1946 and 1964. After this comes a generation primarily from Western countries, Generation X – people born between 1965 and 1974; however, certain definitions of this period extend up to 1982, thereby partially covering the following generation (Mc Crindle, 2006, pp. 8-10).

Young people born after 1976 (or 1974), termed Generation Y, are divided into two further sub-categories by human resource professionals. These are those who are older than 25 years – and thus closer to Generation X – and those who are younger. Just as every generation does, these people have their specific way of life and perspective on it as well as specific requirements resulting from it – primarily in direct comparison with Generation X. Also relating to this are

their different requirements, attitudes, and expectations when looking for work and building careers, which the company Manpower has confirmed in its research. As the study shows, representatives of Generation Y are very economically active, they require a high living standard, they feel greater responsibility for their social security, and they place emphasis on self-efficacy. At the same time, however – and this is the greatest difference between them and the previous generation – personal life also has taken a foremost position in their interests, especially relationships with family and partners, i.e., exactly those things which were ranked at the bottom of the previous generation's values. The same as the previous generation, the new one also wants to fully use all the possibilities that an open society and the world offers, but they do not plan to sacrifice their personal life. It is this attitude that begins to outline their characteristics and needs, such as flexible working hours or place of employment, the diverse resources of modern communication, etc. (Sheahan, 2005, pp. 92-108; ManpowerGroup, 2016). The same as all other generations, Generation Y also has its faults; currently, it is this subject of Generation Y, which is now replacing Generation X on the labor market, that is being discussed by human resource professionals. A new reality is coming into effect for employers – in order for their companies to be successful in the future, they must attract and retain Generation Y. Even more than before, employers must focus on that which is important for Generation Y employees and adapt both their motivational strategy and means of stimulation accordingly. A number of authors and research studies present a guide for appropriately motivating Generation Y employees. In his book, Baldonado describes a number of relevant ways to motivate in an appropriate way; some examples of this are developing relationships with superiors and inferiors, giving the opportunity to take responsibility for performed work, and providing suitable rewards (Baldonado, 2008, pp. 19-44). Hill states that the most important factor for motivation is acknowledgment. “*In a Gen Y world that is made up of ambitious, talented and demanding individuals, employers need to recognise that resourcing and retention strategies for these future leaders need to reflect their unique make-up,*” stated Jon Hill. He further adds that, even though the majority of managers are currently taken from the ranks of Generation X (esp. strong years), the companies that understand and are able to accept this new generation of workers will be successful in the future. The results of research by the company Reed were completely in contrast to the expectations of employers. For example, 52% of employees listed that they were dissatisfied with the benefits their employer offered, and every seventh listed that benefits play a large role when making a decision about which job offer to accept. Nevertheless, 83% of employers believed that their employees were satisfied with the benefits. Indeed, research further demonstrated that Generation Y is motivated not only by money and employee packages, but also expects that the employer will offer professional growth supported by training programs and personal development, regardless of how long they intend to work for the employer (Moderní řízení, 2011). Other research results from the company Engage Hill point to the fact that the willingness of Czech employees to work overtime has been decreasing each year despite the fact that companies have been forced to continually increase the pressure put on their employees' performance. Another motivational factor that was seen in the research is flexibility, which is emphasized by this generation. Research confirmed that an individual approach to personal development and the opportunity to organize their work on their own is no less important to them. Generation Y wants to know their place in the organization, desires feedback from superiors, and requires explanations for the significance of the tasks they are given on a daily basis. Another key factor for young talent when making decisions is access to social networks. According to research by Cisco Systems, 56% of young people answered that they do not want to work for a company that does not allow them to use social media freely. According to research, 90% of employees request to work out of the office or from home (Brodan, 2013)

## 2. RESEARCH METHODOLOGY

This paper is concerned with the specific needs of Generation Y on the labor market. Some examples of the issue at hand include the most attractive financial advantages and benefits, the forms of work satisfaction, and what Generation Y expects from a professional career. Another goal of this paper is to determine the extent to which motivating and stimulating workers influences company performance. The research methodology is based on a questionnaire performed in the Czech Republic in 2016 during the months of May and June.

The primary research for determining Generation Y's specific needs was conducted on the basis of a questionnaire. The questionnaire was conceived to address Generation Y, designed in online format with the use of the application Google Forms, and distributed via online social networks. The results of the rate of response totaled 125 respondents. Secondary research for determining the degree to which motivating and stimulating Generation Y workers influences company performance was conducted by survey using a questionnaire. The basic sample for questioning included top managers and line managers. The companies were selected on the basis of predetermined criteria and established using secondary analysis. The rate of return brought in a total of 26 respondents. Empirical generalization and interpretation of the results were conducted using the research survey.

## 3. SURVEY RESULTS

Generation Y's specific needs and conceptions of the world of employment are derived from the results of the primary research. The first research question concerned factors that are decisive in the choice of employer. From the research results and Fig. 1, it can be seen that the benefits offered, flexibility, development programs, career growth, and the possibility of using social networks at work are the most important.

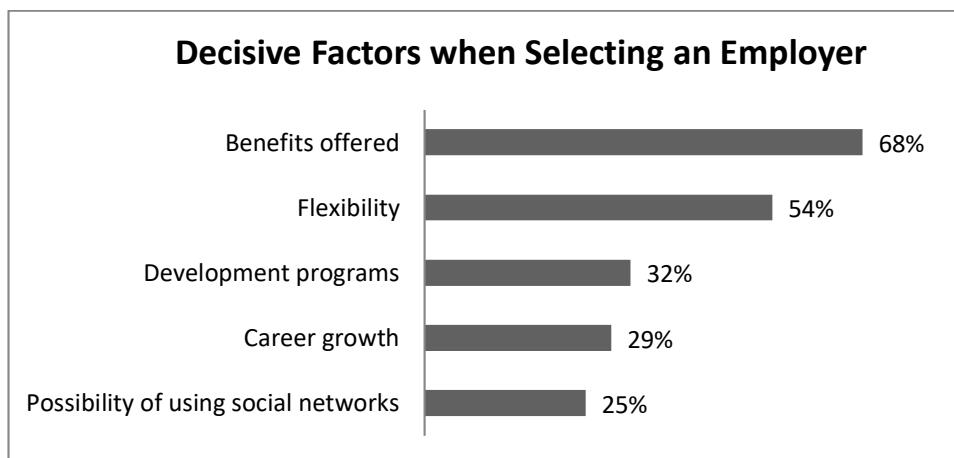
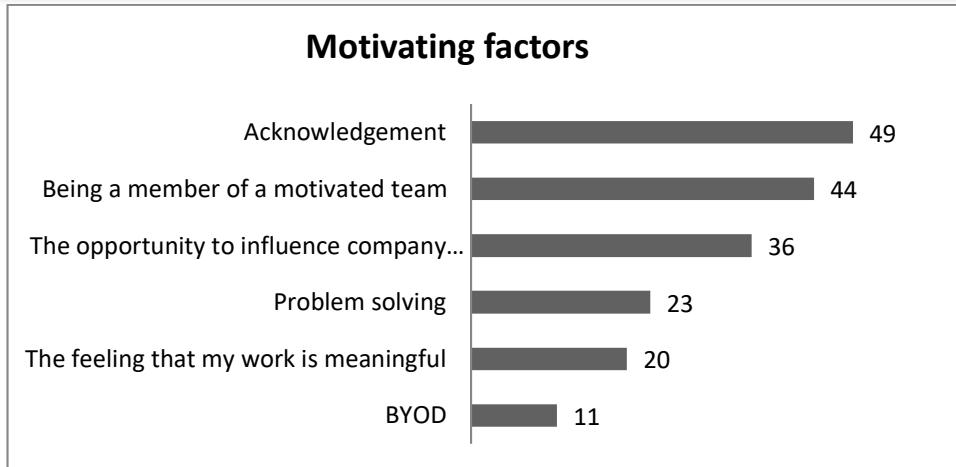


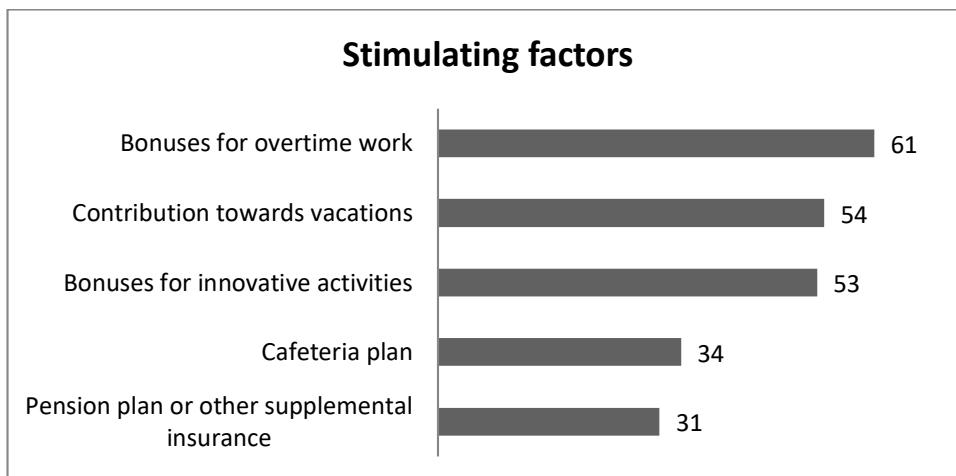
Figure 1: Decisive Factors when Selecting an Employer (Own calculation)

The second research question dealt with driving motivators, i.e., what most meets the needs of Generation Y at work. From the research results and Fig. 2, it can be seen that the most important are acknowledgment, being a member of a motivated team, the feeling that they are able to influence company affairs, as well as the option of utilizing BYOD (Bring Your Own Device).



*Figure 2: Motivating factors (Own calculation)*

The third research question concerned financial stimulus, i.e., the rewards and benefits most attractive to Generation Y. From the research results and Fig. 3, it can be seen that the most important are bonuses for overtime work, a contribution towards vacations, special bonuses for innovative activities, a cafeteria plan, and a pension plan or other supplemental insurance.



*Figure 3: Stimulating factors (Own calculation)*

The results of secondary research indicate the degree to which motivating and stimulating Generation Y workers influences company performance. The following research question was formulated:

H<sub>0</sub>: Motivating and stimulating Generation Y employees does not influence company performance.

H<sub>1</sub>: Motivating and stimulating Generation Y employees does influence company performance.

The hypothesis whose validity we are verifying expresses the statement that motivating and stimulating Generation Y employees does not influence company performance. If the null hypothesis is not valid, the opposite statement will be true. Respondents were allowed to choose between different ranges of percentages as they apply to increasing company performance. From the set type of variable, a one sample t-test was selected. The reference value was set at 0 (there was no influence). The test's level of significance was set at  $\alpha = 0.05$ , which indicates a 5% probability that we reject the null hypothesis even though it is valid. If the p-value is less than or equal to the set level of significance, we will reject the null hypothesis.

The STATISTICA program was used for statistical evaluation. The results of the one sample t-test were calculated on the basis of the embedded data matrix, the selected test, the defined variables, and the reference value. Tab. 1, below, shows a summary of the test results.

*Table 1: The Results of the T-Test in the Program STATISTICA (Own calculation)*

Variable	Test of Means Against the Reference Value			
	Mean	N	Refernt (constant)	p
x <sub>1</sub>	6.78	26	0.000000	0.000000

It can be seen from Table 1 that the p-value for the given variable was less than the level of significance  $\alpha$ ; therefore, we reject  $H_0$ . Accordingly, we accept that motivating and stimulating Generation Y employees influences company performance at 6.78%.

#### **4. CONSLUSION**

A number of international research papers present results focused on the subject of Generation Y. The authors of this paper conducted primary research via a survey that presents the specific needs and conceptions of Generation Y about the world of employment. From the results, it can be seen that the most attractive factors are benefits with flexibility and the option of working from home coming next. Other significant factors are development programs, career growth, as well as the option to use social networks during working hours. This current research confirms some of the research that was presented in the paper's introduction. In comparison to the preceding Generation X, Generation Y has different expectations concerning their employers. They choose their job positions and companies very carefully and assert their ideas and values when building their careers. It is likely that their positions, opinions, and even behavior will influence the form company culture takes within organizations. This should force companies to change managerial stereotypes that have been implemented and not only make organizational changes but also adapt work conditions to Generation Y's requirements – including an appropriately designed system for motivating and stimulating them. According to the research that was conducted, the greatest motivation is acknowledgment and being part of a motivated team. Other predominant stimulation factors are bonuses for overtime, contributions for vacations, and special bonuses for innovative activities.

The secondary research was intended to determine whether appropriately motivating and stimulating workers influences a company's performance factors. Findings by international empirical studies differ on how strongly human capital influences company performance. In their work, the authors Gartner et al. and Frese et al. demonstrate an average or even a very strong positive relationship (Gartner et al., 1990; Frese et al.; 2007). In contrast, the authors Davidsson et al. and Gimeno present this relationship in their work as positive, though very weak (Davidsson et al., 2003; Gimeno, 1997). On the basis of the research that the authors of this paper have conducted, the null hypothesis was rejected on the basis of a statistical t-test. Thus, we conclude that motivating and stimulating employees positively influences company performance.

Generations X and Y can learn much from each other. Generation X can learn the art of asking questions, because the working world is undergoing change at a faster pace. Changes require them being able to handle new environments, people, and culture. Generation Y is not tied down to one place; they want to be more flexible, work more from home, and combine work and family affairs in a more favorable way. Generation Y has grown up surrounded by modern

technology, whereas the older generation must learn to handle modern technologies (Kejchová, 2014, pp. 20-21). Thanks to the internet, this so-called “global” generation is able to connect with young people across the world. It is thus possible to communicate, hold discussions, and share information all around the world in real time.

Companies that want to be successful cannot continue to ignore the requirements of Generation Y. Progressive companies have already commenced hiring members of Generation Y and have designed their model for managing employee affairs so that it accommodates the specific requirements of this generation – naturally, in a way that is beneficial to the organization as well. It is important to realize the fact that Generation Y will comprise the greater part of the population in their productive years up until the year 2025. Their requirements of the labor market have a number of aspects that employers must take into account in time. If an organization is able to listen to the needs of Generation Y, this will help them find a way to develop the abilities and skills of all their employees. This approach also creates a unique opportunity for a general overhaul of the model for human resource management and for integrating all employees into the process of building a highly productive company.

## LITERATURE:

1. Agarwala, T. (2003). Innovative human resource practices and organizational commitment: An empirical investigation. *International Journal of Human Resource Management*. Vol. 14, Iss. 2, pp. 175–197.
2. Baldonado, A. (2008). *25 Ways to Motivate Generation Y: A Pocketbook Guide*. USA: iUniverse, Inc.
3. Barney, J. B. (1995). Looking inside for competitive advantage. *Academy of Management Executive*. Vol. 9, Iss. 4, pp. 49–61.
4. Brodan, F. (2013). *Times are changing, people are changing...* Retrieved 16.8.20016 from <https://media.engagehill.com/2013/10/07/times-are-changing-people-are-changing/>
5. Dedouchová, M. (2001). *Strategie podniku*. Praha: C. H. Beck.
6. Drucker, P. (1993). *Managing in Turbulent Times*. New York: Harper & Row.
7. Frese, M. Baum, J.R (eds). (2007). *The Psychology of Enterpreneurship*. Mahwah, NJ: Lawrence Erlbaum Associates Inc., Publishers.
8. Gartner, W.B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Wenturing* 5, 15-28.
9. Gimeno, J., T.B. Folta, Cooper, A. And Woo C.Y. (1997). *Survival or the fittest? Entrepreneurial human capital and the persistence of underperforming firms*. Administrative Science Quarterly, 750-83.
10. Kejchová, H. (2014). Generace X a Y se od sebe mohou učit. *Moderní řízení*. XLIX, Economia
11. ManpowerGroup, (2016). *Milénianové a kariéra: Vize 2020*. Retrieved 16.08.2016 from <http://www.manpowergroup.cz/pruzkumy/pruzkumy-studie/milenialove>.
12. Mc Crindle, M. (2006). *New generations at work: attracting, recruiting, retraining & training Generation Y*. Baulkham Hills, N.S.W: McCrindle Research. Retrieved 16.08.20016 from <http://nla.gov.au/nla.arc-61189>.
13. Moderní řízení. (2011). Přínos generace Y. *Moderní řízení*. Retrieved 16.8.20016 from <http://modernirizeni.ihned.cz/c1-49607060-prinos-generace-y>
14. Neumaierová, I., Neumaier, I. (2002). *Výkonnost a tržní hodnota firmy*. 1.vyd. Praha: Grada Publishing.
15. Davidson, P. (2003). The Domain Of Entrepreneurship Research: Some Suggestions, inJerome A. Katz, Dean A. Shepherd (ed.) *Cognitive Approaches to Entrepreneurship*

- Research (*Advances in Entrepreneurship, Firm Emergence and Growth, Volume 6*) Emerald Group Publishing Limited, pp.315 – 372
- 16. Sheahan, P. (2005). *Generation Y: thriving (and surviving) with Generation Y at work.* Hardie Grant Publishing.
  - 17. Tomek, G., Vávrová, V. (2009). *Jak zvýšit konkurenční schopnost firmy.* Praha: C. H. Beck.
  - 18. Wagner, J. (2009). *Měření výkonnosti.* Praha: Grada Publishing.
  - 19. Wen-Ying, W., Chingfu, Ch. (2005). Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital.* Vol. 6, Iss: 2, pp. 222 – 236.

## SERVICE QUALITY AND CUSTOMER SATISFACTION: A STUDY IN THE PERCEPTION OF RETAIL BANKING CUSTOMERS IN OMAN

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### **ABSTRACT**

*The purpose of this paper is to examine the service quality from customers' perspective under five dimensions of service quality (SERVQUAL) and the level of customer satisfaction in Omani retail banking market. This study is based on a questionnaire survey conducted in Oman. The primary data was collected through a structured questionnaire from 152 respondents chosen on a 'snowball' method from the different banks. The SERVQUAL five dimensional model was used in this study to examine empirically the service quality gaps in banks between customers' expectation and perception. The service quality dimensions on customer satisfaction was estimated using descriptive analysis. The results revealed the fact that the expectations of bank customers were not met under all five service quality dimensions. The highest gap was found in the dimension of empathy and dimension of tangibility had the least gap and consequently its effect on customer satisfaction. The findings of this study will help the Omani banks to understand customers' perception of service quality and provide useful idea to focus upon relevant areas to improve service quality and customer satisfaction.*

**Keywords:** Retail Banking, Service Quality, Customer Satisfaction, Customer Expectation, Customer Perception, Service quality gaps, SERVQUEL

### **1. INTRODUCTION**

In this globalized business environment, service quality become a major competitive edge for the banks in the market place as they offer homogeneous services to the customers. Hence, service quality in banks plays a vital role in achieving customer satisfaction (Galloway and Ho, 1996). In the context of this study, the 'service' is defined as a set of benefits delivered by the provider to the customer. Customer satisfaction is an important aspect in bank and it is highly related to service quality (Bolton and Drew, 1991; Cronin and Taylor, 1994; Spreng and MacKay, 1996). Quality services help the banks to attract more customers with less cost and also helps to increase volume of sales revenue (Griffin, 1995). The earlier studies have found that there is a high correlation between customer satisfaction and customer loyalty (Yi, 1991; Anderson and Sullivan, 1993; Boulding et al., 1993). The several studies have measured the effectiveness of service quality by comparing of customer's expectations with company's performance in delivering the service (Biljana Angelova and Jusuf Zekiri). The organizations that have maintained high service quality have achieved market leadership in terms of sales, customer loyalty and retention (Anderson and Sullivan, 1993; Boulding et al., 1993; Eklo and Westlund, 2002). The integration among these factors creates a mutual relationship between

the service provider and the customer (Olaf Hermans). Further the relationship helps in increased customer tolerance in case of service failures (Wen-Shinn Low, Jeng-Da Lee, Wan-Chun Lian1, 2013). The service quality also helped the banks to attract new customers due to the advertising campaign of the positive word of mouth of the existing customers (Dr. Jaskaran Singh Dhillon, 2013). Therefore, many organizations have resorted to superior service quality to boost up their efficiency, profitability (accountinglibrary.com) and to achieve customer loyalty and retention (Biljana Angelova, Jusuf Zekiri, 2011).

## 2. LITERATURE REVIEW

Many studies have been conducted to test the significance of service quality in customer satisfaction. There are two schools of thought on service quality. One is the two-dimensional model - technical and functional quality of services delivered (Nordic school based on Gronroos's 1984). And the other is the five-dimensional SERVQUAL model - tangibles, reliability, responsiveness, assurance, and empathy of services delivered (North American school based on Parasuraman, Zeithaml and Berry's 1988). Rust and Oliver, (1994) has tested the service quality based on service product, service environment, and service delivery and Brady and Cronin, (2001) has argued that interaction quality and physical environment quality has an impact on outcome quality. The quality is observed as a major factor in reference to customer acquisition and retention (Galloway and Ho, 1996). Maximizing customer satisfaction through quality customer service has been described as the ultimate weapon by Davidow and Uttal (1989). The present day customers are well educated and are with high standards of living. They compare their bank's service quality with the service provided by other banks. Asubonteng et al. (1996) defined service quality as the difference between customers' expectations about the service before its use and their perceptions after receiving the service. This leads to comparison of services what they expect and the services what they perceive from banks. Further banks are becoming increasingly competent in proving quality service, as they know that at this juncture they need to not only create new customers but also concentrate on customer retention. With appropriate customer relationships management, banks could maximize the profits of each customer base (Best, 2005). Hence banks recognize, the customers will change provider if they aren't receiving the service they expect.

Several models have been developed by the various authors to examine and measure the factors influencing the service quality. Many researches have been conducted using either same or modified version of SERVQUAL (Parasuraman et al. 1988) model (Fick and Ritchie, 1991; Coyle and Dale, 1993; Smith 1995; Lam et al., 1997; Lim and Tang, 2000; Gounaris et al.m 2003). The universal application of five dimensional SERVQAL model has been questioned by some researchers (Carman, 1990, Cronin and Taylor, 1992, Buttle 1996). Even, there have been theoretical and operational criticisms with regard to interpretation and implementation of this model (Babakus and Boller, 1992; Smith, 1995, Lam et al., 1997; Newman 2001). Despite of these criticisms, SERVQUAL instrument has been widely used in various research to measure perceived service quality of banks as it clearly identifies gaps in service quality and find out dimensions of customer satisfaction.

In the light of the above literature review, this study seeks to examine the service quality expectation and perceptions of bank customers of various demographic profiles. Hence, there is a need to measure customer satisfaction towards various banking services across various banks in Oman. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al. 1985, Lewis and Mitchell 1990). The outcome of this study will help the banks to understand the customer retention factors and to develop the strategy to gain new customer.

### 3. METHODOLOGY

#### 3.1 SAMPLE AND DATA COLLECTION

The population will comprise of customers of banks in Oman. The data was collected through primary and secondary sources. The primary data was collected using a structured questionnaire. Secondary data was obtained from online journals and magazines. ‘Snowball’ (David L., Morgan, 2008) (Malhotra, 1999; Tuncalp, 1988) sampling method was used for the study. Data for the study was collected through online survey link sent to 1073 respondents through Survey Monkey to their email address. Out of which, a complete response from 152 respondents were obtained, yielding a response rate of 14.17 percent. Of the respondents, 67.76 percent were male. Among the respondents, 36.84 per cent were Omani Nationals and the rest were Expatriates. The distribution of respondents was spread across 11 different banks. Most of the respondents were customers of Bank Muscat (62.5 percent) followed by National Bank of Oman (9.9 percent), HSBC Oman Bank (6.6 percent) and Oman Arab Bank (5.3 percent). The majority of respondents utilizing their bank services for more than five years (63.8 percent), 21.7 percentage of respondents were customer of the bank for three to five years, 13.2 percent of customers for one to three years and 1.3 percentage of respondents were customers for less than one year. Response count percentage indicates that majority of respondents have savings bank account (81.6 percent), followed by current account (59.2 per cent), credit card (43.4 per cent) and loan account (32.9 percent) with their respective banks. Further, majority of the respondents expressed view that when they think of bank, ATM facility (46.7 percent) comes first in their mind followed by customer service (42.1 percent), computerization (34.9 percent), personalized service (31.6 percent) and branch network (30.3 percent) as per response count analysis.

#### 3.2 DESIGN AND MEASUREMENT

Service quality is psychological ‘experience’ of the customers in comparison with their ‘expectation’. The gap between the customer’s expected service and the perceived service helps to measure the effectiveness of delivered service. Cross sectional study design with a quantitative and qualitative approach was used in this study. The service quality of banks in Oman were measured by using the SERVQUAL model which identifies ‘gaps’ in the delivery of service. SERVQUAL, the most popular standardized questionnaire of Parasuraman et al. (1988) and its subsequent modification (1990, 1993 and 1994) is used to measure service quality. The original instrument consists of 22 structured and paired questions to assess customers’ expectations and perceptions of service quality. In this study, three additional questions were added to the original instrument to capture the service quality of e-banking. The primary data was collected through structured questionnaire using SERVQUAL model. This questionnaire comprised of demographic profile of the respondents and twenty five paired questions on their expectations and perception about bank service quality under following five service quality dimensions:

- (i) **Assurance** (including competence, courtesy, credibility and security): Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- (ii) **Reliability:** Ability to perform the promised service dependably and accurately.
- (iii) **Tangibles:** Physical facilities, equipment and appearance of personnel.
- (iv) **Empathy** (including access, communication, understanding the customer): Caring and Individualized attention that the firm provides to its customers.
- (v) **Responsiveness:** Willingness to help customers and provide prompt service

The Gap score was calculated by finding the difference between expectation (E) and perception (P) since, customer satisfaction depends on the perception on delivery service quality in relation to their expectation. Thus if “E” is greater than “P”, the customer is dissatisfied and if “E” is less than “P”, the customer is satisfied (Kotler and Armstrong, 1999; Parasuraman et al., 1988;).

The 7 point Likert scale was used for all responses varying from 1 to 7 points (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree; 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree) to evaluate the service quality of their respective banks. Descriptive and inferential statistics have been applied in the data analysis. Statistical Package of Social Sciences (SPSS) for Windows was used for the data analysis. Descriptive statistics like mean, number of respondents and standard deviation are calculated for categorical variables. The data is analysed by finding the mean scores of the various SERVQUAL dimensions both for perceptions and expectations. The service quality gaps were calculated. The reliability test and t-test were used as inferential statistics. T-tests were executed to test for the significance difference between two means of expectations and perception.

### **3.3 VALIDITY AND RELIABILITY**

The questionnaire was validated by randomly selected bank executives and customers to check the validity of questionnaire. The changes in questionnaire were accommodated accordingly for easy understanding of the samples. The objective of this part is to test the reliability of attributes of five dimensional SERQUEL model in the Omani banking context. The reliability of the questionnaire was found by using Cronbach's Alpha (1951). The reliability test checks whether or not the respondents' score on each attributes tend to be related to their scores on the other attributes (Bryman & Bell, 2007). The reliabilities for all service quality dimensions for both expectation and perception are calculated and presented in Table 1.

**Table 1: Reliability Analysis**

Service Quality Dimensions	No. of Items	Expectation			Perception		
		Mean	SD	Cronbach's Alpha	Mean	SD	Cronbach's Alpha
Tangibility	5	6.1341	0.8636	0.8583	5.6921	0.9464	0.9091
Reliability	5	6.0276	1.0472	0.9272	5.0013	1.4284	0.9743
Responsiveness	6	6.2445	0.8468	0.8911	5.1382	1.0291	0.9062
Assurance	4	6.2023	0.955	0.9574	5.222	1.2752	0.9364
Empathy	5	6.0408	1.022	0.9592	4.9132	1.3235	0.9162
Overall Consistency	25			0.969			0.975

The reliability values varied from 0.8583 (tangibility) to 0.9592 (empathy) in case of expectation and from 0.9062 (responsiveness) to 0.9743 (reliability) in case of perception. This reliability coefficients are greater than the threshold value of 0.7 (Nunnaly, 1978) for all five service quality dimensions. The internal consistency in the modified SERVQUAL attributes was assessed by calculating overall reliability which is equal to 0.969 for expectation and 0.975 for perception. The overall reliability of Parasuraman et al., (1988) study was 0.92. This proves that the SERVQUAL instrument used for the study is highly reliable and internally consistent.

### **3.4 HYPOTHESIS**

The following hypotheses were tested in this study:

- H01: There is no significant difference between overall perception and expectation with respect to all the attributes of service quality dimensions
- H02: There is no significant difference between the expectation and perception with respect to tangibility
- H03: There is no significant difference between the expectation and perception with respect to Reliability
- H04: There is no significant difference between the expectation and perception with

respect to Responsiveness

H05: There is no significant difference between the expectation and perception with respect to Assurance

H06: There is no significant difference between the expectation and perception with respect to Empathy

#### **4. RESULTS AND FINDINGS**

##### **4.1 DESCRIPTIVE ANALYSIS OF SERVICE QUAITY ATTRIBUTES**

The overall service quality is measured by averaging the scores of all service attributes (Brown Churchill and Peter 1993). The analysis of attributes identify the results between the expectation and perception of the customer in terms of service quality. All twenty five statements are rearranged so that the question related to each dimension is not grouped together in order to avoid biasness.

**Table 2: Mean Score of Customers Expectation and Perception in Bank Service Quality**  
*(Continues on the next page)*

S.L. No.	Attributes	Expectation (E)		Perception (P)		Mean Gap (G=E-P)
		Mean	Standard Deviation	Mean	Standard Deviation	
1	Modern infrastructure and facilities	6.1776	1.1629	5.6447	1.1589	-0.5329
2	Appealing physical facilities	5.9803	1.0259	5.6908	1.1750	-0.2895
3	Neat appearance of employees	6.0395	1.2228	5.5855	1.1649	-0.4539
4	Materials associated with the service are visually appealing	5.9737	1.0975	5.5855	1.0700	-0.3881
5	Employees keeping up of promise	5.9079	1.3089	4.9605	1.6230	-0.9473
6	Sincere interest in solving customers' problems	6.1776	1.2131	5.0987	1.5643	-1.0789
7	Employees performing the service right at the first time	6.1053	1.0744	4.8882	1.5677	-1.2171
8	Provide the services at the time they promise to do so	6.0000	1.2125	4.9211	1.6338	-1.0789
9	Bank insist on error free records	5.9474	1.3009	5.1382	1.5183	-0.8092
10	Employees telling customers exactly when services will be performed	6.0066	1.2944	4.8289	1.6589	-1.1776
11	Prompt services to the customers	6.1908	1.1261	5.0132	1.5483	-1.1776
12	Employees willingness to help the customers	6.3487	1.0051	5.3289	1.4038	-1.0197
13	Prompt response to customers from the employees	5.8947	1.3914	4.7895	1.6342	-1.1052
14	Employees behavior instill confidence in customers	6.1842	1.0321	4.9408	1.6245	-1.2434
15	Customers feel safe in their transactions	6.3224	0.9106	5.6118	1.2451	-0.7105
16	Courtesy and friendliness of employees with customers	6.1842	1.1064	5.4145	1.3344	-0.7697

17	Employees having knowledge to answer customer's questions	6.1184	1.2176	4.9211	1.5377	-1.1973
18	Individual customer attention given by employees	6.1447	1.1589	5.1776	1.4517	-0.9671
19	Convenient operating hours	5.8881	1.1589	4.7039	1.6751	-1.1842
20	Personal services to customers by the employees	5.9539	1.1643	4.9079	1.5153	-1.0460
21	Employees always work for customer's best interest	6.0987	1.0964	4.8750	1.5325	-1.2236
22	Employees understand the specific needs of the customers	6.1184	1.0731	4.9013	1.4862	-1.2171
23	Bank provide e-banking facilities	6.5000	0.7806	5.9539	1.0121	-0.5460
24	Computerization has reduced waiting time for bank transaction	6.5658	0.6477	5.4408	1.4816	-1.125
25	Overall service efficiency has increase due to bank computerization	6.4605	0.7624	5.4276	1.4217	-1.0328
	Mean	6.1316		5.1899		-0.9415
	Median	6.1184		5.0987		-1.046
	Minimum	2.12		1.52		-1.2434
	Maximum	7.00		7.00		-0.2895
	Standard Deviation	0.849		1.1516		1.2415
	Range	4.88		5.48		0.9539
	Skewness	-1.91		-0.863		-1.082
	Std. Error for Skewness	0.197		0.197		0.197
	Kurtosis	4.552		0.526		1.100
	Std. Error for Kurtosis	0.391		0.391		0.391

Note: Scale: 1 (=strongly disagree) to 7 (=strongly agree)

The scores of the sample respondents in terms of their expectation and perception related to attributes of service quality of the banks are presented in Table 2. The table shows the mean scores of the respondents for the attributes of service quality on the basis of their expectation (6.1316) and perception (5.1899). This shows that the majority of the customers are skewed towards “agree” for expectation and “somewhat agree” for perception in the Likert scale. Comparing between the means of expectation and perception, it is observed that the means of expectation is greater than mean of perception, which proves that the customers’ expectation is higher than their perception. The standard deviation of expectation is 0.849 and perception is 1.1516 indicates the lesser deviation of scores away from respective mean the mean. The skewness value of -1.91 (expectation) and -0.863 (perception) indicate that the scores are deviated more to the right, which means that there no much difference between the scores of expectation and perception, but the scores of perception are generally lower than the expectation. The kurtosis value of expectation is 4.552 and perception is 0.526. The kurtosis value of perception (0.526) when compared to that of expectation (4.552) indicates the clustering of values away from the mean in the case of perception. From the above table, it is evident that the attribute “Appealing physical facilities” carries least gap score (-0.2895) and “Employees behavior instill confidence in customers” carries highest gap score (-1.2434). It is observed that none of the attributes showed positive gap score indicating satisfaction of service quality of banks according to customers’ opinions.

## 4.2 GAP SCORE ANALYSIS

**Table 3A: Gap Scores based on Service Quality Dimensions**

Service Dimension	Attributes	Expectation (E)	Perception (P)	Gap Score (G=E-P)
Tangibility (1)	Modern infrastructure and facilities	6.1776	5.6447	-0.5329
	Appealing physical facilities	5.9803	5.6908	-0.2895
	Neat appearance of employees	6.0395	5.5855	-0.4539
	Materials associated with the service are visually appealing	5.9737	5.5855	-0.3881
	Bank provide e-banking facilities	6.5000	5.9539	-0.5460
Reliability (2)	Employees keeping up of promise	5.9079	4.9605	-0.9473
	Sincere interest in solving customers' problems	6.1776	5.0987	-1.0789
	Employees performing the service right at the first time	6.1053	4.8882	-1.2171
	Provide the services at the time they promise to do so	6.0000	4.9211	-1.0789
	Bank insist on error free records	5.9474	5.1382	-0.8092
Responsiveness (3)	Employees telling customers exactly when services will be performed	6.0066	4.8289	-1.1776
	Prompt services to the customers	6.1908	5.0132	-1.1776
	Employees willingness to help the customers	6.3487	5.3289	-1.0197
	Prompt response to customers from the employees	5.8947	4.7895	-1.1052
	Computerization has reduced waiting time for bank transaction	6.5658	5.4408	-1.125
	Overall service efficiency has increase due to bank computerization	6.4605	5.4276	-1.0328
Assurance (4)	Employees behavior instill confidence in customers	6.1842	4.9408	-1.2434
	Customers feel safe in their transactions	6.3224	5.6118	-0.7105
	Courtesy and friendliness of employees with customers	6.1842	5.4145	-0.7697
	Employees having knowledge to answer customer's questions	6.1184	4.9211	-1.1973
Empathy (5)	Individual customer attention given by employees	6.1447	5.1776	-0.9671
	Convenient operating hours	5.8882	4.7039	-1.1842
	Personal services to customers by the employees	5.9539	4.9079	-1.0460
	Employees always work for customer's best interest	6.0987	4.8750	-1.2236
	Employees understand the specific needs of the customers	6.1184	4.9013	-1.2171
Overall mean (for all five dimensions)		6.1316	5.1899	-0.9415

**Table 3B: Descriptive statistics of mean gap for the five dimensions**

	Mean Gap Score				
	Tangibility	Reliability	Responsiveness	Assurance	Empathy
Mean	-0.4421	-1.0263	-1.1064	-0.9803	-1.1276
Median	-0.2	-0.4	-0.667	-0.75	-0.8
Standard Deviation	0.9611	1.626	1.4278	1.4493	1.5143
Skewness	-0.853	-1.195	-1.024	-1.098	-0.779
Std. Error for Skewness	0.197	0.197	0.197	0.197	0.197
Kurtosis	2.844	0.995	0.64	1.174	0.62
Std. Error for Kurtosis	0.391	0.391	0.391	0.391	0.391

Table 3A shows the mean of service quality dimension attributes of expectation, perception and gap cores. Similarly, Table 3B shows the descriptive scores of all five service dimensions. In Table 3A&B, on comparison of mean values of customer expectation and perception, it is observed that there is closeness in the opinion of customers with respect to service dimensions. This proves that the respondents have similar opinion on attributes. All the mean gap scores presented in Table 3A&B are negative. This indicates that the customers are dissatisfied by the services offered by the banks. In most of the SERVQUAL applications it is observed that reliability is the most important dimension, interchangeably followed by responsiveness and assurance (Zeithaml et al., 1990). In this study, it is found that empathy is the most important service element followed by responsiveness while reliability is in the third position (Evangelos Tsoukatos and Evmorfia Mastrojanni (2010)).

Further, service dimension-wise analysis shows that higher level of dissatisfaction is observed in “empathy” (-1.1276) which comprises of five attributes. The least dissatisfied dimension is “Tangibility” (-0.4421) which also comprising of 5 attributes. Further, the highest negative gap was found in the dimension of “empathy” (-1.1276) followed by “responsiveness” (-1.1064), “reliability” (-1.0263), “assurance” (-0.9803) and “tangibility” (-0.4421). In the light of this analysis, it is observed that empathy is the most dissatisfied service quality dimension in banking companies in Oman.

#### **4.3 CORRELATION MATRIX OF GAPS OF SERVICE QUALITY DIMENSION**

**Table 4: Correlation Matrix**

	Tangibility	Reliability	Responsiveness	Assurance	Empathy
Tangibility	1.000	0.566	0.545	0.558	0.479
Reliability	0.566	1.000	0.829	0.839	0.718
Responsiveness	0.545	0.829	1.000	0.905	0.833
Assurance	0.558	0.839	0.905	1.000	0.84
Empathy	0.479	0.718	0.833	0.84	1.000

Table 4 summarises the correlation coefficient of gaps of service quality dimension which are which are significantly positive. This indicates that there is consistency among the service quality dimensions.

#### 4.4 TESTING OF RESEARCH HYPOTHESES

**Table 5: One Sample t-test for overall gaps of service quality attribute**

	Test value=0						
	Mean Difference	Std. Error of Mean	t-value	p-value	95% Confidence interval of the difference		Conclusion
					Lower	Upper	
Overall Service Quality Attributes	-0.9415	0.1007	-9.35	0.000	-1.1405	-0.426	Unsatisfactory

The results of the One Sample t-test of overall gap scores of service quality dimensions presented in Table 5 shows that there is a significant difference between overall perception and expectation at 95 percent level of significance ( $p \leq 0.05$ ). This proves that customers' expectations on service quality are not met by the banks.

**Table 6: One Sample t-test for gaps of service quality dimensions**

Service Quality Dimensions	Test value=0						
	Mean Difference	Std. Error of Mean	t-Value	p-value	95% Confidence interval of the difference		Conclusion
					Lower	Upper	
Tangibility	-0.4421	0.0779	-5.671	0.000	-0.5961	-0.2801	Unsatisfactory
Reliability	-1.0263	0.1319	-7.782	0.000	-1.2969	-0.7657	Unsatisfactory
Responsiveness	-1.1064	0.1158	-9.553	0.000	-1.3352	-0.8775	Unsatisfactory
Assurance	-0.9803	0.0775	-8.339	0.000	-1.2125	-0.7480	Unsatisfactory
Empathy	-1.1276	0.1228	-9.18	0.000	-1.3703	-0.8849	Unsatisfactory

Table 6 indicates the grand mean scores of all five service dimensions on the basis of gap scores. The t-test is used to test the significance difference between expectation and perception of all five dimensions of service quality. The calculated t-values indicate significance difference between perception and expectation with respect to tangibility, reliability, responsiveness, assurance and empathy at 95 percent level of significance ( $p \leq 0.05$ ).

Overall, the results of the t-test indicates the rejection of all six research hypothesis, thus proving customer dissatisfaction as per the above mentioned service quality dimensions.

## 5. CONCLUSION

In this paper, an attempt has been made to measure the service quality from the perspective of Omani retail bank customers. The five service quality dimensions as per SERVQUAL instrument has been tested to measure the level of service quality and customer satisfaction. The overall results suggests that the service delivery as perceived by the customers was below their expectation across all five service quality dimensions. The mean scores of expectation and perception is a clear indication that the customers' expectations were not met by the banks in Oman in their service delivery.

The findings of the study indicates customer dissatisfaction under all the five service quality dimensions. Further, the widest gap was found in the dimension of empathy and the least was fund in tangibility. This result further confirms the findings in the study conducted by Kwan and Hee (1994) which examined measuring the service quality in Singapore retail banks using SERVQUAL model (Parasuraman 1998). Further, the findings of the study revealed that the customers of Omani retail banks expected higher level of service quality than offered by the banks. Hence, the study concludes that the customers are not satisfied (level of significance was 0.000) with the services provided by the banks in Oman.

The results have significant implications for banks in Oman to understand the specific area of improvement in the dimensions of the service quality. It also helps in developing suitable strategy for differentiating and customizing banking services for retail customers. In this backdrop, the banks need to focus more on the improvement of attributes of empathy (-1.1276), responsiveness (-1.1063) and reliability (-1.0263) dimensions of service quality which carries highest service quality gap respectively. The banks have to reduce these gaps by giving individual personal attention to understand customer specific needs, personalized services, convenient operating hours and working towards customers' best interest in order to meet the higher customers' expectations. In addition to the above, the attributes of the other four dimensions where the gap on dissatisfaction were significant should also be focused upon for improving service quality. As market grow, the customers demand for higher service quality. The bank management should take steps to deliver quality services and be honest in making feasible promises to the customers. The bank should motivate employees to make friendly interaction with the customers and pay more attention to solve customers' specific problems by treating them personally. This will result in enhancing good report among customers and banks.

## **LITERATURE:**

1. Anderson, E.W. and Sullivan, M.W. (1993), “The antecedents and consequences of customer satisfaction for firms”, *Marketing Science*, Vol.12, No. 2 , pp. 125-43
2. Asubonteg, P., McCleary, K.G. and Swan, J.E. (1996), “SERVQUAL revisited: a critical review of service quality”, *Journal of Services Marketing*, Vol. 10, No. 6, pp. 62-81.
3. Babakus, E. and Boller, G.W. (1992), “An empirical assessment of the SERVQUAL scale”, *Journal of Business Research*, Vol. 24, No. 2, pp. 253-68.
4. Barbara R. Lewis, Vincent W. Mitchell, (1990) "Defining and Measuring the Quality of Customer Service" ,*Marketing Intelligence & Planning*, Vol. 8 No.6, pp.11 – 17
5. Best, R. (2005). *Market Based Management* (4th International 3d.).Maidenhead:McGraw-Hill.
6. Bolton, R.N. and Drew, J.H. (1991), “A multistage model of customers' assessments of service quality and value”, *Journal of Consumer Research*, Vol. 17 No. 3, pp. 375-84
7. Boulding, W., Kalra, A., Staelin, R. and Zeithaml, V. (1993), “A dynamic model of service quality: from expectations to behavioral intentions”, *Journal of Marketing Research*, Vol. 30 No. 2, pp. 7-27.
8. Brady, M.K. and Cronin, J.J. (2001), “Some new thoughts on conceptualizing perceived service quality: a hierarchical approach”, *Journal of Marketing*, Vol. 65, July, pp. 34-49.
9. Brown, Tom J. Gilbert A., Churchill Jr and J. Paul Peter (1993), “Improving the Measurement of Service Quality”, *Journal of Retailing* Vol 69 pp 127-139
10. Bryman, A. and Bell, E.(2007), *Business Research Methods* revised edition (Oxford ... International Journal of Social Research Methodology, Vol 10, , pp. 5-20.
11. Buttle, F. (1996), “SERVQUAL: review, critique, research agenda”, *European Journal of Marketing*, Vol. 30, No. 1, pp. 8-32.
12. Carman, J. (1990), “Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions”, *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.
13. Coyle, M.P. and Dale, B.G. (1993), “Quality in the hospitality industry: a study”, *International Journal of Hospitality Management*, Vol. 12, No. 2, pp. 141-53.

20. Cronin, J. Jr and Taylor, S.A. (1992), “Measuring service quality: a reexamination and extension”, *Journal of Marketing Research*, Vol. 56, July, pp. 55-68.
21. Cronin, J.J. Jr and Taylor,S.A. (1994),SERVPERF versus SERVQUAL: reconciling performance based and perception minus expectations measurement of service quality”. *Journal of Marketing*, Vol.58 No. 1, pp 125-131
22. David L., Morgan (2008). *The SAGE Encyclopedia of Qualitative Research Methods*. SAGE Publications, Inc. pp. 816–817.
23. Davidow, WH & Uttal, B (1989), “Service Companies: Focus or Falter”, *Harvard Business Review*, July-August, pp. 77-85.
24. Dr. Jaskaran Singh Dhillon,(2013), “ Understanding Word Of Mouth (WOM) Communication: A Case Study of Banking Sector in India”. *IOSR Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 9, No. 3,pp 64-72
25. Eklöf, J. A., & Westlund, A. (2002), “The pan-European customer satisfaction index programme – current work and the way ahead. *Total Quality Management*” Vol 13 No8, pp 1099-1106.
26. Evangelos Tsoukatos, Evmorfia Mastrojanni, (2010) "Key determinants of service quality in retail banking", *EuroMed Journal of Business*, Vol. 5 No 1, pp.85 – 100
27. Fick, G.R. and Ritchie, J.R.B. (1991), “Measuring service quality in the travel and tourism industry”, *Journal of Travel Research*, Vol. 30 No. 2, pp. 2-9.
28. Galloway L, Ho S (1996). The model of service quality for training, *Training for Quality*, Vol4, No. 1, pp 20-26
29. Gounaris, S.P., Stathakopoulos, V. and Athanassopoulos, A.D. (2003), “Antecedents to perceived service quality: an exploratory study in the banking industry”, *International Journal of Bank Marketing*, Vol. 21 No. 4, pp. 168-90.
30. Griffin, J., 1995. *Customer Loyalty: How to Earn It, How to Keep It*. San Francisco: Jossey-Bass.
31. <https://www.thebusinessyear.com/oman-2015/bank-on-oman/review> accessed online on 12 November 2015
32. <http://www.accountinglibrary.com/articles/customer-service-improvement> accessed online 2 February 2016
33. <https://www.cbo.org> accessed online on 29 December 2015
34. <http://www.heritage.org/index/> accessed online on 2 March 2016
35. Kotler, P. and Armstrong, G. (1999), *Principles of Marketing*, 8th ed., Prentice-Hall, Englewood Cliffs, NJ
36. Kwan, W., Hee, T. J. (1994). Measuring service quality in Singapore retail banking: a gap analysis and segmentation approach. *Singapore Management Review*, vol.16. No 2, pp1–24
37. Lam, T., Wong, A. and Yeung, S. (1997), “Measuring service quality in clubs: an application of the SERVQUAL instrument”, *Journal of Hospitality Marketing*, Vol. 4 No. 1, pp. 7-14.
38. Lim, P.C. and Tang, N.K.H. (2000), “A study of patients’ expectations and satisfaction in Singapore hospitals”, *International Journal of Health Care Quality Assurance*, Vol. 13 No. 7, pp. 290-9.
39. Malhotra N, Francis MU, James A, Shaines G, Lan W (2005), “ Dimensions of service quality in developed and developing economies: multi-country cross-cultural comparisons. *Inter. Mark Rev*”, Vol.22 No. 3 pp 256-278.

45. Mukesh, K., Fong, T.K. & Vincent, C 2010, “Comparative evaluation of critical factors in delivering service quality of banks”, International Journal of Quality & Reliability Management, Vol. 27, No. 3, 2010, pp.351-377
46. Newman, K. (2001), “Interrogating SERVQUAL: a critical assessment of service quality measurement in a high street retail bank”, International Journal of Bank Marketing, Vol. 19
48. No. 3, pp. 126-39.
49. Nunnally, J.C. (1978), *Psychometric Theory*, McGraw-Hill, New York, NY.
50. Olaf Hermans. (2015), “Service Integrated Relationships (SIR): A Strategic Process Framework for Managing the Customer as a Resource Journal of Creating” Vol. 1 No1, pp.119–129
51. Parasuraman, V. A. Zeithaml, and L. L. Berry .(1988) Servqual: A multiple-item scale for measuring perceptions of service quality. Journal of Retailing, Vol 64, No.1, pp.12–40.
52. Parasuraman, V. A. Zeithaml, and L. L. Berry. (1994). Reassessment of expectations as a comparison standard in measuring service quality – implications for further research. Journal of Marketing, Vol 58, No.1,pp111–124.
53. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), “A conceptual model of service quality and its implications for future research”, Journal of Marketing, Vol. 49 No. 5, pp. 41-50.
55. Rust,R.T. and Oliver,R.L.(1994). “Service Quality: Insights and Managerial Implications from the frontier,” in Rust, R.T and Oliver, R.L.(Eds), Service Quality:New Directions in Theory and Practice, Sage Publications,London, pp. 1-20
56. Smith,S. (1995), The Quality Revolution,Jalco Publishing House,Bombay
57. Spreng, R.A. and Mackoy, R.D. (1996), “An empirical examination of a model of perceived service quality and satisfaction”, Journal of Retailing, No. 2, pp. 201-14.
58. Tuncalp, S. (1988). “The marketing research scene in Saudi Arabia. European Journal of Marketing”, Volume 22, No. 5, pp 15–22.
59. Wen-Shinn Low, Jeng-Da Lee, Wan-Chun Lian.(2013) Can Loyal Customers Tolerate Service Failure? The Moderating Roles of Service Failure Severity and Transaction Frequency in a B2B Context Journal of Service Science and Management Vol.6 No.5A pp.12-19
60. Yi, Y.J. (1990), “A critical review of consumer satisfaction”, Review of Marketing, American Marketing Association, pp. 68-123.
62. Zeithaml, Valerie A., Parasuraman, A. & Berry, Leonard L. (1990) Delivering Quality Service, The Free Press, New York, N.Y

## HUMAN CAPITAL RISK IN IT ENTERPRISES REPORTING

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### **ABSTRACT**

*Qualified employees' knowledge and experience are some of the key factors of success of IT enterprises. Listed companies should inform stakeholders on important risk factors and threats to the enterprise functioning. Purpose – The aim is to diagnose the areas of human capital-related risk presented in the activity report of IT enterprises as well as to evaluate the activities of such enterprises in terms of their limitations. Methodology – The analysis of activity reports of IT companies listed on the Warsaw Stock Exchange – WIG-INFO. Results – The analysis of the contents of the reports for 2015 shows that within the operational risk areas, as many as 92% of the researched companies identify the human capital-related risk. The main threats reported to stakeholders regard the risk of key employees loss and the risk concerning hiring employees having required qualifications. The companies identify financial and extra-financial results of risk occurrence. Approximately 50% of the analyzed companies present the activities undertaken in order to reduce risk concerning employees. The information presented to the stakeholders is not sufficient to determine the companies' stand on the identified threats. Practical implications – On the basis of the proposed methodology of diagnosis and analysis of human risk capital, management staff may take action in order to eliminate it or minimize its negative effects.*

**Keywords:** activity report, human capital of an enterprise, human capital risk, IT companies

### **1. INTRODUCTION**

In modern economy, the potential of an enterprise is determined by material and non-material resources at its disposal. One of them are workers who constitute the value of a company, using material assets of an enterprise in combination of possesses knowledge, experience and creativity. Employees constitute human capital of an organization. The term *human capital of an enterprise* is defined as knowledge, education and creativity of employees, which in the process of accumulation increases its value for the organization and contributes to the improvement of its economic and social condition as well as to the image and value of the enterprise (Bagińska, 2015, p.4).

Risk constitutes an integral part of conducting economic activity. It can create both chances and threats for the realization of business aims. The operational risk pyramid, proposed by J. Welch and W. E. Deming in 2003, influenced the systematic approach to risk management (Staniec, Zawiła-Niedźwiecki, 2015, p. 47). The amendment of the Accounting Act also influenced risk management methods and techniques. An enterprise should evaluate the current and future, actual and potential influence of risk on its activity. On the basis of the conducted evaluation, it is possible to verify and adjust management practices by responding to given risks. Human capital risk is one of the kinds of risks the enterprise is exposed to. The enterprise may take an active or a passive attitude towards the identified risk. An active attitude means conscious taking actions posing risk. A passive attitude concerns actions with a view to avoiding risk. On the basis of determined risk factors and the level of their relevance, the management of the company might take appropriate actions to eliminate the factors and minimize their negative effects (Habelman, 2014, p.46).

Various groups of stakeholders take an interest in the enterprise policy (Śnieżek 2014, p. 75). In accordance with the legitimization theory, an enterprise informs its stakeholders on the conducted activity, presenting the financial and extra-financial data in the annual report. One of the annual report elements is the activity report, which should comprise relevant information on financial situation and activity of a given entity.

The character of an IT enterprise activity requires a substantial participation of highly qualified staff and continuous investing in intellectual resources, including human ones. Human capital contributes significantly to creating the value of a knowledge enterprise. The questions arise whether the enterprise identifies the risk related to employees among risk factors of conducted activity and whether the stakeholders are informed on it by the enterprise. Moreover, another question can be posed: Does the information included in the activity statement indicate which attitude and actions the enterprise take towards the identified human capital risk?

The aims of the paper are to diagnose the areas of risk related to human capital presented in the activity report of IT enterprises as well as to evaluate the enterprise actions aiming at reducing them.

## **2. KINDS AND CAUSES OF HUMAN CAPITAL RISKS IN AN ENTERPRISE**

In order to freely react to changes occurring in the environment and adjust to them with ease, a modern enterprise should have an appropriate group of employees at its disposal. It is not the number of employees that matters but the quality of the employed persons: their knowledge, experience, creativity, learning pace, innovativeness. Ensuring an appropriate human capital in an enterprise constitutes a long-lasting process, but it is necessary for the enterprise to meet the demands of modern economy. Human capital risk is one of the elements of enterprise activity general risk. Operational risk may be defined as risk of material and image losses as well as legal responsibility, resulting from maladjustment or fallibility of processes and resources which are necessary for them (personal, material, informational and financial), arising as a result of disturbances resulting from internal and external threats (Zawiła-Niedźwiecki 2013, p. 62). To a great extent, operational risk concerns internal processes and resources of an organization. In order to reduce the influence of risk on the enterprise results, first of all, one should identify its key areas and kinds.

Zawiła-Niedźwiecki mentions human resources as one of the sources of operational risk. A detailed classification of personal risk comprises the following kinds: risk of competence lack, risk of human resources lack, fluctuation risk, malevolence risk, routine risk (Zawiła-Niedźwiecki 2013, p. 63). In the group of employees-related risk, Lipka distinguishes such risks as: personnel needs planning risk, recruitment risk, selection risk, roles and task division risk, motivation risk (Lipka 2002, p. 26). The employees-related risk can be defined as the risk of incurring losses (financial, image-related, relational) resulting from human imperfections (mistakes caused by insufficient knowledge, skills or appropriate predispositions as well as employees flouting the law or internal regulations) and also from imperfections of the processes of managing employees (Bochniarz, Gugała 2005, p. 98). In addition, it can be said that personal risk is related with the impossibility of determining whether in a given case, the actions aiming at appropriate modelling human resources will bring results complying with the realized personnel strategy of the company (Lipka 2002, p. 24).

Personal risk may be analyzed from two main perspectives: human capital-related risk and the risk resulting from the realization of human resources function. Therefore, it can be assumed that the kinds of personal risk may be divided into strategic and (concerning human capital as organization strategic resource) and operational (regarding the personal function course) It

should be stressed that there is a cause-effect relation among the above mentioned kinds of personal risk (Gołembksi 2015, p. 4).

Human capital-related risk may be divided into (Kierner 2008, p.160):

- risk of inappropriate human capital amount (too few or too many employed persons),
- risk of not using human potential of an organization (to high competences in relation to needs or competence gaps),
- risk of security of the information possessed by employees,
- risk of human mistakes.

In innovative knowledge-based organizations, apart from the above mentioned risks, there is also one more, i.e. knowledge outflow due to the key employees leaving a company.

The causes of human capital risk can be divided into external and internal. Internal ones are related to the organizational structure and the strategy realized by an enterprise. External causes of human capital risk comprise demand and supply on the job market, unemployment rate, level and quality of education of employees available on the market. Two important factors are the conditions the employees are offered by competitors and the enterprise flexibility in the sphere of reacting to changes. In a modern company, employees do their duties, which do not always correspond to their officially earned education, learnt profession or specialization. What is more useful for the employer is the employees' personal qualities, experience and skills. An employee undertakes various multiaspectual tasks of high complicity and creative character requiring an innovative approach (Juchnowicz, 2016, p. 68). Facing constant changes and growing demands, organizations move from traditional work contracts to the model whose focus is shifted to external resources. In modern organizations, one can distinguish several categories of workers. A permanent employee has a decisive influence on conducting the economic activity. Such persons tend to be employed on an open-ended basis and are described as key workers. This group also comprises a high-class specialist, undertaking non-repetitive work on the individual contractual arrangements. The employee-partner is employed externally to joint projects and particular tasks, when in the organization there is a lack of persons with given competences. An independent worker, self-employed is a person from the outside who does auxiliary work, not complicated, of repetitive character (Juchnowicz, 2016, p. 74). Unfortunately, one can frequently observe not using human potential in an organization, employing highly qualified persons at positions not requiring such skills, which results in a higher rotation of staff.

The strategic approach to human capital management should focus on (Maniak, 2008, p.4):

- treating employees as basic capital of the company,
- taking into consideration the influence of the environment, especially competitors and the job market,
- operating in a longer time frame,
- getting related to the general strategy of the company as well as its structure and organizational culture,
- including all employees, not only management.

### **3. HUMAN CAPITAL RISK IN THE ANNUAL REPORT**

The financial statement, which is the basis of presenting financial results to both internal and external stakeholders, evolves towards the business report, in which the information on the enterprise potential is accumulated to an extent not observed so far. The report informs on the process of building the enterprise value in the future (Śnieżek 2014, p. 84). In order to take a decision of investing their own financial capital in the enterprise, external investors analyze

financial results (determined on the basis of the financial statement covering the past period) and search for presumptions constituting its future value. The enterprise potential determining its future success comprises financial capital, intellectual capital (including human capital and social capital. Despite employing outstanding workers having exceptional competences and extensive knowledge, a unit may not report intangible assets embodying human capital in its account books and financial statements. (Karmańska, Bareja, 2015, p.153). Treating employees as capital is manifested by reporting on human capital-related risk among other risk factors as well as informing on undertaken actions. As emphasized by Brdulak, persons' involvement, their satisfaction and using fully their potential, knowledge and skills allows the enterprise to realize formulated strategic aims and to react to the changes occurring on the market and in the environment of the company (Brdulak 2015, p. 65)

The financial statement and activity report are the most important elements of the annual report. The former presents the material situation and the financial result of an entity on the bases on the balance sheet, loss and profit account, additional information as well as a presentation of changes in equity capital and cashflow account. The latter describes the activity of the issuer within the period covered by the annual report and the rules of making an annual financial statement.

According to the Accounting Act (Article 49.2), in the activity report, entities should report on the risk factors and describe the threats they are exposed to. Entities identify risk kinds on their own.

#### **4. RESEARCH METHODOLOGY**

The first stage of research study comprising the reports of the WIG-20 companies (dated 31.07.2016) from the WSE Main Market in Warsaw indicates that companies report various kinds of risk. Among the analyzed companies from the industrial sector (4 companies), services (10) and finance (6), only four companies identify human capital-related risk. The companies doing it belong to the sector of services: Asseco, Orange, PGE and ENEA. Asseco, a company from the IT sector, indicates the biggest number of kinds of risk related to human capital. On the basis of the first stage of research, it can be concluded that choosing IT companies as the object of research is justified, since they are exposed to human capital-related risk to a greater extent than other companies.

During the next stage of research, non-probability sampling was conducted – WIG-INFO companies from the WSE Main Market. The sector index comprises 27 companies. The latest annual reports for 2015 will be analyzed. The research study is based on the combination of the contents analysis method and the method of morphological analysis of the management operations reports of the analyzed companies, which, according to the Accounting Act, should contain the indication of potential risk factor and the description of possible threats in the area of economic operation of the entity.

In the paper, the normative method is implemented, which is in accordance with the statement by Ijiri who stresses that the aim of the normative approach is to highlight the areas where the changes are most required and in which they are doable (Ijiri, 1975, p. 78). It is assumed that the main aim of achievements measurement is the informative function in relation to various groups of stakeholders. The identification of human capital-related risk and its influence on the entity activity should become one of the basic areas of interest in an IT company.

Reporting the information on undertaken actions related with human capital-related risk proves the organization maturity in planning its development in the future.

#### 4.1 KINDS OF EMPLOYEES-RELATED RISKS INDICATED IN THE ACTIVITY REPORT WIG IT COMPANIES

The research study comprised 27 WIG-INFO companies. The main areas of their activity include: computer system designing services, custom computer programming services, computer system design, data publication and transmission on the Internet, administrating websites. In the researched companies, employment varies greatly: two companies employ up to 9 persons, one – 38, and 12 companies – from 50 to 250. The others employ more than 250 workers. The biggest company is Comarch, employing 3339 persons. All companies are viable.

For many of them, human capital is the source of their competitive advantage and the main development factor. It is attested by the following statements included in the activity report:

- “market success depends on the possibility of acquiring and keeping highly qualified management and key workers”;
- “key workers and management constitute important value for a company”;
- “Human resources and competences are one of the most important success factor. Highly qualified specialists constitute main value of know-how companies”;
- “In a services company, human resources are the most valuable asset”;
- “Activity success and development prospects depend on the knowledge and experience of qualified workers”.

As required by the Accounting Act, all companies conduct the evaluation of operational risk and in the activity report they present a description of threats resulting from particular kinds of risk. Companies identify from a few to several kinds of risk. The analysis of the reports for 2015 showed that among the areas of operational risk, 25 researched companies identify human capital-related risk, which constitutes 92% of the total number of companies included in WIG-INFO. Two companies are not afraid of human capital-related risk. A detailed analysis allowed for indicating a few kinds of risk related to employees noticed by the companies (Table 1).

*Table 1: Kinds of risk related to human capital identified by the researched companies (compiled on the basis of the activity report WIG IT companies)*

Kinds of human capital-related risk	% of indications
Risk of losing key partners and management	76
Risk related to acquiring an appropriate number of qualified employees	32
Risk of appropriate competences inside the organization	12
Risk of the security of the information possessed by employees	8

*\*The entities listed more than one kind of risk, therefore, the sum is not equal to 100%.*

On the basis of the conducted analysis of activity report contents, it can be concluded that the biggest percentage of companies are afraid of losing key employees and management (72%). The risk of inappropriate amount of human capital is related not only to losing employees, but also to difficulties recruiting persons possessing appropriate knowledge, experience and qualifications (32%). The necessity of employing persons who have to be accustomed and trained means risk of creating competence gaps (12%). The risk of security of the information possessed by employees is the smallest one, while the risk of human mistakes did not occur. The companies did not notice the risk of not using human potential of the organization. They

do not think that not using fully high employees' competences lead to specialists leaving the enterprise.

The most important causes contributing to the occurrence of human capital risk noticed by the analyzed companies are as follows:

- big competition in acquiring highly qualified employees,
- lack of graduates with appropriate competences,
- the development of IT services and growing demand for IT specialists.

#### **4.2 THE THREATS RESULTING FROM THE OCCURRENCE OF HUMAN CAPITAL RISK AND WAYS OF REDUCING IT**

Risk concerning the loss of employees or difficulties in acquiring and keeping them may result in arising the threats for the company activity in the short run and in the long one. In the group of companies which identify the human capital risk, as many as 93% lists many threats related to the occurrence of the risk at issue. Some of the researched companies describe which actions are undertaken in order not to allow human capital risk to occur. The identified threats are related to the functioning of a company both in the short run and in the long one. The results of the research are presented in Table 2.

*Table 2: Threats for activity resulting from the occurrence of human capital risk (compiled on the basis of the activity report WIG IT companies)*

Kinds of threat	% of indications
Negative influence on operational activity and financial results	36
Realized projects delays	32
Risk of lowering quality and range of services	20
Influence on company development prospects	20
Temporarily lower labor effectiveness	12
Delays in the realization of own products	12
Negative influence on relations with important clients	0,4
Long-lasting process or recruitment and accustomization of new persons	0,4
Loss of important clients	0,4

*\*The entities listed more than one kind of threat, therefore, the sum is not equal to 100%.*

The biggest percentage share of companies is afraid that the occurrence of human capital risk will have a negative influence on their operational activity and financial results. The risk will cause an increase in costs, mainly labor costs. Furthermore, there can be a decrease in income caused by delays in the realization of projects. The labor costs increase may result from the increase of salaries and benefits offered to employees. The costs may also be generated by the recruitment and selection process as well as by work accustomization and trainings costs. A

high percentage share (32%) of companies is afraid of delays in the realization of projects caused by the lack of appropriate specialists. The delays will affect not only the financial results, but also the reputation of the company. The lack of an appropriate number of key employees results in the threat of lowering the quality and range of offered services (20%). The other threats may influence the company development prospects (20%). The necessity of new employees' accustomization and training causes temporarily lower effectiveness and simultaneously results in delays in the realization of own products. As for other threats, attention was paid to the negative influence of human capital risk on the relations with clients and the occurrence of the threat of losing important clients. These threats result from the occurrence of the previously mentioned ones, i.e. delays in the realization of services, lower quality and smaller range of services.

Approximately 50% of researched companies mention the methods used in order to prevent and reduce the risk of key employees loss, such as:

- motivational actions of both financial and extra-financial character, for instance, creating the possibility of improving qualification by attending trainings,
- creating good working conditions,
- labor market monitoring,
- offering competitive salaries,
- bonus systems, non-wage benefits increasing employees' involvement,
- building a relation between the organization and employees,
- creating and maintaining high organizational culture.

The activities mentioned by the researched companies may be described as actions towards avoiding risk. They are mostly activities causing an increase of operational costs, such as creating good working conditions, labor market monitoring and offering as much as possible competitive salaries. Such activities are of long-term character and they should lead to avoiding risk related to inappropriate amount of human capital and the risk of employees' recruitment and accustomization. The bonus systems, non-wage benefits and creating development conditions by offering trainings will cause the reduction not only of losing employees but also that of competence gaps.

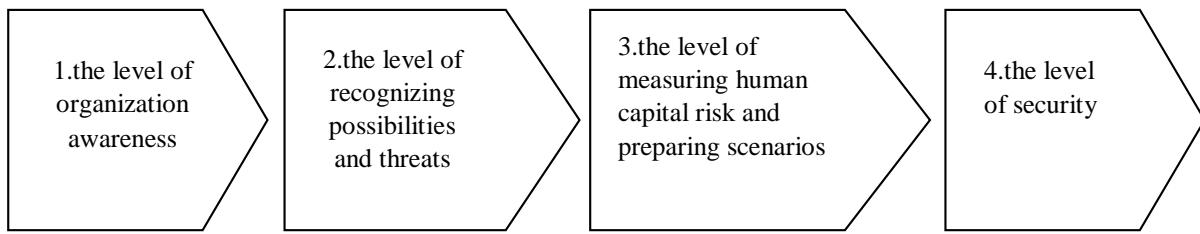
Other activities, not generating costs, but also effective in reducing human capital risk, include building relation between the organization and the employee as well as creating and maintaining high organizational culture.

The enterprises informing stakeholders on their actions related to reducing human capital risk acknowledge the importance of human capital in their activity, at the same time explaining the causes of high labor costs. The enterprises which do not inform on their actions may not undertake them or may not inform on them, since this aspect is not required by law. It cannot be excluded that they do not take any actions to reduce the human capital risk. They may consciously take risk-involving actions concerning human capital. For instance, reducing labor costs, they employ workers on the contractual basis or they use self-employed ones. Such actions are effective in the short run, but they involve high risk of employees leaving.

## **5. THE METHODOLOGY OF DIAGNOSIS AND ANALYSIS OF HUMAN CAPITAL RISK**

Every enterprise should develop own methodology concerning the human capital risk. Many internal factors will condition the way of behaving and the undertaken activities. First, they will depend on the realized development strategy, financial conditions, quality and amount of human capital possessed at a given time. Second, they will be related to the possessed knowledge on own needs in the area of human capital. The methodology of conduct is

conditioned by the level of maturity of a given organization in terms of its awareness of the role and threats related to human capital (fig.1).



*Figure 1. The levels of maturity of measuring human capital risk*

The following levels of maturity in the sphere of human capital issues may be distinguished:

1. the level of organization awareness, at which:

- the enterprise possesses knowledge on current and future needs in the area of human capital: amount, quality, competences, etc.,
- it determines which level of labor costs it is willing to allocate for achieving a required security in the area of realized activities.

2. the level of recognizing possibilities and threats, at which the following actions take place:

- identifying key positions and key employees,
- developing the employees' opinion research system,
- designing a system of evaluating employees,
- monitoring the labor market and the company environment.

3. the level of measuring human capital risk and preparing scenarios depending on the kind of identified risk, at which the indicators of measuring risk are proposed:

- They may comprise: rotation indicator, human-capital investment return indicator, clients satisfaction indicator. One should conduct systematically a quantitative and qualitative measurement of employees. If the level of indicators deviates from the set norm, the developed procedures should be implemented.

4. the level of security, at which the organization has such a personnel policy that substitute staff for key positions.

All the time one should monitor the changes in the market environment as well as labor market. A modern enterprise has to be able to react flexibly to the threats which occur.

## 6. CONCLUSION

In the activity report, the IT companies registered in WSE in Warsaw identify the human capital-related risk. The diagnosed risk areas comprise the risk of losing key workers and management as well as the risk of acquiring an appropriate number of employees with required qualifications. The threats resulting from the risk at issue concern operational activity and financial results. Many companies are afraid of quality deterioration and image loss. The human capital-related risk is perceived from a strategic perspective since the future development of an enterprise depends on the key employees and management.

On the basis of the information contained in the activity report, a prospective stakeholder is not able to determine which attitude the enterprise will have towards the human capital-related risk. Only approximately half of the enterprises report which actions are undertaken in order to human capital-related risk. These are mainly costs instruments, for instance, offering competitive working conditions and salary. A some of the researched companies mentions building involvement by means of extra-financial instruments. Such companies try to avoid human capital risk using personnel policy focused on keeping key employees and developing their qualifications.

The enterprise, which only mentions the human capital-related risk among several other kinds of risk, may consciously undertake actions increasing this risk. Personnel policy oriented towards short-time effectiveness, i.e. lower labor costs and short-term agreements or contracts, involves a higher risk of employees rotation. One often does not take into account future costs of recruitment, training and accustomization of new employees, focusing only on the current costs of a given period.

Reporting should become a source of information not only on financial results, but also on the prospects of the development in the future. Reporting the information on human capital of the organization as well as on the actions related to human capital risk management may contribute to the perception of enterprises as responsible employers who take care of the quality of the services they render and clients' satisfaction. Developing internal methodology of identification, measurement, tools and management of human capital risk by each enterprise is necessary for determining actions in the area of personnel policy, labor costs and enterprise effectiveness both in the short run and in the long one.

## LITERATURE:

1. Bagieńska, A. (2015). Measurement and analysis of the efficiency of human capital in small enterprise in Poland, (p. 1-9). *e-finanse* Vol. 11, nr 2.
2. Bochniarz P., Gugała K. (2005). Budowanie i pomiar kapitału ludzkiego w firmie. Warszawa: Poltext.
3. Brdulak J. (2015). Problem pomiaru kapitału ludzkiego z perspektywy zarządzania wiedzą, In L. Sienkiewicz (ed.), *Pomiar kapitału ludzkiego przedsiębiorstwa – perspektywy badawcze* (p.59-73). Warszawa: PARP.
4. Gołembksi, M. (2015). Parametryzacja funkcji personalnej jako narzędzie zarządzania ryzykiem kadrowym. *Zeszyty Naukowe Uniwersytetu Szczecińskiego* nr 855, „*Finanse, Rynki Finansowe, Ubezpieczenia*” nr 74, t. 1, (pp. 523–532). Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego. Retrieved 10.07.2016 from <http://www.wneiz.pl/frfu>.
5. Habelman J. (2014), Ocena ryzyka w rachunkowości na przykładzie Zarządu Morskich Portów Szczecin i Świnoujście SA, *Zeszyty Naukowe Uniwersytetu Szczecińskiego* nr 827, „*Finanse, Rynki Finansowe, Ubezpieczenia*” nr 69, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin, (p. 37–47); Retrieved 25.07.2016 from [www.wneiz.pl/frfu](http://www.wneiz.pl/frfu).
6. Ijiri Y. (1975). Theory of Accounting Measurement, *Accounting Research Studies*, No.10.
7. Juchnowicz M. (2016). *Elastyczne zarządzanie kapitałem ludzkim z perspektywy interesariuszy*. Warszawa: PWE.
8. Karmańska, A., Bareja K. (2015). Pomiar i raportowanie kapitału ludzkiego z perspektywy rachunkowości – analiza potencjału dotychczas stosowanych rozwiązań, ich barier i ograniczeń oraz możliwości wprowadzania nowych narzędzi. In L. Sienkiewicz (ed.), *Pomiar kapitału ludzkiego przedsiębiorstwa – perspektywy badawcze* (p.125-153). Warszawa: PARP.
9. Kierner, G. (2008). Bezpieczeństwo osobowe. In I. Staniec, J. Zawiła- Niedźwiecki, *Zarządzanie ryzykiem operacyjnym* (p.159-174). Warszawa: Wydawnictwo C.H. Beck.
10. Lipka, A. (2002). *Ryzyko personalne. Szanse i zagrożenia zarządzania zasobami ludzkimi*. Warszawa: Wydawnictwo Poltext.
11. Maniak G. (2008). *Strategia personalna a strategia rozwoju firmy*, Uniwersytet Szczeciński, Retrieved 25.05.2015 from <http://www.konferencja.edu.pl/ref8/pdf/pl/Maniak-Szczecin.pdf>

12. Staniec, I., Zawiła-Niedźwiecki, J. (2015). *Ryzyko operacyjne w naukach o zarządzaniu*. Warszawa: Wydawnictwo C.H. Beck.
13. Śnieżek E. (2014). Społecznie odpowiedzialne przedsiębiorstwo przyszłości w kontekście ponadczasowych przemyśleń prof. Elżbiety Burzym. *Zeszyty Teoretyczne Rachunkowości* tom 76 (137).
14. *The Act of 29 September 1994 on accounting* (Journal of Laws of 2002 No. 76, item 694, as amended).
15. Zawiła-Niedźwiecki, J. (2013). *Zarządzanie ryzykiem operacyjnym w zapewnianiu ciągłości działania organizacji*. Warszawa : Wydawnictwo edu-Libri.

## CORPORATE REPUTATION INDEX – EMPIRICAL RESEARCH IN THE FOOD SECTOR

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### **ABSTRACT**

*This paper empirically investigates reputation of seven major Croatian companies in the food sector, largest in terms of total revenue. The survey was conducted in the Republic of Croatia on the working age population that uses the Internet. In this study, we tried to answer the question which of the six categories of the corporate reputation quotient stakeholders consider the most valuable, and whether this created value can become a source of competitive advantage.*

**Keywords:** corporate reputation, reputation quotient, stakeholders, management

### **1. INTRODUCTION**

In today's turbulent environment characterised by uncertainty, risks in business and very strong competition, corporate reputation is a valuable intangible asset that represents a source of differentiation and sustainable competitive advantage, and creates additional barriers to competitors. In this paper, we try to emphasise the value of reputation as an intangible asset, particularly because once built, reputation can neither be imitated by competitors nor built in a short period of time. The first part of the paper is focused on the theoretical framework for reputation and instruments used for measuring corporate reputation. The second part is dedicated to empirical research on reputation carried out on seven major Croatian companies in the food sector, largest by total revenue.

### **2. THEORETICAL FRAMEWORK FOR CORPORATE REPUTATION**

Due to extremely strong competition and high risks in relation to doing business, companies need to focus on some new elements in order to be able to create value added and sustainable competitive advantage. A long-term competitive advantage, and thus the success of the company, depends on the resources a company has, and as such, they are more or less unique to each company. Many authors have dealt with reputation and offered numerous definitions. Fombrun (1996) defines corporate reputation as a perceptual representation of a company's past actions and future prospects that describe the firm's overall appeal to all its key constituents when compared to other leading rivals (Fombrun, 1996, p. 241). Many authors have tried to define corporate reputation, including Davies and Miles (1998), who define corporate reputation as the external stakeholders' perception of the organisation (Davies and Miles, 1998, p. 19). Reputation refers to the associations of external stakeholders with the company, and the question arises as to what stakeholders actually think of the company (Brown et al., 2006, p. 99).

Reputation is still defined as a stakeholder's overall evaluation of a company over time done by stakeholders (Gotsi and Wilson, 2001, p. 28). The company must establish and maintain good relationships with all stakeholders for the purpose of creating valuable intangible assets, which are essential to achieving competitive advantage. Corporate reputation helps companies to attract, retain and increase loyalty of employees and customers, and as a factor in competitive advantage, it also helps the company to attract new investors (Hillman and Keim, 2001, p. 129). Corporate reputation is defined by means of two dimensions of corporate efficiency: (i) assessment of the company's economic value, and (ii) corporate social responsibility performance evaluation (Fombrun and Van Riel, 1997, p. 7). Today, the total market value of intangible assets of individual companies can reach up to 90% of the company's total assets.

Reputation of management, owners and key personnel in the company affects corporate reputation. Studies emphasise the importance of leader reputation when determining corporate reputation to such an extent that leader reputation constitutes up to 48% of corporate reputation (Grupp and Gaines-Ross, 2002, p. 22). This is exemplified by Apple, where the importance of leader reputation management in terms of credibility, integrity and communication is stressed. Industry reputation or reputation of an industrial sector also affect corporate reputation, thus making companies that are not competitive enough benefit therefrom. Good industry reputation is in most cases the result of several companies doing business well, which affects all companies within that industry. State reputation also affects corporate reputation, and that includes the effect of “Made in ...” (Mahon, 2002, p. 440).

Reputation cannot be bought, i.e., it must be acquired, but reputation can also be lost at any time. Understanding the importance of corporate reputation as an intangible asset and an interest in reputation itself arise when it is established that it is a source of competitive advantage that the organisation has on the market, or if reputation is good, it can be a source of sustainable competitive advantage of the organisation (Grgić, 2008). According to Tomšić, corporate reputation is a relational concept that relates the company and its relationships with the environment. She emphasises that reputation has all the characteristics of strategic resources, and that, in addition to human capital, it is the most valuable intangible asset of any company that can provide competitive and positional advantage. By means of corporate reputation, a company can accurately see its history, current market reflection and internal state, as well as sum up everything known about the company. Reputation also represents a fundamental link between the company and its stakeholders. (Tomšić, 2012). Stakeholders have requirements, ownership, rights and interests in the company and in its activities, in the past, at present and in the future (Grgić, 2008). According to Grgić, reputation is nothing else but display of the results of corporate behaviour in the past and the results describing the current company's ability.

### 3 CORPORATE REPUTATION MEASURING INSTRUMENTS

#### 3.1. Estimates of specialised journals

Research on corporate reputation started in the 1950s, but it was in the 1980s that company leaders recognised the need for building and maintaining reputation. The first empirical estimates of reputation entitled America's Most Admired Companies were made by Fortune Magazine, and the study was initiated in 1983. Due to the lack of other or better ways of measuring reputation, from the standpoint of the profession, that way was estimated as the best way of measuring reputation. Fortune Magazine developed a measuring instrument where financial analysts and executives are asked to evaluate companies based on eight characteristics: (i) financial soundness, (ii) value as a long-term investment, (iii) wise use of corporate assets, (iv) innovativeness, (v) ability to attract, develop and keep talented people, (vi) quality of products and services, (vii) quality of management, and (viii) community and environment responsibility (Sarstedt et al., 2013, p. 331). This study and survey of Fortune magazine are used to determine the ranking of America's most admired corporations. The existing measuring

instrument is supplemented with additional parameters such as employment of women and minorities, social awareness and environment concern. The popularity of long-term research has prompted many regional publications to imitate the methodology and make lists of companies from Europe and Asia, as well as country-specific lists, such as England, France, Germany and Austria.

### **3.2. Reputation Quotient**

Unlike other measuring instruments that measure only one dimension of reputation, Reputation Quotient measures multiple perspectives of corporate reputation. The perception of the reputation of a company may vary across different stakeholder groups, depending on their economic, social and personal views. In contrast to the assessments in specialized magazines which are based on the opinion of managers, Reputation Quotient takes a broader perspective taking into account the assessment of several stakeholder groups, such as consumers, employees and investors (Alsop, 2006, p. 30).

Fombrun et al. (2000) developed an instrument for measuring reputation called the Reputation Quotient. His model has six reputation dimensions describing stakeholder perceptions about a company. They are as follows:

- (i) emotional appeal – being an organisation that people feel good about, admire and respect; being trustworthy;
- (ii) products and services – offers quality products and services; develops innovative products; stands behind its products and services, offers products and services that are good value for money;
- (iii) vision and leadership – recognizes and takes advantage of market opportunities; has excellent leadership and a clear vision for the future;
- (iv) social and environmental responsibility – supports good causes; is socially and environmentally responsible; maintains high standards in the way it treats people;
- (v) workplace environment – is well managed; looks like a good company to work for; looks like it has good employees;
- (vi) financial performance – has a strong record of profitability; looks like a low risk investment; has strong prospects for future growth (Fombrun et al., 2000, p. 243).

### **3.3. Corporate personality scale**

Markham (1972) suggested the use of corporate personality and a corporate personality scale to compare the reputation of a company with that of its competitors. He used scales with opposing values such as effective-ineffective, open-closed, sincere-insincere, flexible-rigid, in order to assess the perception of the reputation of a company (Chen and Otubanjo, 2013, p. 336). The perception of different stakeholders can be compared including the dimensions constituting competitive advantage, such as quality, reliability, professionalism, cooperation and social responsibility. The issue of the company's openness is found essential in the research and stakeholders link it to corporate ethics (Pinguelo et al., 2010, p. 96).

Development of this method led to the creation of a scale similar to the scale used in the study of human personality. The corporate personality scale contains seven dimensions and is based on corporate personality.

### **3.4. Schwaiger's reputation model**

Previous methods for measuring corporate reputation are based on cognitive aspects of respondents, and if further research on corporate reputation needs to be conducted, affective aspects must be investigated as well. Six elements were identified that describe both the cognitive and the affective component of reputation. The list of those elements is as follows:

- (i) likeability, (ii) competence, (iii) quality, (iv) performance, (v) responsibility, and (vi)

attractiveness (Zhang and Schwaiger, 2009). In his model, Schwaiger divides reputation into two components, i.e., the affective and the cognitive component. The affective component is determined by the following points:

- (i) “(company name) is a company I can identify with better than with other companies”;
- (ii) “(company name) is a company I would regret more if it didn’t exist anymore than I would with other companies”;
- (iii) “I regard (company name) as a likeable company”.

The cognitive dimension of reputation is reflected in the following:

- (i) “(company name) is a top competitor in its market”;
- (ii) “As far as I know, (company name) is recognized world-wide”;
- (iii) “I believe that (company name) performs at a premium level”.

The aforementioned six elements are ranked on a 7-point scale. All indicators are then summed up to give a value index for competence and likeability. This research study focuses on corporate reputation and financial performance.

## 4. RESEARCH

### 4.1. Research methodology

A review of literature and scientific articles was conducted to identify the relevant instruments for measuring corporate reputation. For the purpose of the present research, a reputation scoring methodology called the Reputation Quotient, developed by Fombrun et al., has been used. This methodology was proposed in 1999 by the Reputation Institute and Harris Interactive as a standard for measuring corporate reputation.

Using the Reputation Quotient the paper explores the reputation of seven largest Croatian companies in the food sector. The companies have been selected from the top 400 as published in the Croatian business and finance monthly - Privredni vjesnik, based on the data provided by the Croatian Chamber of Commerce. Computer Assisted Web Interviewing (CAWI) survey was conducted in the period from 19 April to 1 May 2016. Respondents were selected randomly from a database of e-mail addresses. The link to the survey was sent to every fifth e-mail address in the database, containing a total of 5,000 addresses, thus creating a sample of 1,000 respondents. 204 individuals have completed the questionnaire and sent it back, which accounts for 20.40% of the total sample.

The first section of the questionnaire contains questions about the socio-demographic profile of respondents, i.e. sex, age, level of education, employment status, years of experience, monthly income, and place of residence. The second section of the questionnaire with a total of twenty questions contains the measuring instrument - Reputation Quotient, composed of six dimensions. Respondents were asked to indicate their level of agreement on a 5-point scale, with 1 being “strongly disagree” and 5 being “strongly agree”.

*Table 1. Cronbach's Alpha reliability coefficient (calculated by authors)*

Cronbach's Alpha	N of items
.993	140

The Alpha coefficient (Table 1) is 0.993 suggesting that the items have high internal consistency. High reliability indicates that selected items are acceptable for measurement of the construct corporate reputation.

The Shapiro-Wilk normality test was used to check the distribution. It showed that none of the parameters were normally distributed, Sign. = 0.000.

This is concluded because the significance level is less than  $\alpha=0.05$  (Sig. <0.05), i.e. the significance level of all variables is  $\sim 0.000$ . Therefore, the assumption of normal distribution of data can be rejected.

*Table 2. Research instrument description (developed and calculated by authors)*

Item	Total Dukat	Total Franck	Total Kraš	Total Ledo	Total PIK Vrbovec	Total Podravka	Total Vindija
<b>Emotional Appeal</b>	3.45	3.85	4.01	3.87	3.29	3.74	3.62
<b>I have a good feeling about the company</b>	(1.150)	(1.037)	(1.114)	(1.138)	(1.127)	(1.215)	(1.154)
<b>I admire and respect the company</b>	3.04	3.33	3.62	3.45	3.03	3.38	3.25
	(1.221)	(1.143)	(1.251)	(1.249)	(1.168)	(1.264)	(1.183)
<b>I trust this company</b>	3.28	3.63	3.89	3.62	3.22	3.50	3.42
	(1.250)	(1.182)	(1.196)	(1.204)	(1.146)	(1.285)	(1.207)
<b>Products and Services</b>	3.46	3.74	3.94	3.75	3.46	3.79	3.62
<b>Stands behind its products and services</b>	(1.176)	(1.105)	(1.123)	(1.163)	(1.192)	(1.145)	(1.174)
<b>Develops innovative products and services</b>	3.27	3.50	3.89	3.88	3.20	3.73	3.36
	(1.172)	(1.121)	(1.137)	(1.203)	(1.088)	(1.132)	(1.067)
<b>Offers high quality products and services</b>	3.50	3.83	4.07	3.91	3.49	3.86	3.64
	(1.164)	(1.085)	(1.067)	(1.065)	(1.057)	(1.074)	(1.112)
<b>Offers products and services that are good value for money</b>	3.27	3.46	3.60	3.46	3.24	3.49	3.46
	(1.171)	(1.093)	(1.130)	(1.137)	(1.098)	(1.112)	(1.089)
<b>Vision and Leadership</b>	3.18	3.37	3.49	3.40	3.22	3.15	3.25
<b>Has excellent leadership</b>	(1.110)	(1.152)	(1.151)	(1.181)	(1.133)	(1.297)	(1.165)
<b>Has a clear vision for the future</b>	3.27	3.46	3.61	3.53	3.34	3.37	3.33
	(1.116)	(1.089)	(1.146)	(1.185)	(1.123)	(1.227)	(1.108)
<b>Recognises and takes advantage of market opportunities</b>	3.31	3.49	3.68	3.69	3.42	3.47	3.38
	(1.149)	(1.129)	(1.179)	(1.191)	(1.118)	(1.168)	(1.101)
<b>Workplace Environment</b>	3.29	3.44	3.60	3.51	3.31	3.24	3.34
<b>Is well-managed</b>	(1.088)	(1.167)	(1.164)	(1.172)	(1.152)	(1.257)	(1.136)
<b>Looks like a good company to work for</b>	3.26	3.61	3.77	3.56	3.16	3.31	3.31
	(1.202)	(1.167)	(1.183)	(1.212)	(1.226)	(1.289)	(1.186)
<b>Looks like a company that would have good employees</b>	3.50	3.65	3.79	3.66	3.52	3.53	3.60
	(1.125)	(1.088)	(1.087)	(1.127)	(1.080)	(1.129)	(1.116)
<b>Social and Environmental Responsibility</b>	3.38	3.46	3.60	3.43	3.32	3.57	3.40
<b>Supports good causes</b>	(1.149)	(1.111)	(1.130)	(1.118)	(1.120)	(1.127)	(1.103)
<b>Is an environmentally responsible company</b>	3.24	3.32	3.34	3.30	3.15	3.40	3.32
	(1.121)	(1.119)	(1.113)	(1.103)	(1.104)	(1.103)	(1.116)
<b>Maintains high standards in the way it treats people</b>	3.23	3.48	3.51	3.42	3.21	3.26	3.24
	(1.157)	(1.138)	(1.129)	(1.139)	(1.123)	(1.226)	(1.159)
<b>Financial Performance</b>	3.63	3.73	3.81	3.85	3.54	3.66	3.49
<b>Has a strong record of profitability</b>	(1.064)	(1.018)	(1.073)	(1.079)	(1.009)	(1.119)	(1.067)
<b>Looks like a low risk investment</b>	3.26	3.45	3.53	3.47	3.20	3.30	3.22
	(1.109)	(1.137)	(1.142)	(1.155)	(1.111)	(1.206)	(1.159)
<b>Tends to outperform its competitors</b>	3.28	3.57	3.86	3.88	3.24	3.56	3.28
	(1.223)	(1.195)	(1.183)	(1.203)	(1.168)	(1.216)	(1.168)
<b>Looks like a company with strong prospects for future growth</b>	3.38	3.63	3.84	3.74	3.44	3.61	3.46
	(1.078)	(1.081)	(1.113)	(1.117)	(1.065)	(1.213)	(1.124)

Women make up 66.7% of the total number of respondents. The majority of respondents, i.e. 61.30% are between 21 and 30 years old. As for education, 66.20% have completed secondary school.

Table 2 shows the mean scores for all seven companies covered by the survey. Kraš (confectionery manufacturer) has the greatest number of items with the highest mean scores. Kraš also scored highest (4.07) for item “offers high quality products and services” while Dukat (dairy products manufacturer) earned the lowest mean score for item “I admire and respect the company”.

*Table 3. Mean scores by item groups (calculated by authors)*

Item	Total Dukat	Total Franck	Total Kraš	Total Ledo	Total PIK Vrbovec	Total Podravka	Total Vindija
<b>Emotional Appeal</b>	3.26	3.60	3.84	3.65	3.18	3.54	3.43
<b>Product and Services</b>	3.38	3.63	3.88	3.75	3.35	3.72	3.52
<b>Vision and Leadership</b>	3.25	3.44	3.59	3.54	3.33	3.33	3.32
<b>Workplace Environment</b>	3.35	3.57	3.72	3.58	3.33	3.36	3.42
<b>Social and Environmental Responsibility</b>	3.28	3.42	3.48	3.38	3.23	3.41	3.32
<b>Financial Performance</b>	3.39	3.60	3.76	3.74	3.36	3.53	3.36
<b>Overall mean score:</b>	3.32	3.54	3.71	3.61	3.30	3.48	3.40

As shown in Table 3, Kraš scored highest in all item groups and an earned an overall mean score of 3.71.

PIK Vrbovec (meat products manufacturer) with an overall mean score of 3.30 ranked lowest according to respondent preferences.

#### **4.2. Research hypothesis**

The survey population includes Croatian nationals aged 18 to 65, i.e. working-age Internet users. Respondents have been divided by sex, education level and age to enable the comparison of the evaluation of important attributes of corporate reputation.

The survey aims to test the following hypothesis:

**H1:** There is a difference in valuation of the key parameters of corporate reputation according to sex, age and level of education of the respondents.

The Kruskal - Wallis test which is based on the observation rankings from samples will be used in SPSS. The null hypothesis assumes that population means are identical for all population groups. To test the null hypothesis, respondents were divided by sex, education and age.

The test results show that at statistically significant coefficient levels there is a statistically significant difference between key parameters of corporate reputation related to sex of the respondents. They are as follows:

- Franck – I have a good feeling about the company with confidence level at Sig.=0.02
- Kraš – I have a good feeling about the company with confidence level at Sig.=0.027
- Ledo – I have a good feeling about the company with confidence level at Sig.=0.012
- PIK Vrbovec – stands behind its products and services with confidence level at Sig.=0.044
- Franck – develops innovative products and services with confidence level at Sig.=0.007
- Kraš – develops innovative products and services with confidence level at Sig.=0.02

- Ledo – develops innovative products and services with confidence level at Sig.=0.012
- Kraš – has a clear vision for the future with confidence level at Sig.=0.044
- PIK Vrbovec – has a clear vision for his future with confidence level at Sig.=0.045
- Kraš – recognises and takes advantage of market opportunities with confidence level at Sig.=0.004
- Kraš – has excellent leadership with confidence level at Sig.=0.003
- Kraš – looks like a good company to work for with confidence level at Sig.=0.014
- Ledo – looks like a good company to work for with confidence level at Sig.=0.031
- Kraš – looks like a company that would have good employees with confidence level at Sig.=0.015
- PIK Vrbovec – looks like a company that would have good employees with confidence level at Sig.=0.038
- Dukat – supports good causes with confidence level at Sig.=0.035
- Dukat – supports good causes with confidence level at Sig.=0.035
- Franck – supports good causes with confidence level at Sig.=0.015
- Kraš – supports good causes with confidence level at Sig.=0.03
- Ledo – supports good causes with confidence level at Sig.=0.018
- PIK Vrbovec – supports good causes with confidence level at Sig.=0.041
- Podravka – supports good causes with confidence level at Sig.=0.044
- Franck – maintains high standards in the way it treats people with confidence level at Sig.=0.036
- Kraš – maintains high standards in the way it treats people with confidence level at Sig.=0.031
- Ledo – maintains high standards in the way it treats people with confidence level at Sig.=0.041
- PIK Vrbovec – maintains high standards in the way it treats people with confidence level at Sig.=0.001
- Dukat – has a strong record of profitability with confidence level at Sig.=0.034
- Kraš – has a strong record of profitability with confidence level at Sig.=0.008
- Ledo – has a strong record of profitability with confidence level at Sig.=0.002
- PIK Vrbovec – has a strong record of profitability with confidence level at Sig.=0.016
- Podravka – has a strong record of profitability with confidence level at Sig.=0.041
- Dukat – tends to outperform its competitors with confidence level at Sig.=0.022
- Kraš – tends to outperform its competitors with confidence level at Sig.=0.003
- Ledo – tends to outperform its competitors with confidence level at Sig.=0.003
- Dukat – looks like a company with strong prospects for future growth with confidence level at Sig.=0.012
- Franck – looks like a company with strong prospects for future growth with confidence level at Sig.=0.008
- Kraš – looks like a company with strong prospects for future growth with confidence level at Sig.=0.000
- Ledo – looks like a company with strong prospects for future growth with confidence level at Sig.=0.001
- Podravka – looks like a company with strong prospects for future growth with confidence level at Sig.=0.022

Statistically significant differences were found between different age groups in the following key parameters of corporate reputation:

- Ledo – I have a good feeling about the company with confidence level at Sig.=0.013
- Ledo – develops innovative products and services with confidence level at Sig.=0.033

- Podravka – has a clear vision for the future with confidence level at Sig.=0.027
- Podravka – tends to outperform its competitors with confidence level at Sig.=0.049

A statistically significant difference was found between groups with different level of education in the following key parameters of corporate reputation:

- Ledo – I have a good feeling about the company with confidence level at Sig.=0.049
- Podravka – stands behind its products and services with confidence level at Sig.=0.015
- Ledo – offers high quality products and services with confidence level at Sig.=0.041
- Podravka – offers products and services that are good value for money with confidence level at Sig.=0.046

*Table 4. Post-hoc Mann-Whitney test for different groups (statistically significant differences)  
(developed and calculated by authors)*  
*[Continues on the next page]*

ITEM	GROUPS	MANN-WHITNEY U	ASYMP. SIG. (2-TAILED)
Ledo – I have a good feeling about the company	Age – 21 - 30 and 31-40	1401.00	0.023
Ledo – I have a good feeling about the company	Age – 21 - 30 and 41-50	526.00	0.003
Ledo – I have a good feeling about the company	Level of education – primary education and Master's degree	0.50	0.046
Ledo – I have a good feeling about the company	Level of education – secondary education and Bachelor's degree	2641.00	0.045
Ledo - offers high quality products and services	Level of education – primary education and secondary education	69.00	0.04
Ledo – offers high quality products and services	Level of education – primary education and Bachelor's degree	24.00	0.04
Ledo - offers high quality products and services	Level of education – primary education and Master's degree	0.00	0.022
Ledo – develops innovative products and services	Aged up to 20 and 41 to 50	122.00	0.041
Ledo – develops innovative products and services	Aged 21 to 30 and 41 to 50	526.50	0.003
Ledo – develops innovative products and services	Aged 31 to 40 and 41 to 50	142.50	0.04
Podravka – has a clear vision for the future	Aged up to 20 and 51 to 60	43.50	0.031
Podravka – has a clear vision for the future	Aged 21 to 30 and 41 to 50	147.50	0.002
Podravka – has a clear vision for the future	Aged 41 to 50 and 51 to 60	22.50	0.028
Podravka – has a clear vision for the future	Aged 31 to 40 and 51 to 60	52.50	0.036

Podravka – stands behind its products and services	Level of education – primary education and dipl.ing.	0.000	0.018
Podravka – stands behind its products and services	Level of education – secondary education and university degree	92.00	0.019
Podravka – stands behind its products and services	Level of education – secondary education and Master's degree	369.50	0.041
Podravka – tends to outperform its competitors	Aged 21 to 30 and 31 to 40	1410.50	0.03
Podravka – tends to outperform its competitors	Aged 21 to 30 and 41 to 50	220.00	0.022
Podravka – offers products and services that are good value for money	Level of education – secondary education and university degree	82.50	0.014
Podravka – offers products and services that are good value for money	Level of education – secondary education and Master's degree	119.00	0.048

Post-hoc Mann-Whitney test has been used to determine exactly between which groups there is a statistically significant difference in the perception of the reputation parameters. Table 4 shows the results of the test and the reliability of the test by groups.

## 5. CONCLUSION

The paper examines the reputation of seven largest Croatian food companies, as measured by revenue. Research has shown that product users are the most important stakeholder group; however, one should by no means disregard the perspective of other groups. Furthermore, it was found that the quality of products and services and emotional appeal have the greatest impact on respondents.

A prerequisite for reputation management is reputation measurement using one of the methods mentioned in the paper. Reputation measurement allows for a more in-depth analysis of the reputation of a company with individual customers.

The research looks at the reputation of the following seven Croatian companies in the food sector: Dukat, Franck, Kraš, Ledo, Pik Vrbovec, Podravka and Vindija. The research results show not only that this subject matter has not yet been fully investigated and recognized by companies, but also that companies are not fully aware of its value. Kraš ranked highest with an overall mean score of 3.71. The remaining companies earned the following mean scores: Ledo 3.61, Franck 3.54, Podravka 3.48, Vindija 3.40, Dukat 3.32, and Pik Vrbovec ranked last with the lowest overall mean score of 3.30. Pik Vrbovec earned the lowest scores for most of the six categories of Reputation Quotient, except for the Vision and Leadership category, for which Dukat earned the lowest score, and for the Financial Performance category, for which Pik Vrbovec and Vindija scored the lowest.

The hypothesis **H1**, which assumed that there is a difference in valuation of the key parameters of corporate reputation according to sex, age and level of education of the respondents, can be confirmed because test results have shown that there is a statistically significant difference in the attitudes of the respondents according to their sex, age and level of education.

Post-hoc Mann-Whitney test has shown that a statistically significant difference in the perception of the parameters of corporate reputation exists between women and men.

It is to be expected that in the near future companies will realize the value of reputation and seek to build a strong positive reputation based on their own values, thus creating new value which can become a source of competitive advantage.

## LITERATURE:

1. Brown. T. J.. Dacin. P. A.. Pratt. M. G. and Whetten. D. A. (2006). Identity, intended image, construed image, and reputation: an interdisciplinary framework and suggested terminology. *Journal of the Academy of Marketing Science*. 34(2). 99–106.
2. Chun. R. (2005). Corporate reputation: Meaning and measurement. *International Journal of Management Reviews*. 7(2). 91-109.
3. Davies. G. and Miles. L. (1998). Reputation management: theory versus practice. *Corporate reputation review*. 2(1). 16–27.
4. Fombrun. C. and Van Riel. C. (1997). The reputational landscape. *Corporate reputation review*. 1(1). 5–13.
5. Fombrun. C. J. (1998). Indices of Corporate Reputation: An Analysis of Media Rankings and Social Monitors' Ratings. *Corporate Reputation Review* 1(4). 327-340.
6. Fombrun. C. J. and Rindova. V. (1996). *Who's tops and who decides? The social construction of corporate reputations* (Working paper) (str. 5–13). New York: Stern School of Business.
7. Fombrun. Charles; Gardberg. Naomi; Sever. Joy. 2000. The Reputation Quotient SM: A multi-stakeholder measure of corporate reputation. *Journal of Brand Management*. New York. 7.4:241-255.
8. Gotsi. M.. & Wilson. A. M. (2001). Corporate reputation: seeking a definition. *Corporate Communications: An International Journal*. 6(1). 24-30.
9. Grgić. D. (2008). Instrumenti mjerjenja reputacije poduzeća Tržište: časopis za tržišnu teoriju i praksu. 20(2). 231-249.
10. Grgić. D. (2008). TEORIJSKI OKVIRI REPUTACIJE PODUZEĆA. *Ekonomski pregled*. 59(5-6). 266-288.
11. Grgić. D. (2012). Indeks reputacije poduzeća: empirijsko istraživanje u bankovnom sektoru. *Tržište: časopis za tržišnu teoriju i praksu*. 24(1). 23-45.
12. Hillman. A. J. and Keim. G. D. (2001). Shareholder value. Stakeholder management and social issues: what's the bottom line? *Strategic management journal*. 22(2). 125–139.
13. Mahon. J. F. (2002). Corporate reputation research agenda using strategy and stakeholder literature. *Business & Society*. 41(4). 415-445.
14. Grupp. R. W.. & Gaines-Ross. L. (2002). Reputation management in the biotechnology industry. *Journal of Commercial Biotechnology*. 9(1). 17-26.
15. Sarstedt. M.. Wilczynski. P. and Melewar. T. C. (2013). Measuring reputation in global markets: a comparison of reputation measures' convergent and criterion validities. *Journal of world business*. 48(3). 329–339.
16. Alsop. R. J. (2006). *The 18 immutable laws of corporate reputation: creating, protecting and repairing your most valuable asset* (Paperback ed.). London: Kogan Page.
17. Fombrun. C. J.. Gardberg. N. A. and Sever. J. M. (2000). The Reputation Quotient<sup>SM</sup>: a multi-stakeholder measure of corporate reputation. *Journal of brand management*. 7(4). 241–255.
18. Chen. C. C. and Otubanjo. O. (2013). A functional perspective to the meaning of corporate reputation. *The marketing review*. 13(4). 329–345.
19. Pinguelo. F. M.. Cedrone. T. D. and Taylor. P. (2010). The reverse-morals clause: the unique way to save talent's reputation and money in a new era of corporate crimes and scandals. *Cardozo arts and entertainment law journal*. 28(1). 65–113.

20. Shamma. Hamed. 2000. Toward a comprehensive understanding of corporate reputation: Concept, measurement and implications.
21. Tomšić. Dina. 2015. Uloga korporativnog ugleda u izgradnji dinamičnih sposobnosti poduzeća. Doktorski rad. Ekonomski fakultet Sveučilišta u Zagrebu. Zagreb. p. 300
22. Zhang. Y.. & Schwaiger. M. (2009). An empirical research of corporate reputation in China. *Communicative Business*. (1). 80.

## HUMAN CAPITAL IN MODERN LEADERSHIP (RETROSPECTIVE LOOK AT THE IDEA OF KARL MARX)

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### **ABSTRACT**

*The article discusses the features of the transformation of the concept of human capital in the context of modern ideas about the development of socio-economic relations. The attention is paid to significant changes in the nature of human capital, which are influenced its further intellectualization and creativity. It also analyses the problems of human capital from the position of further perspective of alienation overcoming what at one time wrote Karl Marx. It analyses the social ideas of Alvin Toffler in the context of opposition of three waves of civilization in modern Ukraine. Results of the study of the essence of human capital give reason to believe: the role of managing the process of its development is extremely important.*

**Keywords:** alienation, cognitariat, human capital, leader, leadership.

### **1. INTRODUCTION**

Modern global world of information has become very difficult due to the colossal growth of production, means of communication and opportunities for consumption of growing mass of goods and services. Obviously, the world will continue to become even more difficult.

The task of scientists and politicians – intellectually understand and comprehend what is happening in the world, thoroughly analyze the nature of the changes and respond to them on time. Such efforts and evaluation of economic and political changes have occurred repeatedly in history. Wherein scientific predictions had different levels of reasonableness and were perceiving differently by society. This can be explained in particular by speed and scale of change. A number of American and Western European scientists responded properly to changes that occurred in the Western world in the 1960-70's, as a result emerged and got a rapid development the socio-futurological concepts and models of human development. Scientific pluralism contributed to the identification of different versions of the future society "post-capitalist" by Ralf Dahrendorf, "post-industrial" by Daniel Bell (Bell, 1973), "post civilizational" by Kenneth Boulding (Boulding, 1978), "new industrial" by John Galbraith, "industrial in a phase of maturity" by Aimone P Aaron, "advanced industrial" by Herbert Marcuse, "super-industrial" by Alvin Toffler (Toffler, 1980), "technotronic" by Zbigniew Brzezinski and so on. The authors of these concepts were guided by the common methodological orientations, considering that the Reindustrialization is necessary, that is such industrialization, in which science and technology will be the humanist and will not destroy the natural in man and the environment. Moreover, they believed that science and technology in the new conditions will promote universal human values and will secure mankind on planet Earth. Enough thoroughly and carefully Western scholars and politicians approached to the evaluation of role and importance of human capital – the essential component of spiritual and economic development of society. The author of the concept of human capital (1961) is considered Theodore Schultz, whose ideas in terms of economics further developed Gary Becker.

To the nature and prospects of development of human capital studies at different times turned Simon Kuznets, Edward Denison and others (Becker, 1964; Becker, 1994; Flamholtz, 1985; Mann, 1965; Schultz, 1971).

Note that in addition to research prospects of socio-economic development and human capital development issues also the attention was paid to the problems of production, management and leadership. It is the search for innovations in technology and technology for industrial production, the rapid development of information and communication tools, introducing a variety of support services and transport services that have intensified the need for a new type of managers – managers with leadership qualities. Among the successful researches of the problem of management and leadership we can specify works of Henry Mintzberg (Mintzberg, 2010), Herman Siebens, Stephen R. Covey (Covey, 1999), Edgar H. Schein (Schein, 1992), James W. Davis, Thomas August Kohut, Nail H. Snyder (Snyder, 1994), Ann Ruth Willner (Willner, 1984), Ken Blanchard, Deborah C. Stephens, Gary Heil, Jon R. Katzenbach, Douglas K. Smith and other.

According to the authors, the problem of human capital management in the context of its development, and especially the problem of forming leadership skills, given the challenges which today arose to the international community, requires further thorough scientific analysis. Thus, the purpose of our study is a synthesis of ideas about human capital in historical and philosophical perspective and to define those components of human capital that could be perspective for the formation of the personality of the leader.

## **2. METHOD**

The study used an analytical method which allowed to isolate the main problems in the development and management of human capital. The use of comparative-historical method made it possible to trace the origins and formation of the concept of human capital in the context of ideological stereotypes and values that define features of its perception in modern society compared to current ideas.

## **3. THE CONCEPT OF "WORK", "LABOR FORCE", "HUMAN CAPITAL."**

The concept of "human capital" has its own history, although it hasn't been always determined exactly in this way. Human capital is a universal concept, which covers a set of specific human properties that are required to perform a social role. Undoubtedly, these properties do not appear out of nowhere. They appear as a result of a number of factors, but primarily as the development of appropriate individual inclinations in the formation and education of his personality.

At the time, working on philosophical and economic works of prominent thinkers of the seventeenth and nineteenth centuries, Karl Marx and Friedrich Engels wrote about the importance of human labor, that we can see in their works of 1840-1850's. In 1844, Karl Marx stressed (Marx, 1974, p. 113-114) that labor is graded, split and therefore not free, it is the source of the disastrous of private property and alienated from human existence. Here he notes that Charles Fourier and Henri Saint-Simon differently defined their priorities about the meaning of work. If Fourier favored agricultural labor on earth, then Saint-Simon wrote about the benefits of industrial work which improves the living conditions of workers. Friedrich Engels also applied the concept of work when he wrote that the increase of the proletariat amount, the class society, "which lives solely by their work," (Engels, 1974, p. 355) due to the division of labor, enriched capitalists. Also in this period, the founders of Marxism widely used the concept of "cost of labor", "labor price", "labor sale". But since the late 1850s, when Marx began to develop the theory of surplus value, he determined that the worker sells to the capitalist not his work but his labor force. Therefore, in his subsequent writings, Marx and Engels began to use the term "labor costs", "price of labor", "sale of labor".

Obviously, the concept of labor is significantly different from the concept of work, especially if we consider their meaning in the context of capitalist relations. Karl Marx focused Robert Owen's thought that "since the general introduction of non-living mechanisms in the British manufacturing the people, with few exceptions are regarded as a secondary and less important machine, and much more attention is paid to the improvement of raw materials – wood and metal than to the improvement of body and spirit" (Marx, 1980-2, p. 223). From this judgment K. Marx makes a perspective conclusion, that economy of work time is identical to the increase of leisure time that promotes the full development of the individual. "In terms of the direct production process, saving of time can be regarded as the production of the main capital, and what is more this main capital is the man itself" (Marx, 1980-2, p. 223). However, the free time puts a person to a choice: whether to use it as an entertainment or as an opportunity for a more sublime activity for the development of its human capital. For a man who is being formed the production process is a school of discipline, said Marx and speaking about a man who has already learned the knowledge accumulated by society, "it is an application of [knowledge], experimental science, materially creative and substantively embodied science" (Marx, 1980-2, p. 224).

However, as proves the development of capitalism, the value of man as the bearer of human labor generally was limited by all sorts of obstacles on the way of getting first of all a comprehensive education. That is why Engels said: "...we see that the development of the proletariat in nearly all countries is violently suppressed by the propertied classes" (Engels, 1974, p. 358). Marx also emphasized that "...capitalism, which tends to *increase immensely productive forces, however,* makes it one-sided, limits, etc. *the main productive force* which is the *man himself*" (Marx, 1980-1, p. 407). Thus, referring to the works of Karl Marx and Friedrich Engels allows us to clearly see that they define the human not only as the capital's component but also as the main productive force. And therefore the contribution to the full development of the individual is the contribution to the development of human capital. Thus, the overall human capital, like any other capital is a person's ability to make a profit.

In the new historical conditions, as we have noted above, deepening of the essence of the concept of human capital was further developed. Michael Robert Milken (b. 1946) – American financier and philanthropist used this concept, summarizing the business innovations of the Italian entrepreneur Vittorio Merloni. V. Merloni – founder of the famous company manufacturing electrical home appliances «Indesit» on the verge of 1980-90's implemented an effective system of parts usage for production and finished products, minimizing its number in the stocks. Using computers and highly intellectual technologies in the production and in the accelerating the delivery of goods to the consumer, he has achieved significant savings in resources, which gave him reason to believe that intellectual capital replaces expensive equipment. In this way, human capital has replaced money capital. Here we see attempts to emphasize innovation and intellectual components of human capital. Alvin and Heidi Toffler (1995, p. 55) in the book "Creating a new civilization. Politics of the Third Wave" also noted that knowledge reduces the need for raw materials, labor, time, space and other resources, becoming the main resource of the modern economy. Moreover, the "proletariat" is more and more replaced by "cognitariat" and so now it is in the minority.

#### **4. THE ESSENCE OF HUMAN CAPITAL**

At the heart of the human capital of income generation are innate human abilities (what philosophers call its essence), education and acquired competences. Today it is clear that not only modern production, but computerized information service sector needs more intellectually trained workers. Thus, high-tech manager is a new profession that is needed in the tourism sector, hotel business, supermarket and more. In turn, Alexander Bard and Johan Söderqvist (Bard & Söderqvist, 2004, p. 9) pay attention to the significant changes taking place in

consumption sphere, and introduced the concept of "consumetariat", defining thus the emergence of the new lower consumer class, which replaces proletariat in the new society. Here we see a contradiction, but it can be explained, given that consumetariat is a class that opposite to netocracy – dominating class, according to Alexander Bard and Johan Söderqvist.

Reflecting on the essence of human capital, we must admit that initially a person must be educated and formed in accordance with a purpose. This purpose is determined by parents, close environment, social environment, and in some kind global world trends. It is therefore important that education of fully developed personality allows it to adapt easily enough either for own selected professional activity or for the circumstances of surrounding social life that have a strong tendency to change.

The main factors that on the minimal level determine human capital can be considered health, physical strength, professional knowledge and intellectual abilities. From a historical perspective physical strength of personality played a crucial role of human as productive forces in the early stages of human development. Based on the teachings of Karl Marx, this phase coincides with the slave and feudal structure of society. And judging from the basic ideas of the concept of Alvin Toffler, this time of the First Wave – agricultural stage of social development. There is a fairly clear distinction of social status, as well as a community of people who generate ideas, but does not seek their material embodiment. On this occasion, Georgi Plekhanov wrote (Plekhanov, 1956, p. 615): "Plutarch, referring to the inventions made by Archimedes during the siege of Syracuse by the Romans, considers it necessary to forgive inventor, philosopher certainly ought not to engage in this kind of things, he muses, but Archimedes is justified by the extremeness, in which was located his homeland". It is interesting, that a number of gauges and instruments in the period of formation of classical mechanics called *philosophical instruments* (accurate scales, thermometers, theodolites, telescopes, microscopes, etc.) (Marx, 1975, p. 477).

At the stage of social development that meets capitalism, human capital is not limited to physical force because some of the workers should have the necessary professional knowledge to manage the machine. Actually, the machine itself is a part of human capital in the form of physical strength spent on its production and in the form of intellectual efforts (the idea, scheme, draft). It made a man an appendage of machine and paid very few attentions to "the improvement of body and spirit". More and more there was a division of labor into intellectual and physical, so proletariat was doomed to toil beside machine. This gave reason to Karl Marx argued (Marx, 1974, p. 53) that proletariat is a man who "lives only in his one-sided, abstract labor". Hence we speak of alienation as an essential feature of capitalism. Since the overcoming alienation begins, according to Karl Marx, the first stage or the first form of communism.

Note that it is the *first form of communism*, which was later apparently was defined as post-industrial information society or The Third Wave, and became the object of meticulous study of a number of philosophers and economists of 1960–1970's. Karl Marx wrote that communism of the first form "...a dual kind: first, the domination of the real property on it is so great that he wants to destroy everything that, everybody in principle of private property cannot own all; he wants to force aside from talent. Direct physical ownership seems to it as the only purpose of life and existence; category of worker is not abolished but extended to all men; the ratio of private property is the attitude of the whole society to the world of things..." (Marx, 1974, p. 114). Despite these limitations, this communism has "imagine himself as reintegration or return of man to himself as the destruction of human self-alienation", – said Marx (Marx, 1974, p. 116).

Is this communism was held in its first form? Apparently so. Just look at the society of "universal welfare" in advanced capitalist countries already mentioned of the late 1950s – early 1970s. Mass production of wireless devices, TVs, washing machines, cars, etc., which could buy large segments of the population, engaging in the production and maintenance of masses

of men and women (blue and white collar) – all this are the evidence of "rule of the material property." But we should not forget that it was accompanied by a drop in morale, destruction of family values, sexual revolution, millions hippie, revolutionary actions of French students and so on (Buchanan, 2004). By the way, the theme of leadership at this time was not particularly relevant, since the status of skilled workers was sufficient for a normal life.

Regarding leadership here is the opportunity to spend some historical parallels, referring, for example, observing "human capital" that Henry Ford did in 1910-1920 years. He said (Ford, 2015, p. 134): "we can barely find more than five percent of those who works for hourly pay, who, in addition to the desire to get more money, may take on extra responsibility and the extra work that is essential attributes of a higher official position ... Thus, despite our big labor, the difficulty lies not in identifying people able to move forward, but people who want it". Actually, here is the explanation: in the relatively calm and stable period of development of society "the vast majority of people want to stay at their place. They want to be led" (Ford, 2015, p. 134). The actual topic of leadership became later, when there was the Great Depression.

Obviously, the ideas of Karl Marx and the essence of his teachings throughout the nineteenth and twentieth centuries. became the subject of numerous studies of both the procommunist and probourgeois scientists. A theory of communism was perhaps the most controversial of all his philosophical heritage. The experience of totalitarian states that "were building communism" is also revealing. Therefore, Marx (Marx, 1974, p. 116) concluded that "*communism as the positive abolition of private property – the alienation of man* – and therefore..." the return of man to himself as a social person that is humane, till definite time could be seen as too speculative. No less speculative and therefore not entirely clear till definite time was the judgment that this communism is complete naturalism and humanism that "...it is a real solution to the contradiction between man and nature, man and man, the true solution to the contradiction between the existence and substance, between materialization and self-affirmation, between freedom and necessity, between the individual and family" (Marx, 1974, p. 116).

Clearly, there is no such communism yet, but the fact that the movement in this direction exists proves that the current socio-economic situation is undergoing significant changes. So, based on their observations and research and Alvin and Hade Toffler say that today workers who find themselves in superconscious activities produce much more without coercion, and it follows that the performance of their work begins even before they come to the office. For a new generation of supersymbolic leaders, inclined to think faster in terms of systems rather than in terms of separate steps, it will be natural (Toffler & Toffler, 1996). This assumption, in our opinion, quite productive because supersymbolic activity is the image of a modern society in contrast to the significant proportion of alienation inherent in industrial society.

Supersymbolic activity – an activity aimed at identifying of the product with the manufacturer, which is especially noticeable in highly intellectual program materials. This is a manifestation of the same "reintegration", which wrote Karl Marx. In the new socio-economic conditions, the idea of human about his place and role in society changes.

In view of the above, the essence of human capital can be viewed in two ways. On the one hand – a combination of direct workers (proletariat and cognitariat), workers-consumers (consumetariat) and only consumers. On the other hand – is lower leveled managers, mid-level and top-level managers, who organize the global system of production and consumption. Modern human capital is able to organize production, to develop and introduce new technologies, but it has not yet found the capacity to solve current pressing global social problems of mankind. This requires managers with a global outlook, true leaders who have appeared at critical moments in history.

Defining the specific three waves of the historical development of mankind, Alvin Toffler has shown that among the main forces representing the agricultural, industrial and postindustrial (information) waves, there is inevitable struggle. In fact, we see it in the last half century.

## 5. HUMAN CAPITAL MANAGEMENT

Naturally, in relation to the management human capital has a specific functions and purposes. Their dimension in modern society depends on what level of management tasks need solution. Because of modern global information society requires many managers of local and global level with features that meet the spirit of the time.

The modern system of training and education of personnel for production and maintenance involves in this process many subjects. In particular, the following could be many professional schools, institutes, universities, business schools and more. Recruitment function for such particular purposes perform either directly an institution that requires employees or **recruitment agencies**, **assessment**-centers and similar institutions which on the basis of finding out the level of general education, level of professional knowledge, communication skills, through various kinds of tests, etc. concludes regarding the suitability of the applicant and recommend its customers training.

Undoubtedly, a measure of suitability for administrative activity is a practice that as a litmus paper detects managerial potential of manager. Human possibilities as a head are manifested in the process activity and cooperation in a particular group. In this sense, **networking**, as a creation of the most extensive network of useful contacts and relationships, given the largely subjective approach of its members to offer of candidates, is based on the limited motivation. Human capital which requires the field of modern management – a special kind of product. After all, we are talking about professionals who have in one way or another to create or implement innovative product. To do this, they must have formed and to some extent the established worldview, based on recognition of and respect for human values. Thus, with the existing system of principles and attitudes, the manager must be prepared to defend them, applying his knowledge and effort.

Any management decision involves the definition of the attitude to the opposition man-thing, purpose-means. Things are made for people with the participation of the people. Therefore, the role which is determined for the producer and consumer, is derived from the philosophy and value system of manager.

The system of the formation of human capital for the management activity has a long tradition as a recognized need. However, there are obvious differences. In established democracies there are reputable schools, including Eton, Oxford, Cambridge (England), Harvard, Princeton, Stanford (USA) where specialists come with a high level of knowledge and state approach to management activities. In totalitarian regimes of Soviet-style training managers also received much attention, but the process was multistage. As a result, the system was receiving a staunch ideological leader dedicated to this system, which it educated.

The situation with human capital management has changed significantly in recent decades, due to the emergence of a number of post-colonial, post-Soviet and other modes. Some old school administrators either initiated by themselves or adapted to the situation of "privatization" of social wealth and mineral resources and actively involved in the process, abandoning the principles which the system have shaped in them. Young managers who have been involved in managerial training in the new system, or haven't such, have taken control, without proper public awareness of their role, except the desire to enrich themselves at the expense of society. All this has led to polarization of the property to the huge social tension and open armed confrontation that took and take many lives.

It was the leaders and managers of different levels of post-Soviet and post-colonial regimes, which can generally be called transitional regimes now demoralize the Western system of governance and shake its principles. On the foreign policy level, this is particularly evident in the last decade.

Perhaps the best way would be to consider this situation, given the complex configuration plexus of three waves of civilization, the essence of which has determined Alvin and Hide Toffler in their famous works. They said (Toffler & Toffler, 1996): "In the world, which is divided into three parts, the sector of World First Wave supports agricultural and mineral resources, the sector of the Second Wave provides cheap labor and produce mass production, and rapidly growing sector of the Third Wave uses a new method of domination – the establishment and operation of knowledge".

Enough tells us the example of internal and external events that are happening in Ukraine. It is important that here coexist simultaneously all three sectors and the relevant community. Living in one place at the same time, but with very different worldviews and values, they objectively are at war with each other. Agro-commodity production and life; metallurgy and chemical industry, high-tech information sector, together with a large part of highly educated professionals in all three sectors, high levels of corruption and a striking disparity in the distribution of public goods – is world in miniature. It is the territory of Ukraine where the struggle of three civilizations is the most obvious.

One cannot mention the problems facing the education system today, as the basis of human capital formation. Karl Marx and Friedrich Engels repeatedly emphasized that big business is against the fact that workers receive adequate education, and therefore very few pay attention to "the improvement of the body and the spirit" of workers. Thus, the capital of that time tried to make a high-level education inaccessible to ordinary workers. The current capital is also against the spread and support of elite education, said Francis Fukuyama (Fukuyama, 2016), stressing that the reasons for this are clear. But the main reason, according to him, is that the modern state bureaucracy in Germany, Britain, France, Japan modernize the higher education system in a way that does not benefit the state administration. Clearly, this limits the development of human capital of future senior executives, forming their outlook, life values and view of the world, aimed at the preservation and conservation of the existing system.

This negative trend is contrary to the direction of modern production, which according to Alvin and Hade Toffler (Toffler & Toffler, 1996) should be regarded as a substantial process than it represented by economists and ideologists of "narrow-minded" economy because now namely knowledge, rather than cheap labor, and the symbols, not the raw materials are implemented into concrete form and increase the value of the product.

## 6. CONCLUSION

Thus, the experience of numerous studies of prospects modern society development once again proves that the historical tradition of critical periods in the history of intellectuals requires not only to put the first and the last questions, but also to give a response. Modern world came into motion in all directions, which had never happened before. Naturally, the large numbers of people are confused, do not understand where the world is moving. There is an erosion of values, to the relevance of which people stop believing.

The only creative and productive force that has always changed and will change the world – is the human capital. Therefore, people who are able to manage the community today should focus on the creation of a social order where each person was given the opportunity to perform their public function, productive use of their human capital.

Scientists who studied the main factors of occurrence and the main features of the new post-industrial world, did a great job, but still remains an urgent need for fundamental generalizations and innovative vision changes. At the same time, they study the realities of the modern world have allowed a deeper understanding of the ideas of Karl Marx referring to the future world, which he called the first form of communism. Undoubtedly, Marx was deep and daring analyst. He understood that you cannot always be in the past, as the world is aimed to the future and creative scientific thought should outpace its movement.

The challenges faced by today's leaders are much more complex than those that were before, although intellectual and material resources to solve existing problems also increased significantly.

Today the future world has no clear structure of values; it exists as a disembodied wonderful idea. To fill it with meaning and values and to make an appropriate material force can leaders who join the vibrations of spiritual principles and realize their potential, correlating their actions with a higher principle, of truth. Humility before the truth, understanding needs and the inevitability of change, responsibility and a keen sense of justice – these leader features will help them in the dissemination and implementation of their ideas, as it has happened in human history.

It is hoped that leaders with deep analytical mind and high moral character, relying on the powerful potential of modern human capital, will direct their efforts to help people in understanding the world, give them confidence in the legality of a time system of human values, despite the fact that the main of them is life.

## LITERATURE:

1. Bard, A. & Zoderkvist, J. (2004). *Netocracy. The new ruling elite and life after capitalism*. St.-Petersburg: Stockholm School of Economics in St.-Petersburg.
2. Becker, G. S. (1964). *Human Capital*. New York: Columbia University Press.
3. Becker, G. S. (1994). *Human Capital: A Theoretical and Empirical Analysis*. New York.
4. Bell, D. (1973). *The coming of post-industrial society: A venture of social forecasting*. New York: Basic Books.
5. Boulding, K. E. (1978). *Ecodynamics: A New Theory of Societal Evolution*. Beverly Hills, Calif.: Sage.
6. Buchanan, P. J. (2004). *Death of the West*. Moscow: OOO "Izdatelstvo AST".
7. Covey, S. R. (1999). *Principle-Centred leadership*. London: Simon & Schuster UK Ltd.
8. Engels, F. (1974). *The project of the Communist creed*. Marx, K. & Engels, F. Works. T. 42. Moscow: Politizdat.
9. Flamholtz, E. G. (1985). *Human Resource Accounting*. New York: Jossey-Bass Publ.
10. Ford, H. (2015). *My life and work*. Kiev: Nash Format.
11. Fukuyama, F. (2016). *What is Corruption?* from <https://www.gov.uk/government/publications/against-corruption-a-collection-of-essays/against-corruption-a-collection-of-essays>
12. Galbraith, J. K. (1967). *The New Industrial State*. Boston: Houghton Mifflin.
13. *Global strategies insights from the world's leading thinkers* (1994) / with a Preface by Percy Barnevik; afterword by Rosabeth Moss Kanter. Boston, MA: Harvard Business Review Book.
14. James, W. D. (1998). *Leadership selection in six western democracies*. London [etc.]: Fitzroy Dearborn.
15. Mann, F. C. (1965). *Toward an Understanding of The Leadership Role in Formal Organization*. San-Francisco: Chandler.
16. Marx, K. (1974). *Economic and Philosophic Manuscripts of 1844*. Marx, K. & Engels, F. Works. T. 42. Moscow: Politizdat.
17. Marx, K. (1975). *Economic Manuscripts of 1861-1863*. Marx, K. & Engels, F. Works. T. 47. Moscow: Politizdat.
18. Marx, K. (1980-1). *Economic Manuscripts of 1857-1861*. In 2 hours. Part 1. Moscow: Politizdat.
19. Marx, K. (1980-2). *Economic Manuscripts of 1857-1861*. In 2 hours. Part 2. Moscow: Politizdat.

20. Mintzberg, H. (2010). *Leadership insights*. [Boston, Mass]: Harvard Business School Publishing.
21. Plekhanov, G. V. (1956). *The Development of the Monist View of History*. Selected Philosophical Works in 5 vol. Vol.1. Moscow: Politizdat.
22. Schein, E. H. ((1992). *Organizational culture and leadership*. 2-nd ed. San Francisco: Jossey-Bass Publishers.
23. Schultz, T. (1971). *Investment in Human Capital*. New York.
24. Snyder, N. H. (1994). *Vision, values and courage leadership for quality management / Nail H. Snyder, James J. Dowd, Jr., Dianne Morse Houghton*. New York: Free Press, Toronto [etc.]: Maxwell Macmillan.
25. Toffler, E. (1980). *The Third Wave*. New York: Bantam Books.
26. Toffler, A. & Toffler, H. (1995). *Creating a New Civilization. The Politics of the Third Wave*. Atlanta, Ga.: Turner Publishing, Inc.
27. Toffler, A. & Toffler, H. (1996). *Creating a New Civilization. The Politics of the Third Wave*. from [http://krotov.info/libr\\_min/19\\_t/of/ler\\_02.htm](http://krotov.info/libr_min/19_t/of/ler_02.htm)
28. Willner, A. R. (1984). *The spellbinders charismatic political leadership*. New Haven, Conn. [etc.]: Yale University Press.

## SUCCESS OF ACQUISITIONS IN CROATIAN CONFECTIONERY INDUSTRY

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### **ABSTRACT**

*The impact of acquisitions on company's business performance can be analyzed through comparison of company's financial statements before and after the transaction. Accounting approach is relevant when it comes to M&A research, and therefore it is used in this paper to examine the success of acquisition of company Karolina by company Kraš within Croatian confectionery industry. After the analysis of key business indicators it has been concluded that business performance of company Kraš was better after the successful acquisition of company Karolina.*

**Keywords:** acquisitions, confectionery industry, financial statement analysis

### **1. INTRODUCTION**

In the era of globalization, business internationalization and fast technological growth, companies are trying to find different ways of how to maintain competitive advantage and strategic position. Therefore, companies can accomplish these goals by expanding its business through mergers and acquisitions (Tipurić, 2005, pp. 109-153). During the nineties of the last century, mergers and acquisitions became one of the most dynamic forms of business internationalization. A company can implement one of the three following growth strategies: internal or organic growth, growth through mergers and acquisitions (M&A), and growth through strategic alliances. Internal growth represents the slowest way of growth because when company pursues internal growth it relies on its own resources and it also relies on increase of products and services sold on existing markets as well as independent development of new products and penetration to new markets (Filipović, 2012). Considering the fact that internal growth represents the slowest way to grow and considering that companies cannot accomplish planned growth only by relying on its own resources, companies often decide to expand business through mergers and acquisitions or through strategic alliances (Tipurić, Markulin, 2002).

There are numerous reasons for growth through M&A strategies, but we will focus on the most common ones:

- faster growth of the company - rather than focusing on internal growth and expansion of the company »step by step«, companies can decide to acquire or merge with other companies in order to achieve better market position compared with the market position of their competitors, and to accelerate the process of achieving such a position,

- synergy and economies of scale - are realized by eliminating redundancy, by sharing resources, merging the best of both companies and maximizing utilization of the common resources,
- cost reduction - will also be achieved by achieving economies of scale,
- dominance - companies are trying to achieve dominance in their sector, but must also keep an eye on market laws to avoid monopoly,
- tax - if a company is located in a country where a high tax rate is being imposed, the company can take over smaller competitor abroad, and transfer the payment of taxes to the area with lower tax rates.<sup>1</sup>

There are goals and objectives that every company wants to achieve when implementing the acquisition process. However, it can happen that the objectives of the acquirer are not complementary to the target company's objectives. In order to avoid conflict between the acquirer and the target company, a dialogue should be established and companies should agree to compromise. Moreover, in order to realize the objectives more easily, managers should possess specific knowledge and skills on matters such as available forms of financing, as well as accounting principles in mergers and acquisitions and their implementation (Gole, Morris, 2007, pp. 20-21). When measuring the profitability of mergers and acquisitions, four research approaches can be considered: event study approach, accounting approach, case study approach and approach based on surveys of managers (Filipović, 2012). Since the research focus of this paper has been placed on the accounting aspects of mergers and acquisitions, the accounting approach has been applied. The acquisition process is defined as successful when the acquiring company is performing better after acquiring the target company than its performance before the acquisition. However, integration risks, overpayment problem and the »clash of cultures« are just some of the risks that could lead to the failure of mergers and acquisitions.<sup>2</sup> There is no unique solution that could help companies to maximize the chances of success of the M&A process, but the stronger the support management receives from its employees the higher the success rate could be. However, implementation of the acquisition process is much more difficult in practice than in theory. For that reason, failure can occur, which is a very common phenomenon present in M&A processes. After the overview of acquisitions' characteristics and process in food and confectionery industry, success of acquisition of company Karolina by company Kraš was analyzed.

## 2. ACQUISITIONS IN FOOD AND CONFECTIONERY INDUSTRY

Acquisition process takes place in several stages. Planning as the first stage includes development of a strategic plan that starts with an external analysis, e.g. the analysis of where and how to compete followed by conducting of internal analysis, defining the mission, long-term goals etc. (Filipović, 2012). When developing takeover plan, company considers the management goals, market analysis, top management recommendations and other steps. It is important to emphasize that the top management recommendations are intended to help responsible persons for finding the right target companies in order to lead the acquisition

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<sup>1</sup> How mergers and acquisitions can affect company. Available at:  
<http://www.investopedia.com/articles/investing/102914/how-mergers-and-acquisitions-can-affect-company.asp>  
[2.6.2016.]

<sup>2</sup> How mergers and acquisitions can affect company. Available at:  
<http://www.investopedia.com/articles/investing/102914/how-mergers-and-acquisitions-can-affect-company.asp>  
[2.6.2016.]

process in the right way (DePhampilis, 2010, pp. 156). The development of any acquisition plan is followed by its implementation. One of the issues facing the company is how to choose a potential target company and how to evaluate it in order to reduce the probability of failure of the whole process if the selected target proves wrong. Some of the most important steps when choosing the appropriate target companies are identifying potential targets, making a reliable investment profile for each target and the development of good relationships with all potential targets (Harding, Rovit, 2007, pp. 54). It is of utmost importance to carefully take into consideration all stages of acquisition process when acquiring companies not only in food and confectionary industry, but in other industries as well.

In food and confectionary industry there is a great competition that affects prices, and consequently the need to increase productivity. As a solution to this problem companies can decide to implement the acquisition process in order to ensure themselves a successful performance and to strengthen the market position. Food industry is part of Croatian domestic industries that are successful and that have a significant impact on the overall development of society, particularly of employment. Global trends that characterize the food industry are:

- significant growth in new markets (somewhat slower in developed markets),
- consumers mobility (great support of technology),
- focus on reducing costs and on international growth,
- continuation of cross-sectoral and territorial consolidation,
- constant changes in regulations<sup>3</sup>
- new product development and diversification (accompanied by technological progress)
- association of the world's largest food producers,
- increased focus on the customers and on the environment.<sup>4</sup>

However, the global economic and financial crisis have had an adverse impact on food production in most countries. Furthermore, despite the trend of growth in new markets, price sensitivity is still present and it greatly influences the behaviour of consumers. With the remaining focus on prices, there is also an increasing importance of technology and comfort when purchasing. Also, leaving CEFTA appears as a long term problem for the industry since there were some changes after Croatia entered the European Union. Some of the changes are elimination of tariff restrictions, e.g. when importing food products from the European Union and introduction, and growth of tariffs when exporting our products to the CEFTA area (which is the most important export market of Croatian food products). Considering this indicators, the Croatian Ministry of Agriculture has launched a program aiming to support the increase of competitiveness and to enable the adjustment of Croatian manufacturing industry to EU standards. The program called "the program increasing competitiveness and adjustment of Croatian agricultural and food processing industry to common EU market" is developed to co-finance projects in the field of food industry, but the co-financing is limited to 35% of the investment value.<sup>5</sup> According to the results of the Croatian food industry export competitiveness

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<sup>3</sup> Available at: <http://www.banka.hr/komentari-i-analize/prehrambena-industrija-moze-pokrenuti-hrvatsko-gospodarstvo> [2.6.2016.]

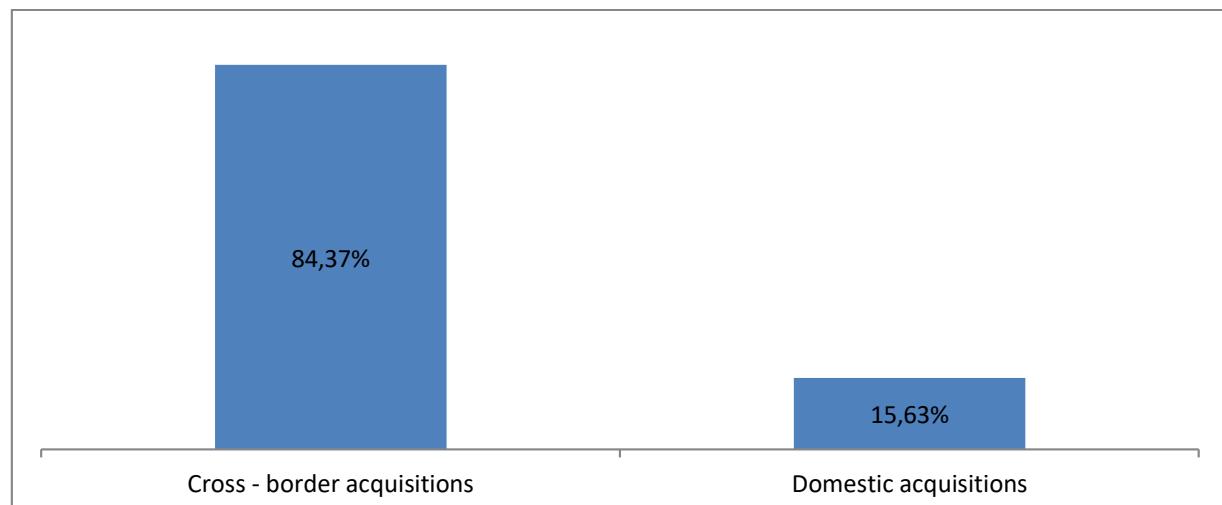
<sup>4</sup> Available at: [www.mingo.hr/userdocsimages/industrija/Industrijska\\_strategija.docx](http://www.mingo.hr/userdocsimages/industrija/Industrijska_strategija.docx) [2.6.2016.]

<sup>5</sup> Available at: <http://www.mps.hr/default.aspx?id=8672> [3.6.2016.]

analysis, launched by the Zagreb Institute of Economics, strategic importance of food industry for Croatian export has been confirmed. The food industry is the fifth largest export industry within the manufacturing industries in Croatia, and beside the positive effects on production and employment, it also has great significance for the development of agricultural production. Therefore, the improvement of the export competitiveness of the domestic food industry is an inevitable factor of successful industry development and of the economy as a whole. The food industry as the largest branch of the manufacturing industry, achieves positive effects on GDP, employment, exports, and encourages the development of other economic sectors, particularly of agriculture and tourism (Buturac, G., Vizek, M., 2014, pp. 9).

Food industry in Croatia (Kraš, Dukat, PIK Vrbovec, Ledo, Vindija and other manufacturers) has maintained its presence in foreign markets compared to other industries. Entrepreneurs of food industry are an important segment of the overall entrepreneurship, primarily because of its contribution to employment, production and export of products.<sup>6</sup> Croatia is characterized by a closed system of corporate governance and the Croatian capital market is still developing, therefore the amount of takeovers of companies listed at Zagreb capital market is lower. Furthermore, the capacity of the Croatian economy for the realization of acquisition process is much more lower in comparison with possibilities of other EU countries. For that reason, the share of domestic acquisitions in Croatia is dominated by cross - border acquisitions with foreign acquirers and Croatian targets (Filipović, 2012).

**Figure 1** Acquisitions in Croatia according to the geographic scope of activities



Source: Filipović, D. (2012) *Izazovi integracijskih procesa – rast poduzeća putem spajanja, preuzimanja i strateških saveza*. Zagreb: Sinergija, pp.111.

As well as the capacity for realization of acquisitions, value of acquisitions in Croatia is significantly lower than in other EU countries (Table 1).

<sup>6</sup> Available at: <http://www.enciklopedija.hr/natuknica.aspx?ID=50198> [3.6.2016.]

**Table 1** Value of acquisitions in Croatian and EU food industry

Target company	Bidder company	Deal value EUR (million)	Enterprise value EUR (million)
Žito d.d.	Podravka d.d.	79	79,4381
Karolina d.o.o. (99.57% Stake)	Kraš	7	7,3301
Groupe Danone SA (Biscuits and Cereal products business)	Mondelēz International, Inc.	5300	5300

Source: [www.mergermarket.com](http://www.mergermarket.com) [4.6.2016].

Based on data from Table 1, we can conclude that value of foreign acquisitions in food industry amounts much more than value of acquisitions in Croatia.

### **3. ANALYSIS OF ACQUISITION OF KAROLINA BY KRAŠ**

The way acquisition impacts acquirer's performance has been analyzed through acquisition of company Karolina by company Kraš – both companies from confectionary industry of Republic of Croatia.

The history of Kraš goes back to 1911 when the factory UNION started working in Zagreb as the first industrial chocolate manufacturer in Southeastern Europe, and since 1950 it has been operating under the name Kraš. Business activities of Kraš are directed towards orientation to consumers, focus on strengthening the competitiveness both in domestic and foreign markets, orientation to export (as a result there is faster growth in overseas sales than in domestic sales) and the creation of a new concept of communication with the market (e.g. opening Kraš chocolate shops).<sup>7</sup>

Main objective of Kraš is to maintain its leading market position in the region by strengthening their brands through the development and growth of the company, strategic alliances and acquisitions, and effective management of human resources in order to ensure mostly employee ownership.<sup>8</sup> Along with their main objective, in February 2011 they managed to acquire company Karolina. In that way, Kraš continued to pursue the development of the company as a whole because Karolina has high-quality brands in its product portfolio (such as Jadro and Moto). Thus, by strengthening presence of Karolina's products in the domestic and export markets, Kraš expected to achieve growth.<sup>9</sup>

In order to analyze whether acquisition of Karolina was successful in terms of better business performance of Kraš, it is necessary to examine business performance of Kraš prior the acquisition of Karolina. Therefore, financial indicators of Kraš in 2010 and 2011 were analyzed.

The recession that marked the total economy in 2009 adversely affected the food and confectionery industry. As a result, business activities of Kraš during the year 2010 were directed towards maintaining the continuity of production and sales, with a focus on financial stability and current liquidity. Negative trends in the company's business performance were also

<sup>7</sup> Available at: <http://www.kras.hr/> [5.6.2016].

<sup>8</sup> Available at: [http://www.kras.hr/en/mission\\_and\\_vision](http://www.kras.hr/en/mission_and_vision) [5.6.2016].

<sup>9</sup> Available at: <http://liderpress.hr/arhiva/120494/> [5.6.2016].

visible in year 2011, as well as effects of economic crisis and recession of the past two years. Consequently the main focus of business policy during the year 2011 was to adjust to the economic conditions and market trends in order to maintain the stability of production and overall business.<sup>10</sup>

These are financial indicators of Kraš that clearly show better financial results of Kraš in year 2011, after the acquisition of Karolina:

**Table 2** Financial indicators of Kraš in year 2010 and 2011

<b>Financial indicators (consolidated)</b>	<b>2010 HRK '000</b>	<b>2011 HRK '000</b>	<b>Index 2011/2010</b>
<b>Production - Kraš Group (tons)</b>	31.035	36.178	116,6
<b>Sales - Total - Kraš Group (tons)</b>	32.903	35.895	109,1
- Croatian Market (tons)	18.672	19.836	106,2
- Foreign Market (tons)	14.231	16.059	112,8
<b>Number of employees - Kraš Parent Company (as on 31 December)</b>	1.694	1.629	96,2
<b>Number of employees - Kraš Group (as on 31 December)</b>	2.428	2.636	108,6
<b>Sales (000 HRK)</b>	1.013.803	1.116.280	110,1
<b>EBITDA (000 HRK)</b>	82.627	96.597	116,9
<b>Profit before tax (000 HRK)</b>	36.636	45.900	125,3
<b>Net Profit (000 HRK)</b>	18.810	24.414	129,8
<b>Total Assets (000 HRK)</b>	1.123.619	1.307.763	116,4
<b>Capital and Reserves (000 HRK)</b>	631.570	639.158	101,2
<b>Pre-tax profit rate</b>	3,6%	4,1%	113,8
<b>Net Profit Rate</b>	1,9%	2,2%	117,9

Source: Kraš annual report, 2011.

When analyzing business results of Kraš in 2011 (Table 2) it can be seen that net profit (profit attributed to the equity holders) was 24.4 million HRK, while net profit in 2010 amounted 18.8 million HRK. By comparison of net profit in 2011 with net profit in 2010 it is evident that net profit increased by 5.6 million. During 2011, 19.836 tons of Kraš products were sold in Croatian market, including products of Karolina after the acquisition. With this Kraš has increased its market share and strengthened its position in the segment of biscuits and wafers. Sales of Kraš in the domestic market increased by 6.2% compared to the previous year.<sup>11</sup>

<sup>10</sup> Available at: [http://www.kras.hr/images/financial\\_reports/kras\\_gi\\_2011\\_file\\_87.pdf](http://www.kras.hr/images/financial_reports/kras_gi_2011_file_87.pdf) [5.6.2016.]

<sup>11</sup> Available at: [http://www.kras.hr/images/financial\\_reports/kras\\_gi\\_2011\\_file\\_87.pdf](http://www.kras.hr/images/financial_reports/kras_gi_2011_file_87.pdf) [6.6.2016.]

Business policy during 2011 was focused on prevailing economic conditions and market trends in order to maintain the stability of production and overall business. In that year, impact of negative trends and effects of economic crisis and recession on company's business performance were also visible. Despite the negative trends, compared to the same period of the previous year, total revenues increased by 10.4% and total expenditures increased by 10.2%. The acquisition of Karolina of Osijek had a significant impact on the increase of total revenues and expenditures, leading to increase of net profit in year 2011.<sup>12</sup>

**Table 3** Comparison of total revenues and total expenditures

	Year 2010 HRK '000	Year 2011 HRK '000
<b>SALES REVENUES</b>	1.013.803	1.116.280
<b>FINANCIAL REVENUES</b>	19.534	24.830
<b>TOTAL REVENUES</b>	1.033.337	1.141.110
<b>TOTAL OPERATING EXPENSES</b>	(977.167)	(1.070.380)
<b>FINANCIAL EXPENSES</b>	(27.911)	(37.376)
<b>TOTAL EXPENDITURES</b>	(1.005.078)	(1.107.756)

Source: Authors. Based on data from Kraš financial report for year 2011.

**Table 4** Comparison of net profit in 2010 and 2011

	Year 2010 HRK '000	Year 2011 HRK '000
<b>TOTAL REVENUES</b>	1.033.337	1.141.110
<b>TOTAL EXPENDITURES</b>	1.005.078	1.107.756
<b>GROSS PROFIT</b>	28.259	33.354
<b>CORPORATE INCOME TAX (25%)</b>	8.789	8.214
<b>NET PROFIT</b>	19.470	25.140

Source: Authors.

By comparing net profit in 2010 and 2011, it can be seen that in year 2011 total profit increased by 29,12%. The successful acquisition of Karolina in February of 2011 and its integration into the business system of Kraš since April of 2011, had a significant impact on the increase of total revenues and expenditures in 2011. According to the financial report from 2010, Kraš planned to achieve development through organic growth and acquisitions so at the beginning of 2010 Kraš began the process of acquisition of Karolina. Furthermore, the acquisition contributed to the strengthening of competitiveness in domestic and foreign markets. Due to the fact that Kraš is export oriented company, overseas sales increased faster than domestic

<sup>12</sup> Available at: [http://www.kras.hr/images/financial\\_reports/kras\\_gi\\_2011\\_file\\_87.pdf](http://www.kras.hr/images/financial_reports/kras_gi_2011_file_87.pdf) [6.6.2016.]

sales, which is evident from the financial indicators. Following indicators, in year 2011 (in comparison with year 2010), also show positive impact of acquisition of Karolina by Kraš:

- Kraš Group Sales increased in year 2011 by 6%,
- Export of products to foreign markets increased,<sup>13</sup>
- Total revenues increased by 10,4%,
- Net profit increased by 29,12%.

Based on the analysis it can be concluded that Kraš has improved its overall business in year 2011 in comparison with 2010.

#### 4. CONCLUSION

There were a lot of changes in the way of doing business after Croatia joined the EU. Kraš became part of a more competitive market and in order to maintain the current position in traditional markets, some additional effort was required. Kraš maintained the stability of production and overall business performance although it was still recovering during 2011 from the economic crisis. In this paper the impact of acquisition process on the acquirer's business performance was analyzed by conducting analysis of financial indicators before and after the acquisition. After analyzing key financial indicators, it is evident that Kraš achieved positive results in both years and that net profit increased in 2011 compared to 2010 due to successful acquisition of Karolina in February 2011. In official notes to financial statements of Kraš, growth in net profit was, among other things, explained by the acquisition of Karolina and investment of significant resources in infrastructure and production lines, which led to the increase of production capacity and improvement of technology, thus resulting with increased production and employment. Also, in comparison with year 2010 there was an increase in sales revenues in 2011 (10.11%) and an increase in operating expenses (9.54%), but sales revenues had higher growth than operating expenses. Financial revenues represent a much smaller share in total revenues compared to sales. Financial expenses have increased in 2011 (see Table 2) and were justified because it is visible in the liabilities of the company that it is primarily financed by equity. Given that the financial revenues had increased by a smaller percentage than financial expenses, in both years Kraš had a loss from financial activities. The analysis of the key financial indicators of Kraš has shown that the acquisition process is not an easy process, but when it is implemented properly, like in case of acquisition of company Karolina, chances for success are higher. The Kraš company has achieved greater net profit after the acquisition of the Karolina company and it gained larger market share. With successful integration of Karolina's operations into existing business operations of Kraš, company achieved higher production effects, which had direct impact on sales and on profit as well.

#### LITERATURE:

1. Buturac, G., Vizek, M. (2014) Makroekonomska analiza izvozne konkurentnosti prehrambene industrije Republike Hrvatske. Zagreb: Ekonomski institut Zagreb
2. DePamphilis, D.M. (2010) Mergers, Acquisitions, and Other Restructuring Activities, 5th ed. San Diego: Academic Press

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<sup>13</sup> Available at: [http://www.kras.hr/images/financial\\_reports/kras\\_gi\\_2011\\_file\\_87.pdf](http://www.kras.hr/images/financial_reports/kras_gi_2011_file_87.pdf) [6.6.2016].

3. Filipović, D. (2012) Izazovi integracijskih procesa: rast poduzeća putem spajanja, preuzimanja i strateških saveza. Zagreb: Sinergija
4. Gole, W., Morris, J. (2007) Mergers and acquisitions - Business strategies for accountants, New Jersey, Hoboken: John Wiley and Sons Inc.
5. Harding, D., Rovit, S. (2007) Preuzimanje i spajanje poduzeća. Zagreb: Masmedia
6. Tipurić, D., Markulin G. (2002). Strateški savezi: suradnjom poduzeća do konkurentske prednosti. Sinergija, Zagreb.
7. Tipurić, D. (2005). Alternativne strategije, in: Buble, M., ed.: Strateški menadžment. Sinergija, Zagreb

## **INTERNET SOURCES**

1. [https://hr.wikipedia.org/wiki/Srednjoeuropski\\_ugovor\\_o\\_slobodnoj\\_trgovini](https://hr.wikipedia.org/wiki/Srednjoeuropski_ugovor_o_slobodnoj_trgovini) - CEFTA
2. <http://www.investopedia.com/articles/investing/102914/how-mergers-and-acquisitions-can-affect-company.asp> - How mergers and acquisitions can affect a company.
3. <http://www.suvremena.hr/28681.aspx> - Izjava Goran Buturac
4. [http://www.kras.hr/images/financial\\_reports/kras\\_gi\\_2011\\_file\\_87.pdf](http://www.kras.hr/images/financial_reports/kras_gi_2011_file_87.pdf)
5. [http://www.kras.hr/images/financial\\_reports/GI\\_2010\\_file\\_76.pdf](http://www.kras.hr/images/financial_reports/GI_2010_file_76.pdf)
6. <http://www.banka.hr/komentari-i-analize/prehrambena-industrija-moze-pokrenuti-hrvatsko-gospodarstvo>
7. <http://www.mps.hr/default.aspx?id=8672>
8. <http://www.kras.hr/>
9. <http://liderpress.hr/arhiva/120494/>
10. [www.mingo.hr/userdocsimages/industrija/Industrijska\\_strategija.docx](http://www.mingo.hr/userdocsimages/industrija/Industrijska_strategija.docx) - Industrijska strategija RH, January 2014, p.135
11. <http://www.enciklopedija.hr/natuknica.aspx?ID=50198>
12. <http://www.investopedia.com/university/mergers/mergers2.asp>

## APPLYING THE SIX SIGMA METHODOLOGY TO ACHIEVE BUSINESS EXCELLENCE IN SERVICE-PROVIDING BUSINESSES

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### **ABSTRACT**

*Six Sigma ( $6\sigma$ ) is one of the most frequently used methodologies aimed at achieving business excellence in today's business world. Its great popularity and efficiency has led to an increasing number of  $6\sigma$ -prefixed academies being opened all over the world, along with seminars held in majestic castles and other attractive venues. Also, an increasing number of articles on the topic of Six Sigma can be found in professional and scientific journals. It is hard to find a major business organisation that has not started implementing or thinking about the implementation of the above methodology in their business system. Considering this, a logical question arises: What is its secret?*

*The article provides theoretical information of the basics of the above methodology, its statistical foundations, experience from different places, and it particularly dwells on the possibilities for its application to small service-providing business systems through realisation of different projects. Special attention is given to the criteria for cost-benefit analysis, using the period of return, the average rate of return, net present value (NPV) and the internal rate of return (IRR).*

**Keywords:** Analysis of the state of quality, factors of influence, analysis methods, projects, cost-benefit analysis

### **1. INTRODUCTION**

The main goal of any business is to establish the structure and the processes and to raise the quality of products and services to the level that is nowadays popularly called “business excellence” and which results in the top quality of products and services, great profit, high motivation of all employees, high buyers' satisfaction, reliable and secure suppliers, efficiency of all processes, application of IT technologies and other modern technologies. The pathway to these results is not simple. Successful organisations develop and apply different methodologies, that is, strategies to improve the quality of their own products and processes. They differ only in terms of different principles and implementation procedures, and all of them are mainly based on the principles of modern management (Kondic, 2008.p.27).

The process of business excellence is never finished. It is a like a loop that is constantly spinning according to the PDCA cycle principles (plan, do, check and act), aimed at achieving the best possible business results. It is always possible to do better and to do more; it is only a matter of priority and the current situation regarding the buyers and the market. The goal is that this process of continuous improvement becomes permanent practice and part of the business culture of all employees and processes.

There are various approaches to improvements, i.e. business excellence. Some of the methodologies used in production and service-providing companies include Six Sigma, The 20 Keys, Lean Six Sigma.

## 2. WHAT IS SIX SIGMA ( $6\sigma$ )?

Six Sigma is a modern methodology for achieving business excellence which includes improvement measures in all processes and involves a great number of employees through realisation of well-designed projects. The goal is to improve customer satisfaction, reduce cycle time and reduce defects on products or services.

Compared to other methodologies, Six Sigma is different because (Burton, 2003.):

- It is entirely focused on customers. This implies being obsessed with the idea that buyers' demands, needs and expectations are a priority and of greatest importance in all processes and business situations. The goal is to make buyers thrilled about a product/service, but there is no rest even after this goal has been reached. This could be compared to Will Rogers' statement that “Even if you're on the right track, you'll get run over if you just sit there”.
- It requires use of modern tools and methods as well as applied statistics. The very essence of this methodology is in measurable results which are mainly positive and always bring profit, regardless of the amount. This cannot be achieved without modern management tools and methods as well as statistics, which requires knowledge and continuous education of employees.
- It provides fast return on investment.
- It changes the way and style in which the management works.

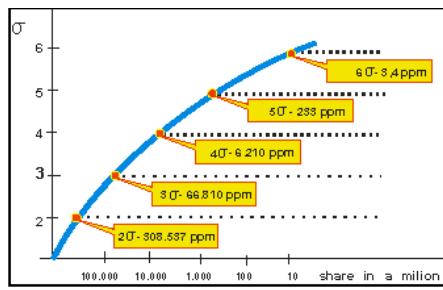
Studying the term and the definition of the Six Sigma methodology, one comes across various interpretations (Mutak, 2005.), depending on the context in which it is used. The Six Sigma methodology is thus described as a management philosophy in organisations; statistical methodology, improvement process and procedures. The authors of this paper understand the Six Sigma methodology as procedures that are directed at elimination of “bad spots, failures, defects, incompliance, etc.” in an organised manner and by applying various “tools” and procedures that are continuously carried out to improve the efficiency of the process and the quality of products/services, aimed at increased customer satisfaction and reduced operating costs expressed in money.

The creators of the idea of the Six Sigma methodology included the Greek sign  $\sigma$  (Sigma) in the name of their plan for achieving high quality of processes, products and services. But what is  $6\sigma$ ? From the statistical point of view, it can be defined in a simple way. If it is known that  $\sigma$  (Sigma) is standard deviation – a measure of variation (dispersion), and under the assumption that the observed process is distributed according to so-called normal distribution,  $6\sigma$  is closely related to the requirement for process capability. In that context, the Six Sigma methodology follows Taguchi's philosophy that “We can reduce cost by reducing variation. When we do so, performance and quality will automatically improve.” (Mudronja, 2006. p.2)

According to [1], the most frequent statistical definition of the Six Sigma methodology is:  $6\sigma$  means 99.9996% successfulness. This level of successfulness (perfection) is an equivalent to occurrence of 3.4 DPMO (Defects per Million Opportunities). A defect can be anything, from a defect on a product to wrong information or a faulty receipt for a buyer. The Six Sigma methodology is also closely related to financial results of the process, i.e. companies. According to these results, companies are categorised into World Class Manufacturing (WCM), middle-class and uncompetitive companies (The EFQM Excellence Model, 1999.).

The impact of the process capability on the competitive capability of businesses is shown in Figure 1. It is common belief that, for example, an average company operates at 3 to 4  $\sigma$  level;

WCM (World Class Manufacturing) companies operate at 5 do 6 σ level; and that airline companies operate at the level exceeding the 6σ level.



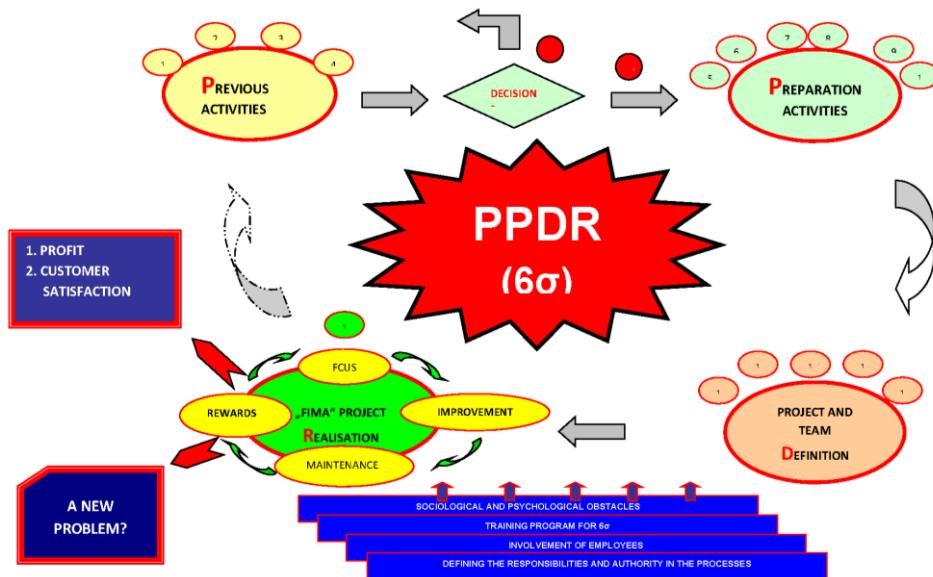
**Figure 1.** Implications of the 6σ level of quality, according to (Kondić, 2008.)

### 3. FACTORS FOR SUCCESFUL APPLICATION OF THE SIX SIGMA METHODOLOGY

#### 3.1 Recognising the basic factors

Deming's claim “There is always a better way” has been used as a motto for all improvements in this methodology. The abbreviated name used for the methodology is PPDR, arising from the phases used in its application:

1. Previous activities before making a decision to apply the methodology,
2. Preparation activities after making a decision to apply the methodology,
3. Definition of the project and the implementation team,
4. Realisation of projects – improvement (by means of the four-phase model (**FIMR**): Focusing of the team on a problem, Improvement – a problem-solving project, Maintenance of the improved process and Rewards for a successfully implemented project).



**Figure 2.** The main phases of the PPDR methodology, according to [1]

The most important factors for successful application of the above methodology are (Liščić, 2005.):

- Involvement and education of employees, with special focus on education of the management structure and teams for project implementation (also including support staff in the team).
- Overcoming obstacles in introduction and application, related to the environment, mentality and culture (morale, lack of knowledge, habits, fear of changes, mentality, conflicting behaviour, emotivity, culture, spiritual laziness, etc.).
- Defining tasks, responsibilities and authorities in the process as well as complete and real dedication of the top management to the Six Sigma methodology.
- Established, adjusted and stable system for quality control management, environmental protection, safety, energy, etc.
- Application of the model for implementing self-evaluation of the current capability level of the organisation and processes; developed and applied rules for rewarding (in terms of successful project realisation and rewarding team members according to the realised profit).
- A person at the highest position in the hierarchical structure appointed to manage the Six Sigma methodology with precisely defined tasks, responsibilities and authorities; hiring a consultant.
- Prioritising permanent problems through Six Sigma projects (selection and giving priority to problems that occur in processes repeatedly and whose solution would bring greatest profit, by applying both numerical and non-numerical methods).

### **3.2 Project approach to problem solving**

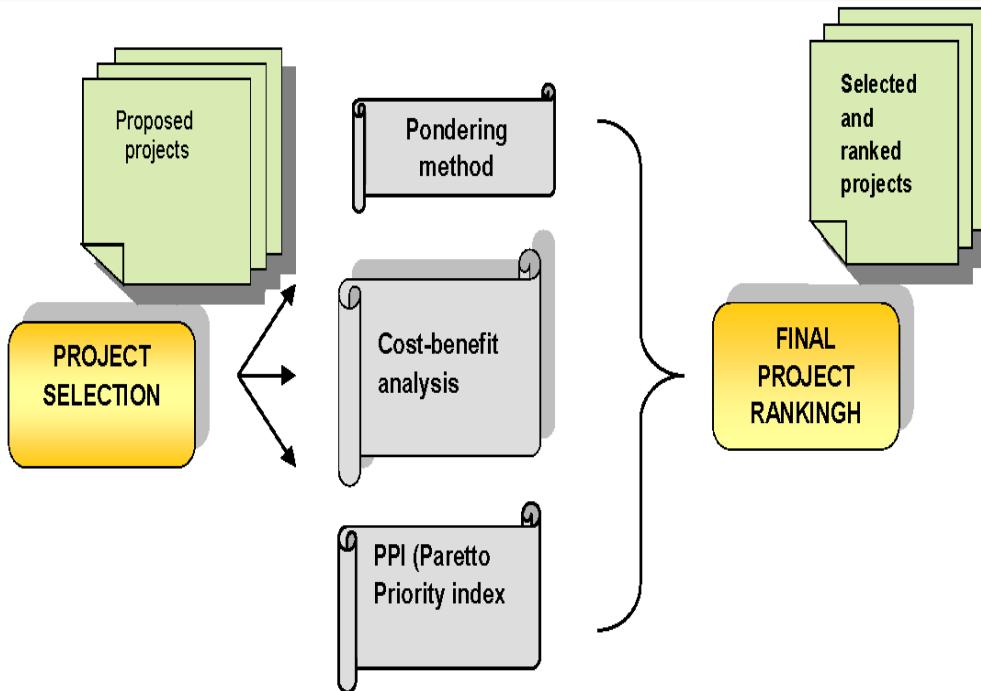
Previous activities in the proposed PPDR methodology are very important for successful application and realisation. They refer to selection and choice of priority projects, awarding a sponsor to the project, selection of the leader of the Six Sigma team, selection and appointment of the Six Sigma team members (a contract with the employer) and developing the project overview.

#### **3.2.1 Selection and choice of priority projects**

Project selection is a process in which proposed projects are evaluated. This is followed by the choice of the projects that will be implemented by the organisation in order to achieve the set goals (Figure 3). In the proposed model, two basic systems are used to select projects: a numerical and a non-numerical system. Unlike numerical methods, non-numerical methods do not use numbers (data) as an input. The criteria in the measuring process can be subjective and objective. The quality of a particular project does not have to be necessarily expressed in numbers, as subjective parameters are not necessarily less useful than the objective ones.

The methods that can be used for evaluation and selection of projects in service-providing organisations are (Juran, 1993.):

- a) Pondering method,
- b) Cost-benefit analysis, and
- c) Pareto priority index.



**Figure 3:** Selection and choice of priority projects

#### a) Pondering method

The pondering method developed for the proposed methodology is subjective, as it requires interpretation of the situation, probability, cost and satisfaction assessment, etc. However, strictness that is part of the evaluation process contributes to better judgement about a potential project. The measuring scale for each criterion ranges from 0 to 90, and for the sum weights up to 1.00. Based on these assessments, the management can compare projects. Sorting the results (grades) in descending order results in projects that will have a priority in selection. Table 1 shows a suitable form for project evaluation, and Table 2 shows the criteria.

**Table 1.** Criteria and parameters for project evaluation

Company name:		Project title:	Project number:	Evaluation date:
Nr.	Criterion	Grade	Weight	Weighted grade
1.	Customer satisfaction		0.30	
2.	Financial benefit		0.25	
3.	Improvement of quality		0.15	
4.	Employee satisfaction		0.10	
5.	Duration of project realisation		0.10	
6.	Available resources (except the team of employees)		0.05	
7.	Availability of professionals		0.03	
8.	Value of the 6σ approach (FIMA)		0.02	
Evaluated by:		Project sponsor		
		Black Belt (Green Belt)		
		Total weighted grade		

**Table 2.** Grades and grade explanation for pondering method

<b>Criteria 1 CUSTOMER SATISFACTION</b>		<b>Criteria 2 FINANCIAL BENEFIT</b>	
<b>Grade</b>	<b>Grade explanation</b>	<b>Grade</b>	<b>Grade explanation</b>
90	Important and statistically significant increase in the number of thrilled or loyal customers.	90	Net savings exceed €70,000 Excellent ROI.
50	Important and statistically significant increase in the number of very satisfied customers.	50	Net savings €30,000 - 69,999. Excellent ROI.
30	Important and statistically significant increase in the number of satisfied customers.	30	Net savings increased €10,000 – 29,999. Good ROI.
10	Important and statistically significant increase in the number of partially satisfied customers.	10	Net savings increased € 5,000 – 9,999. Acceptable ROI.
0	Project has no effect on customer satisfaction.	0	Financial benefit of the project is assumed, but not under €5,000.
<b>Criteria 3 IMPROVEMENT OF QUALITY</b>		<b>Criteria 4 EMPLOYEE SATISFACTION</b>	
<b>Grade</b>	<b>Grade explanation</b>	<b>Grade</b>	<b>Grade explanation</b>
90	Improved 10 times or more, according to the CTQ method	90	Important and statistically significant increase in the level of employees' enthusiasm
50	Improved 5 to 9 times, according to the CTQ method	30	Important and statistically significant increase in the level of employee satisfaction
30	Improved 2 to 4 times, according to the CTQ method	10	Important and statistically significant increase in partial satisfaction of employees
10	Statistically significant improvement according to the CTQ method, but less than 2 times	0	Project has no effect on employee satisfaction
0	Project has no effect on improvement of quality		
<b>Criteria 5 DURATION OF PROJECT REALISATION</b>		<b>Criteria 6 AVAILABLE RESOURCES (EXCEPT THE TEAM OF EMPLOYEES)</b>	
<b>Grade</b>	<b>Grade explanation</b>	<b>Grade</b>	<b>Grade explanation</b>
90	Project can be implemented in less than 3 months	90	Needed resources will be available on time
50	Project can be implemented in the period of 3 to 6 months	30	Limited or more difficult access to needed resources
30	Project can be implemented in the period of 7 to 9 months	0	Resources are unavailable or inaccessible
10	Project can be implemented in the period of 10 to 12 months		
0	Implementation of the project requires more than 12 months		
<b>Criteria 7 AVAILABILITY OF PROFESSIONALS</b>		<b>Criteria 8 VALUE OF THE 6σ APPROACH (DMAIC)</b>	
<b>Grade</b>	<b>Grade explanation</b>	<b>Grade</b>	<b>Grade explanation</b>
90	Project can be implemented with company employees	90	6σ approach vital to project success
30	Project can be implemented with lesser involvement of external experts	30	6σ approach is useful, but not vital
10	Project can be implemented with higher involvement of external experts	0	No obvious benefit from 6σ approach
0	The share of the company employees in the project is significantly lower than the share of external experts		

### b) Cost-benefit analysis

Cost-benefit analysis [10] refers to calculation of the following indicators:

- a) Period of return
- b) Average rate of return
- c) Net present value (**NPV**)
- d) Internal Rate of Return (**IRR**)

**Period of return** is a ratio between initial fixed investments in the project and the estimated cash inflow from the project. The ratio between these two is the time period in which the project is expected to return the initially invested funds. This indicator is based on the assumption that the project will live at least as long as required to return the invested funds. The lower number of years needed to return the initial investment means better investment. The faster the return of the invested funds, the lesser the risk that the organisation faces. This indicator is calculated as follows:

$$T_p = \frac{I_s}{P_N}; \quad \text{where:}$$

$T_p$  - Period of return [years]

$I_s$  - Initial fixed investment [money]

$P_N$  - Estimated cash inflow from the project [money]

Although the period of return indicator is widely used, it is insufficient to make a decision about starting a project. The main advantage of this indicator is its simplicity. However, this indicator does not take into account the time value of money. Therefore, it is used for full information about project selection only in case that interest rate is very low, and inflation is similar or equal to zero.

**The average rate of return** is the ratio between average annual profit after taxation and investment into a project. This indicator is calculated as follows:

$$T_{pp} = \frac{P_p}{I_s}; \quad \text{where:}$$

$T_{pp}$  - average rate of return

$P_p$  - average annual profit after taxation [money]

$I_s$  - value of investment [money]

Disadvantages of the above two indicators are compensated by using the indicators that discount the cash flow, that is, take into account the time value of money as well. There are two basic indicators of the discounted cash flow, and these are the net present value and the internal rate of return.

**Net present value (NPV).** This indicator is calculated because of the time dimension of money, which means that one euro today is worth more than one euro in the future. This indicator is calculated as follows:

$$NPV = I_s + \sum_{t=1}^n \frac{Q_t}{(1+k_{sp}+I_f)^t}; \quad \text{where:}$$

$NPV$  - Net present value of the project [money]

$I_s$  - Initial project investment [money]

$Q_t$  - Net cash flow for time period “t” [money]

$k_{sp}$  - Required rate of return [%]

$I_f$  - Predicted inflation (or deflation) for time period “t” [%]

If net present value of the project is equal or higher than zero, the project is acceptable. Net present value is calculated by means of NPV financial function in Excel.

**Internal Rate of Return (IRR)** is defined as a rate of return in which the present value of future net income is equated to investment costs. Internal rate of return is used to find the value at which discounted income and discounted expense will be equal. Internal rate of return is useful in case of unbalanced annual net income, and it is calculated by means of the Internal Rate of Return function in Excel.

### c) Pareto Priority Index

Pareto Priority Index (**PPI**) is a simple way for project evaluation and selection. Higher index projects have higher priority. In the event that two or more projects have a similar or equal PPI, priority is defined based on another method. The PPI is calculated as follows [11,12]:

$PPI = \frac{\text{Savings} \times \text{Probability of Success}}{\text{Cost} \times \text{Completion time (years)}}$
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The PPI formula refers to a return of investment weighted by the probability of success. Inputs are, of course, evaluated, and the result entirely depends on the accuracy of input estimation. The resulting number is an index value for a given project. Assuming that a project might bring savings in the amount of €50.000, that probability of success is 90%, the cost amounts to €20.000 and completion period is one year, than the PPI for this project would amount to 2.25. By evaluating several projects in this way it is possible to compare their PPIs and use this as a base for defining priorities.

#### **d) Final project ranking**

The top management of a small organisation selects projects that can best contribute to achievement of defined business goals. It is natural to focus on noticeable problems within the existing technology and processes, which means defining and trying to eliminate all Non-Value-Added Activities (NVA) and Cost of Poor Quality (CoPQ), and reduce delivery period. Finally, all necessary, but unprofitable activities should be reduced (BVA – Business Value Added Activities).

**Table 2.** Overview of project evaluation

Project number	Project title	Pondered method	PPI Priority	Period of Return	Average Rate of Return	Net Present Value (NPV)	Internal Rate of Return (IRR)	Comment

According to the methodology, it is suggested that at the beginning of its application people and other resources are directed at one project at a time. Multi-tasking can be applied after solving the problem of employee education and solving other critical resources (multi-tasking is defined as using resources for several projects at the same time period). If an organisation wishes to be successful, it has to define its capacities for project completion. Every organisation has multiple opportunities for successful project implementation with limited resources. This means that project-intended finances are selectively managed at any time period. A limiting resource always has the key position within an organisation, and it informs sponsors, engineers and members of the Six Sigma teams about the time available for the project. The starting date of project implementation and needed capacities are planned according to the availability of the key resource. This is called *project launch synchronization*, and the deficient resource that is dictating the tempo of project implementation is called a *synchronizer resource*. Financial benefit for each project has to be confirmed by a financial expert.

#### **3.2.2 Appointing a sponsor to a project**

The selected Six Sigma projects need to have their sponsors. In the proposed methodology members of the top management of the organisation are sponsors of all projects, and, exceptionally, owners of the process can act as sponsors in small organisations.

#### **3.2.3 Selection of the Six Sigma team leader and members of the team**

After awarding a sponsor, the most important task is to choose the leader of a Six Sigma team. His or her competences are evaluated in terms of his or her knowledge about a particular problem. Leaders of the Six Sigma teams are the most capable employees with confirmed competences. Team members are elected after appointing the team leader, taking into account the criteria and competences of team members.

#### **3.2.4 Development of a project overview**

According to the transparency logic, other information relevant for success of the methodology also needs to be precise and accurate. This refers primarily to a brief description of the project.

The project sponsor, in cooperation with the “Black Belt” or “Green Belt”, provides a description of the most important parameters in a project overview.

#### **4. CONCLUSION**

The above model should be considered as a part of the entire methodology suggested to small companies offering products and services that wish to apply Six Sigma. This is only one segment of activities, but an important one. Its application is very simple, but it demands very good knowledge of the specific processes and their technologies. The selection of projects and definition of priorities in problem-solving is important from the aspect of competitiveness, faster reaction to problems, increased customer satisfaction and achieving financial savings. All these elements directly create prerequisites for business excellence.

#### **LITERATURE:**

1. Burton Terence T. (2003.) : "*Six sigma for Small and Mid - Sized Organizations*", CEO Breakthrough!, 2003.
2. Juran J.M., Gryna F. M. (1993.) : "*Quality Planing and Analysis – From Product development Through USE*", Third Edition, 1993. McGraw-Hill, Inc
3. Kondić Živko (2008.) "*Prilagodba metodologije 6σ malim proizvodnim organizacijama*"- doktorska disertacija, FSB, Zagreb, 2008.
4. Liščić Igor (2005.) „*Šest sigma*“, Kvalitetom do veće dobiti, drugo savjetovanje, Upravljanje finansijskim, fizičkim i ljudskim resursima, Opatija, 12-14 September 2005.
5. Mackau Dirk (2003.): "*Integrirani sistem upravljanja malih i srednjih poduzeća: - predloženi iskustveni model*", The TQM Magazine, Volume 15 Number 1, 2003, pp. 43-51, (e- Quality – web časopis hrvatskog društva za kvalitetu).
6. Mudronja Vedran (2006.): "*Sustavi poboljšavanja kvalitete*", Međunarodna znanstvena konferencija proizvodnog inženjerstva, Hrvatska udruga proizvodnog strojarstva, 2006, pp. 53-64.
7. Mutak Miroslav (2005.): "*Šest sigma u Plivi*", 6. Hrvatska konferencija o kvaliteti, Opatija 18-20 May 2005.
8. Pyzdek T.(2003.): "*The Six sigma Handbook*", McGraw – Hill. 2003.
9. Pyzdek T. (2002.): "*Moving Toward Six sigma*", Quality Progres, February 2002, Volume 35 Number 2.
10. Silen J.(2000.): "Successful Deployment of Six sigma Within a Small to Medium Company", IQPC: Best Practices in Šest sigma, 2000.
11. Smith Larry R. (2005.) ; *Back to the Future at Ford*, Quality Progress, March 2005.
12. The EFQM Excellence Model, 1999, EEQM July 1999.

## AN INVESTIGATION INTO THE SIGNIFICANT IMPACTS OF AUTOMATION IN ASSET MANAGEMENT

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### **ABSTRACT**

*This paper explores the implications of applying automation, a technological force in which computer systems can fulfill human tasks, into the asset management industry. The investigation explores a number of significant topics in which managers should begin contemplating, including workforce origination post automation, the primary skills necessary to facilitate augmentation, and how robo advisors could challenge an organization's value proposition. The investigation was centered on Jupiter Asset Management (JAM) to support their preparations for automation, as well as to provide insight from the 'grass roots'. Research centered on interviews with experienced individuals within automotive and asset management. The findings identify that current entry level occupations with systematic, repetitive tasks in a fixed domain, will be automated. Placing a greater demand for analytical abilities in junior recruits as the cognitive understanding of what data represents is a weakness of artificial intelligence (AI) thus strengthening augmentation between employees and technology. Automated investment profilers known as robo advisors will challenge the value proposition of organizations, such as JAM, which in time will need to be onboard with the technology to remain competitive within a growing millennial market. The paper concludes that there is an evident need for asset management firms to design training processes that blend enhanced senior level shadowing, with programmes focused on broadening juniors' abilities to interpret and apply AI generated data through a series of newly identified skills.*

**Keywords:** Asset Management, JAM

### **1. INTRODUCTION AND RESEARCH OBJECTIVES**

The asset management industry presides over the strategic investment of wealth, by attempting to increase deposit values whilst additionally mitigating investment risks through the comprehensive identification of market trends, rigorous analysis of multifaceted data, and logical process of informed decision making. Facilitated through a firm's dedicated 'portfolio managers' these services are typically offered to high net-worth individuals, or institutions such as pension funds, sovereign wealth funds or other corporations (WallStreetOasis.com, 2015). The industry's presence within international financial affairs is exceedingly pronounced, consequently elevating its economic importance. In 2013 the worldwide value of assets under management were estimated at \$87 trillion (approximately one year's global GDP), with PwC forecasting this to escalate to \$100 trillion by 2020 (Bank of England, 2013). As a result of this predicted monetary value growth, it's fiscally important to the intercontinental economy to prevent instability and nurture growth of the industry. It has become ever more apparent in the 21st century that technological innovations will be a pressing managerial issue, in contending with this paradigm across many industries. A critical manifestation, and yet challenging innovative technology, that effective managers should take note of is the notion of automation.

Automation is part of a wider Artificial Intelligence (AI) umbrella, which can be defined as “the theory and development of computer systems able to perform tasks that normally require human intelligence” (Deloitte, 2016). It takes numerous forms such as Robotic Process Automation (RPA), which formulates reasoning through pattern recognition of large quantities of data. Furthermore there is ‘autonomics’, where systems are able to complete routine tasks by interfacing with existing applications to process transactions and responses faster than a human (Deloitte, 2016). When discussing the ramifications of automation, it is typical to find individuals focusing on the impact upon manufacturing and other blue collar workflows. However, automative technologies vary and can be implemented into a wide scope of organisational processes. It is thus beginning to transpire that automation can be systematically deployed into professional white collar streams as well. For example, RPA has been brought into service by global wealth advisors, UBS, in what is called the SQREEM (Sequential Quantum Reduction and Extraction Model). This delivers customised guidance for their wealthiest clients, by aligning an individual’s specific investment preferences to the most suitable financial product, thus substantiating a methodology of how automation could replace some white collar operatives in the bank (Vögeli, 2014). Although the economic and technological importance of automation has been well documented within blue collar processes, little research has yet emerged which considers the organisational opportunities, including refined decision making, reduced costs and improved innovation (Deloitte, 2016), and problems such as employee displacement (Bessen, 2016), which potentially may exist when applying the technology to the white collar sector. As a result, this paper contributes to the literature by investigating automation within the asset management sector, centered on one of the most respectable wealth management firms known as Jupiter Asset Management (JAM). More specifically this paper contributes by serving as an industry based case study that academics and managers alike can reflect upon, in order to prepare themselves for the impacts of automation within the white collar sector.

## 2. SUMMARY OF LITERATURE THEMES

According to Heathfield (2016) an entry level occupation facilitates an individual’s ability to penetrate an organisation’s workforce with relatively minor experience. White collar organisations, such as JAM, will typically require these persons to have undertaken an undergraduate degree related to their respective industry before employment considerations are made. Entry level tasks are often centered around those which senior figures don’t wish or have time to complete. This crucially exposes a new entrant to a wide host of organisational processes, thereby facilitating a broad and multi-disciplined spectrum of talent development that benefits the employee and the host firm. However, according to Frey and Osborne (2013), a significant number of these entry level positions will be automated in the coming years. This is further supported by the World Economic Forum (2016) which forecasts a substantial decline in office and administrative job roles by 2020. Consequently, it is plausible to suggest that traditional entry level occupations may be in decline as a result of automation type innovations and technologies. This consequently provokes an emerging managerial issue surrounding the forward looking structure of the firms talent acquisition methods, and the integrity of its talent development process. In respect of the financial services industry, sizeable occupational growth will dramatically shift towards roles within computing and mathematics (World Economic Forum, 2016). I.T. roles in general are poised to dominate the top tier of entry level occupations moving forward across multiple industries (Dill, 2015). As a result of these circumstances, and the International Data Corporation’s prediction that organisational access to data will grow 50-fold over the next decade (Frey, 2014), it’s subsequently plausible that data analysis and interpretation roles will become the contemporary foundation of entry level occupation schemes within the wealth management sector, as opposed to data processing. This notion is supported

by UKCES (2014) who, in respect of the business and finance profession, state analytical occupations in the future will be of upmost importance. With regards to the predicted displacement of entry level roles, as a result of automation, the academic literature generally fails to consider what entry level credentials should be regarded as essential in a post automation professional services world. In response to this, this paper proposes the B-PAP model (Britton's Post-Automation Profiler). The B-PAP model helps outline the potential requirements (qualifications, experience or characteristics) for entry level employees when a high degree of roles, at lower levels in an organisation, are automated. The B-PAP model (Table 1) has been applied to JAM, the case study setting for this paper, in order to demonstrate its applicability.

Table 1: B-PAP Model for the Asset Management Industry

Industry	Key Forward Looking Industry Needs for 2020
Asset Management	<ul style="list-style-type: none"> <li>• Enhanced interpretive capabilities to formulate deep market insights, thus building a superior investment proposition for clients.</li> <li>• Ability to formulate synergies between large amounts of data acquired by advanced technological processes to find correlations and generate investment opportunities.</li> <li>• Improved operational efficiency driven by automative processes.</li> </ul>
Job Level	Typical Occupations of the Level & Industry for 2020
Entry	<ul style="list-style-type: none"> <li>• Business &amp; Market Performance Analyst / Junior Data Analyst / Junior Programmer / Database &amp; Networking Junior</li> </ul>
<b>- ENTRY LEVEL EMPLOYEES WILL THEREFORE REQUIRE -</b>	
Qualifications (one option)	<ul style="list-style-type: none"> <li>• BA in Finance &amp; investment, as provided by Coventry University (2016).</li> <li>• BSc in Data Science, as provided by The University of Warwick (2016).</li> <li>• BSc in Software Engineering, as provided by De Montfort University Leicester (2016).</li> </ul>
Experience (multiple options)	<ul style="list-style-type: none"> <li>• Demonstrated financial prowess, by potentially making small investments in publicly traded companies.</li> <li>• Data analysis and arranging information into insightful arrays, by potentially using data visualisation software.</li> <li>• Programming, by potentially developing their own smartphone apps.</li> <li>• System and process development, by potentially collaborating in the building and/or maintenance of servers.</li> </ul>
Characteristics (all)	<ul style="list-style-type: none"> <li>• Inquisitive / Diligent / Analytical / Logical / Agile / Technologically astute.</li> </ul>

For managers it is evident that convergence between their human employees and modern automated counterparts will be essential in creating synchronous and valuable workflows. To facilitate this contemporary method of operation, it is arguable that augmentation is the primary optimisation route as supported by Davenport (2015). Broadly speaking, augmentation encourages a collaboration between humans and machines in order to complement each other's strengths, whilst compensating for each other's weaknesses (Davenport and Kirby, 2015). The MIT Economist, Autor (2014), denounces commentators who repeatedly overemphasize the use of automation as a mechanism for success, stating the challenge of instituting a machine that possesses flexibility, judgement and common sense similar to a human is “immense”.

With it apparent that machines do have some comparative disadvantages to humans, it is plausible that asset management organisations, like JAM, will need to re-configure its employees' current key skills in order to remedy overarching computer weaknesses, thus designing a modern workforce that can facilitate vigorous augmentation. According to Gray (2016), the top skills needed by employees by 2020, in an era known as the AI driven Fourth Industrial Revolution, will largely focus on 'creativity' while 'quality control' could be potentially removed. Therefore, it is evident that in order to establish affluent automation, management will need to prioritise the enhancement of humanistic soft skills and social abilities in its employees, across a wide range of industries, rather than just hard technical skills such as programming. This notion is supported by the work of Davies *et al.* (2011), who also placed a significant emphasis on human interactive skills in their top ten future abilities needed of employees' talents by 2020. Gray's (2016) prediction on the top skills required of employee's by 2020 is a good start yet it is non-industry specific. As a result, this paper builds on the work of Gray (2016) by considering the skills and abilities required of employees, for the asset management industry, within the AI driven Fourth Industrial Revolution. The Ten-ES Model (Table 2) is a conceptual application of the top skills thought to be required, in the emerging Fourth Industrial Revolution, for the asset management industry. The framework conceptually prioritizes the skills that may need to be obtained in order to allow organisations to fully capitalise on the introduction of automated entry level roles. In this paper's theoretical prediction, the more humanistic soft skills have been placed within the higher rankings to compensate for AI's lack of emotive understanding.

Table 2: Ten-ES Model for the Asset Management Industry

INDUSTRY: Asset Management		
TARGET YEAR: 2020		
Rank of Importance	Skill	Justification
1 (Most Important)	<b>Emotional Intelligence</b>	<ul style="list-style-type: none"> <li>Ability to understand the emotive needs of clients will be a key differentiator to empower sales, and AI's most prominent weakness.</li> </ul>
2	<b>Negotiation</b>	<ul style="list-style-type: none"> <li>Important in enabling portfolio managers to broker mutually favourable terms for the firm and its client in an AI competitive market.</li> </ul>
3	<b>Co-ordinating with Others</b>	<ul style="list-style-type: none"> <li>Important to ensure each operation within the firm plays its part in delivering the promised results.</li> </ul>
4	<b>Creativity</b>	<ul style="list-style-type: none"> <li>Empower humans to develop contemporary offerings and innovative uses of AI as a competitive force.</li> </ul>
5	<b>People Management</b>	<ul style="list-style-type: none"> <li>Important to nurturing augmentation between humans and machines.</li> </ul>
6	<b>Service Orientation</b>	<ul style="list-style-type: none"> <li>Important to finding correlations in research data, which could lead to profitable investments and value proposition growth.</li> </ul>
7	<b>Complex Problem Solving</b>	<ul style="list-style-type: none"> <li>Necessary to accomplish challenging objectives. AI will assist staff in forming best practice solutions.</li> </ul>
8	<b>Cognitive Flexibility</b>	<ul style="list-style-type: none"> <li>Creates adaptability in planning and thinking, when AI's identify more efficient ways of operating.</li> </ul>
9	<b>Programming</b>	<ul style="list-style-type: none"> <li>Important to building and maintaining modern AI's, however machine learning will become ever more able to improve itself.</li> </ul>
10 (Important)	<b>Logical Reasoning</b>	<ul style="list-style-type: none"> <li>Important to understanding the consequences of AI's proposed actions.</li> </ul>

Whilst automotive technologies emerge as an electrifying opportunity for managers to empower the value proposition of their firm, so too does it arise as a challenging force. In respect of the asset management industry, this is evident in the fruition of ‘robo advisors’ (RAs). As a defining trend of 2014 onwards, RAs allow firms that use complex algorithms to leverage a client’s information and then formulate tailored investment recommendations by executing highly diversified automotive investment portfolios at lower costs when compared to traditional asset management firms (Hougan, 2015). RAs have shown unprecedented growth, with the leading eleven wealth management organisations increasing the total assets under management by RAs to 65% - this was equivalent to an all time high value of \$19 billion by the end of 2014 (Miller, 2014). Whilst this monetary valuation is notable it is also negligible against the total assets under management of Vanguard for example, one of the world’s largest investment firms, who alone controlled \$3 trillion at the end of 2015 (The Vanguard Group. 2016).

Nevertheless, according to Vincent *et al.* (2015), RAs will cause significant disruption in the wealth management industry for a variety of reasons. Firstly their substantially lower fees will open the market to mass consumers (with assets under \$200k), who seek affordable financial assistance with a healthy return. Secondly, RAs will cater towards the digital preferences of millennials (individuals born post 1980), who seek greater control of their funds at anytime, anywhere. Finally, the technology will also reduce barriers to entry, as ‘Robo SMEs’ will surface more often to challenge established organisations incumbent value propositions.

Whilst UK high street banks, such as Lloyds, Santander and Barclays, are planning to launch RAs into the mass market (Dunkley and Arnold, 2016), Allianz (2015) indicates that specialised asset management firms will in the short term choose to ignore this phenomenon. This is because the majority of Baby Boomers (individuals born between 1946 and 1964) and GenXers (individuals born between 1965 and 1980) will still desire a humanistic relationship within their financial affairs. These two generational groups are important as they contain the largest proportion of high net-worth individual investors, at present. However, in the medium term future millennials will start emerging as a larger clientele segment, who will be more likely to be accustomed to the cost efficient and anytime nature of RAs. Consequently, in order to evolve a relevant value proposition whilst maintaining its premium service advantage (i.e. personalised human relationships), it is plausible JAM, and other asset management organisations, will need to establish a hybrid digital platform (part human, part automation) that aligns with the expectations of millennials (Greenhalgh, 2016).

Whilst the literature concludes that firms such as JAM will need to establish a hybrid digital platform, what is lacking at present is how managers will practically achieve this version of part human, part automation working facilities. In order to assist in this issue, this paper attempts to bridge the gap by applying the Johnson *et al.* (2013) ‘Buy, Ally or DIY’ matrix (see application below in Table 3). The general principle proposed by Johnson *et al.* (2013) entails how to achieve a new capability through acquisition, alliances and organic development. By applying the knowledge derived from previously synthesized literature to the overarching guidance of Johnson *et al.’s* (2013) model, we are able to formulate a premise as to which strategy is most suitable for JAM.

*Table following on the next page*

**Table 3: Adapted ‘Buy, Ally, DIY Matrix’ for JAM and other asset management firms**

-	Buy (acquisition)	Ally (alliance or partnership)	DIY (organic development)	Advised strategy	Justification
<b>High urgency</b>	Fast	Fast	Slow	<b>DIY</b>	• Medium term scope of interest would enable JAM to take more time building a RA platform.
<b>High uncertainty</b>	Failures potentially salable	Share losses and retain buy options	Failures likely unsalable	<b>Ally</b>	• Unfamiliar territory to JAM. • Alliance with an experienced specialist will cut risks and bolster knowledge. Option to acquire could also be potentially brokered.
<b>Soft capabilities important</b>	Culture and valuation problems	Culture and control problems	Cultural consistency	<b>DIY</b>	• Enables JAM to build a RA fully around its own mantras, culture and client expectations.
<b>High modular capabilities</b>	Avoid buying whole company	Ally just with relevant partner unit	Develop in new venture unit	<b>Ally</b>	• Highly targeted alliances will ensure the use of solely RA technologies with no other commitments.

- i) Advised strategies: Buy 0 / Ally 2 / DIY 2. ii) Ally has more ‘green advocations’ from (Johnson et al. 2013).  
 iii) Final recommended strategy: **ALLY**

### **3. RESEARCH METHODS**

As a result of the literature review, three conceptual frameworks were devised along with a host of associated premises, which required expansive research and ultimately ratification. The first was the B-PAP model (Table 1), which aimed to determine plausible traits of entry level employees at lower levels of an organisation, in an era when automaton, within the white collar sector, will be prevalent. The second was the Ten-ES model (Table 2), which details a feasible list of prioritised skills needed by entry level employees in order to allow organisations, within the asset management industry, to fully capitalise on automation in the lower levels of an organisation. In general, the Ten-ES model largely promoted the precedence to humanistic soft skills, thereby synthesising the work of Gray (2016) and Davies *et al.* (2011). The last premise provided by the literature review considers how managers will establish the automated capability predicted. Here an application of the Johnson *et al.*'s (2013) ‘Buy, Ally or DIY’ matrix was considered. In order to investigate these assertions the study interviewed richly experienced and knowledgeable individuals within the fields of automation and asset management, as a method to clarify and investigate the three conceptual frameworks with empirical evidence.

The first interviewee was Simon Crawford, a Fixed Income, Multi-Asset Performance & Risk Manager. Crawford has worked at JAM for 15 years, amassing a deep working knowledge of JAM’s financial products. Crawford also has a profound awareness of macro industry trends that could affect the asset management industry and was therefore an ideal candidate for commenting on the asset management industry’s perception of automation particularly in JAM.

The second interviewee was Daniel Hulme, CEO of Satalia and Advisor to the UK Home Office. Hulme holds an Engineering Doctorate in Computational Complexity and thus has evidenced academic superiority in this field, presenting an experienced candidate who rendered profound insights on the forward looking ramifications of automation in the asset management industry. Both were interviewed using structured interviews, in order to streamline the discussions into key areas of interest, based around the three conceptual frameworks devised through the literature review. The duplicate use of predetermined questions for each interviewee prevented wastage of resources as well as facilitated truthful comparability between interviewee's responses, as guided by Saunders *et al.* (2012). To accommodate the investigatory process and establish an academic reference, both interviews were recorded, transcribed and have been stored electronically.

Of crucial importance to the success of this investigation's data analysis before and after the commencement of interviews, was the use of an analytical pattern matching produce, which examined qualitative information. In accordance with this methodology (i) existing or personally developed models (B-BAP, Ten-ES as per the literature discussion) were utilised based upon the available literature, (ii) interviews were conducted which examined these assertions within the models devised, (iii) and finally both interview transcripts were interpreted in order to devise conclusions in comparison to the original conceptual models/frameworks. Where interconnected evidence existed between Hulme and Crawford, a valid explanation to support the findings had been identified. Where an unforeseen variable challenged the established thought of the investigations considered in the three conceptual frameworks, further inquiry was initiated so as to establish the reasoning behind its origin and thus developed a deeper level of contributory knowledge (Yin, 2009). The application of pattern matching has proven to be a useful methodology in this investigation. It allowed for the evolution of a robust set of research themes and frameworks through a clear framework of academic investigation, which supported the identification of appropriate interviewees (Miles and Huberman, 1994).

#### 4. RESULTS, DISCUSSIONS, AND CONCLUSIONS

##### **i) The reorganisation of JAM's talent development programmes**

This investigation has found confirmation for the works of Frey and Osborne (2013) that indeed many typical entry level occupations will be automated, by way of Hulme and Crawford both concurring with this widely accepted notion. Hulme stated that roles which require “systematic, repetitive work in a fixed domain” will be primary operational targets for automation. However, the means to how this will impact management and their forward looking talent development protocols is nuanced and highly intriguing.

According to Crawford, if entry level roles are automated, then new recruits will begin a ‘step up’ within the organisation therein altering the firm's structure of career progression and operational formation. With the absence of menial tasks to educate new recruits, Crawford believed entrants would be placed into more extensive in-house training programmes, coupled with a greater degree of senior shadowing thus enabling for a more pragmatic application of education. Some of the contemporaneous academic elements of these training programmes have already been identified. For example, Crawford cites a significant issue with AI is that it can create a lack of understanding e.g. operatives are presented with a number but have no comprehension of how it was derived. As a means to answer this challenge, Hulme advocated that all personnel across from entry level to more senior operatives should have a working comprehension of machine learning and AI, therein enabling an awareness of data analysis processes to which they can further interpret from a humanistic perspective.

In relation to the devised B-PAP model, the evidence largely supports and expands this investigation's theoretical 2020 asset management industry notions. For example, in terms of qualifications, Hulme cites psychological degrees as a credible option, given that management will need to comprehend the human decision making process in order to design services that resonate with the target audience, and ultimately design a compelling motivation to purchase. Crawford amazingly states that despite asset management firms being white collar, experience may not be required if a candidate is entering via a programme similar to the current industry wide 2020 scheme, which absorbs gap year and A-level students into the workforce. However, he did additionally cite the importance of maturity and intelligence as characteristics, particularly for any younger 2020 programme recruits.

In conclusion it is recommended that JAM, and other asset management organisations, should recognise and prepare for the loss of current entry level positions, by designing new training protocols that blend extensive in-house training programmes, with a greater degree of senior shadowing thus supporting juniors' abilities to interpret AI generated data. Prospective applicants to the firm should be considered against the ratified forward looking B-PAP model.

## **ii) The definitive top skills needed in asset management industry in the era of automation**

In relation to the works of Gray (2016) and the World Economic Forum (2016), a thought provoking contradistinction was identified between the responses of Hulme and Crawford. Hulme advocates the theory of a soft skill prioritisation approach in the design of a proactive augmented workforce, stating that empathy is a crucial skill that computers lack, a notion that is echoed by World Economic Forum (2016) and Davies *et al.* (2011). On the other hand, Crawford reverses this perspective, believing computers are only as competent as their programmers and thus the harder technical skills such as coding should be prioritised. The literature of Gray (2016), the World Economic Forum (2016) and Davies *et al.* (2011) conflicts with Crawford's opinion, and thus it should be respectfully considered as perhaps an inconsistent or outlying notion. Each perspective during the research process was reflected in the respective Ten-ES model answers. Thus confirming the assertions posed.

In conclusion, by considering the perspectives of Hulme and Crawford with those considered in the literature there are a number of direct matches and near matches (to within two allocations of each other) for the Ten-ES model conceptualized as part of the literature review (see table 2 below). As a result, the model is empirically informed and thus should be systematically incorporated into the evolution of JAM's future talent development programmes. Broadly speaking the softer skills are categorised higher in the rank order of importance, with those becoming narrower and harder being ranked lower, see table 4 below.

*Table following on the next page*

Table 4: Empirically Derived: Top skills needed in the asset management industry for the era of automation

Rank Order	Skills of Importance	Rank Order	Skills of Importance
<b>1 (most important)</b>	• Emotional Intelligence	<b>6</b>	• Judgement and Decision Making
<b>2</b>	• Creativity	<b>7</b>	• Complex Problem Solving
<b>3</b>	• Negotiation	<b>8</b>	• Service Orientation
<b>4</b>	• People Management	<b>9</b>	• Cognitive Flexibility
<b>5</b>	• Coordinating with Others	<b>10 (important)</b>	• Logical Reasoning

### **iii) The current existence of augmentation and how to enhance it**

Presenting itself as a fascinating acknowledgement, Hulme declared that we as a society are already augmented, exemplifying that we cannot immediately access all of human knowledge without a machine (computer and the internet). Consequently this raises a compelling notion that civilisation should not perceive augmentation as a forward looking technology to prepare for. But rather that businesses are already engaged within the methodology. Thus to optimise its advantageous properties, management must evolve augmentation as opposed to create it, by way of creating faster and more natural ways to engage with the digital world thus propagating better decision making with agility. Hulme declared there are indeed tasks that computers cannot effectively perform such as interpreting the results of analytical processes with empathy based perspectives. For example, Hulme cited that some individuals will not approve of using RAs as their decisions may be perceived as unfair or unsympathetic, which as a result will likely always stimulate a demand for human ratification. Within this conjecture, Hulme believes there is a compelling augmentation opportunity to ensure a seamless transition process from machine to a human, thus quelling the individual's concerns and maintaining customer satisfaction. As a result, there is firm evidence for the notion of augmentation as a primary optimisation route as argued by Davenport (2015), and that an overemphasis of automative technologies is counterproductive given their empathic weakness as argued by Autor (2014). One meaningful concern that was not previously identified, during the investigation, was the issue of responsibility. Hulme indicated that if a machine was to independently make an inadequate decision, then the implementing firm would be liable for its error. However, by augmenting a human employee with the machine who ratifies all proposed automative decisions, the liability rests with that employee alone. Consequently, this presents an ethically challenging but credible strategy for firms, particularly those that are small and not cash rich, to reduce their overarching automative liability and exposure to monetary damages.

In conclusion, we can surmise that augmentation is already largely present in the daily activities of our personal and professional lives. Management should recognise that organisations must now invoke a process of evolving this synergy, rather than supposedly creating one, in order to orchestrate an ever more seamless customer experience and increase operational efficiencies. The use of humans as mitigating individuals of automative liability is an ethical question that management should consider, against the cultural values of their organisation and potentially their legal responsibilities imposed by law.

#### **iv) Alliance with the option to acquire as the most effective strategy to onboard RA's**

The research conducted here affirms the notion that an alliance is the most appropriate choice to facilitate a RA centric hybrid digital platform. According to both Hulme and Crawford, a strategic alliance or partnership would be the most favourable approach, with Crawford going further to state that the second most appropriate option would be an acquisition and the third would be a DIY option. Crawford believes that if a firm has developed in their maturity and proved the value of their services, alliances are effective in preventing wasting monetary and other resources in discovering whether a technology will be of organisational use. Whilst supportive of the strategy Hulme did urge caution with arguably its most prominent risk, that being competitive advantage issues, which could arise from numerous firms using the same partner thus fabricating a lack of differentiation. Consequently, this adds favour to the notion of an alliance with the option to acquire later, which both Hulme and Crawford enthusiastically supported.

In conclusion, to acquire an RA capability it is recommended that JAM, and other asset management organisations, should strategically align or partner with a specialist firm in this field. Furthermore, the partner should demonstrate operational proficiency and ideally an option to acquire the partnering RA organisation, in order to develop a competitive advantage. Furthermore, organisations like JAM should implement a seamless transition process for customers who choose to abandon RAs in favour of an empathic human manager.

## **5. FUTURE RESEARCH**

The potential to extend the results of this investigation through further research are pronounced in two key areas. There firstly is a providential opportunity to explore how precisely augmentation, between RAs and employees, can be nurtured in order to create faster and more natural expressions of engagement between employees, facilitating enhanced decision making. For example, analysis could be conducted into the properties of incorporating augmented reality technologies within an organisation's working environment, both in terms of facilitating a progressive method of completing occupational tasks and improving a firms value proposition. The second area presented for future research is an investigation into prospective strategic alliances with the option to acquire, between a large asset management firm, such as JAM, and a flourishing RA organisation in the approach to 2020. This builds upon the papers recommendations, and would compile an additional layer of academic knowledge that firms could utilise in their technological diversification.

## **LITERATURE:**

1. Allianz. (2015). How boomers and Generation Xers are facing their financial futures. *Generations Apart Study*, pg 8.
2. Autor. D. (2014). Polanyi's Paradox and the Shape of Employment Growth. *Journal of Research in Employment*, pg 130 & 136.
3. Bank of England. (2014). The age of asset management? *Speech by the Governor of the Bank of England, Mark Carney*, pg 2 & 3.
4. Bessen. J. (2016). Computers Don't Kill Jobs but Do Increase Inequality. *Harvard Business Review Article*. 24th March 2016. Retrieved July 2016 from <https://hbr.org/2016/03/computers-dont-kill-jobs-but-do-increase-inequality>.
5. Coventry University. (2016). Finance and Investment BA (Hons). *Internet Research*. Retrieved July 2016 from: <http://www.coventry.ac.uk/course-structure/business-and-law/undergraduate-degree/2016-17/finance-and-investment-ba-hons/>.
6. Davenport. T. (2015). Augmentation or Automation? *Wall Street Journal Article*. 24th February 2015. Retrieved July 2016 from: <http://blogs.wsj.com/cio/2015/02/25/augmentation-or-automation/>.

7. Davenport. T, & Kirby. J. (2015). Beyond Automation. *Harvard Business Review Article*. June 2016. Retrieved July 2016 from: <https://hbr.org/2015/06/beyond-automation>.
8. Davies. A, Fidler. D, & Gorbis. M. (2011). Future Work Skills 2020. *Journal of Research in Employability Skills*, pg 8, 9.
9. De Montfort University Leicester. (2016). Software Engineering BSc (Hons). *Internet Research*. Retrieved July 2016 from: <http://www.dmu.ac.uk/study/courses/undergraduate-courses/software-engineering-bsc-degree/software-engineering-bsc-degree.aspx>.
10. Deloitte. (2016). *Intelligent automation entering the business world*, pg 2, 3.
11. Denscombe. M. (2007). The Good Research Guide. 3rd ed. Buckingham: Open University Press.
12. Dey. I. (1993). Qualitative Data Analysis. 1st ed. London: Routledge.
13. Dill. K. (2015). The Best And Worst Entry-Level Jobs. *Forbes Article*. 24th April 2015. Retrieved July 2016 from: <http://www.forbes.com/sites/kathryndill/2015/04/28/the-best-and-worst-entry-level-jobs/#2b308bc1ceaa>.
14. Dunkley. E, & Arnold. M. (2016). UK banks set to launch ‘robo-advisers’. *Financial Times Article*. 22nd January 2016. Retrieved July 2016 from: <https://next.ft.com/content/afb03182-c107-11e5-9fdb-87b8d15baec2>.
15. Frey. C, & Osborne. M. (2013). The Future of Employment: How Susceptible Are Jobs to Computerisation?. *Journal of Research in Employment*, pg 71, 72.
16. Frey. T. (2014). Fifty-Five Jobs of the Future: Part One. *Journal of Research in Employability*, pg 38.
17. Gray. A. (2016). The 10 skills you need to thrive in the Fourth Industrial Revolution. *Summative article of the World Economic Forum’s Future Jobs Report*. 19th January 2016. Retrieved July 2016 from: <https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/>.
18. Greenhalgh. H. (2016). Mr Robot, your new financial adviser. *Financial Times Article*. 19th February 2016. Retrieved July 2016 from: <https://next.ft.com/content/48e5f1a0-d631-11e5-829b-8564e7528e54>.
19. Heathfield. S. (2016). What Is an Entry-Level Job? *The Foundations of Long Careers are Built on Experience*. 27th June 2016. Retrieved July 2016 from: <http://humanresources.about.com/od/glossary/qt/what-is-an-entry-level-job.htm>.
20. Hougan. M. (2015). Robo-Advisers: What It Means to You. *Journal of Research in Robo Advisor Technology*.
21. Johnson. G, Whittington. R, Scholes. K, Angwin. D, & Regnér. P. (2013). Exploring Strategy. 10th ed. Harlow: Pearson Education Limited, Pg 330, 350 & 351.
22. Miles, M.B, & Huberman, A.M. (1994). Qualitative Data Analysis. 2nd ed. Thousand Oaks, CA: Sage.
23. Miller. M. (2014). Total AUM Increases for 11 Leading Robo-Advisors. *Notes on Retirement*. 22nd December 2014. Retrieved July 2016 from: <http://wealthmanagement.com/retirement-planning/total-aum-increases-11-leading-robo-advisors>.
24. Reichman, C.S. (1962). Use and Abuse of Statistics. 1st ed. New York: Oxford University Press.
25. Saunders. M, Lewis. P, & Thornhill. A. (2012). Research Methods for Business Students. 6th ed. Harlow: Pearson Education, pg 56, 317 - 320, 374 - 379, 383, 579 - 580 & 598.
26. Smith. E. (2006). Using Secondary Data in Educational and Social Research. 1st ed. Maidenhead: Open University Press.
27. Stewart, D.W, & Kamins. M.A. (1993). Secondary Research: Information Sources and Methods. 2nd ed. Newbury Park, CA: Sage.

28. The University of Warwick. (2016). Undergraduate Degrees >> Data Science. *Internet Research*. Retrieved July 2016 from:  
<http://www2.warwick.ac.uk/fac/sci/statistics/courses/datasci/>.
29. The Vanguard Group. (2016). *Fast facts about Vanguard*. Retrieved July 2016 from:  
<https://about.vanguard.com/who-we-are/fast-facts/>.
30. UKCES. (2014). Careers of the future. *Journal of Research on Future Careers*, pg 4.
31. Vincent. G, Laknidhi. V, Klien. P & Gera. R. (2015). Robo-Advisors, Capitalizing on a growing opportunity. *Journal of Research on Robo Advisor Technology*, pg 2.
32. Vögeli. J. (2014). UBS Turns to Artificial Intelligence to Advise Clients. *Bloomberg Article*. 7th December 2014. Retrieved July 2016 from:  
<http://www.bloomberg.com/news/articles/2014-12-07/ubs-turns-to-artificial-intelligence-to-advise-wealthy-clients>.
33. WallStreetOasis.com. (2015). What Is Asset Management? *Financial Career Guidance Portal*. Retrieved July 2016 from: <http://www.wallstreetoasis.com/finance-dictionary/what-is-asset-management-am>.
34. World Economic Forum. (2016). The Future of Jobs. *Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*, pg 15, 52, 53 & 79.
35. Yin, R.K. (2009). Case Study Research: Design and Methods. 4th ed. Thousand Oaks, CA: Sage.

## **Entrepreneurship Caught Between Creativity and Bureaucracy**

## VENTURE CAPITAL FOR SME - A BIG CHANCE TO DEVELOP IDEAS

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### **ABSTRACT**

*As it told the ancient Greek philosopher Heraklit: "Pantha rhei" – everything flows. It is difficult to disagree with that the central element of business constitutes the change. There is no doubt, that our environment is also still changing. All enterprises have more or less experience of changes. But it hits hardest the smallest businesses which contend with problems of market by not sufficient amount of money. SME's are mostly the businesses engaging people with great passion, enthusiasm and full of inspirations. Their self-motivation let them generate many projects, but the lack of capital stops them at the start with own business. Modern enterprises are based for a long time on debt and copartnership. Loans and credits existed yet from ancient times. The entrepreneurs in search of financing, are looking for many ways and combinations to get funds. But currently we can observe, that very often “the capital” is looking for the entrepreneurs. Keen on support business ideas can be find between: beginning from European funds, by government institutions and even private persons. One of them are Venture Capitals as a type of private equity financed early-stage and emerging firms. Their actions make business easier not only by provided money but they also help to manage the firm.*

**Keywords:** enterprise, financing, SME, Venture Capital

### **1. INTRODUCTION**

Several years have passed since the crisis of the first decade of the XXI century. Many economies have been still suffering from the effects of the economic collapse caused by the problems of banks. In the south European countries government crises erupt due to growing debts, waves of immigrants or crashing banks. However, in the assessment of specialists time has come to get out from depression, we can talk about development, and even about accelerating economic situation. Time turbulence will remain in the memory of all who have been affected by its consequences. Thinking of enterprises, which then fell into trouble, we have to remember the people who created it. Both employees and managers of large corporations or smaller companies have been asking themselves questions about the future of the company, and above all about their own living. Fears of another bad period raises greater respect for the still changing environment and may result in less momentum in decisions concerning development. In addition to good strategies, unique solutions, etc., the development of the company relies on funds from various sources of financing. Currently there are a lot of opportunities to finance projects. The projects called innovative are now the most supported ones, but financial instruments providing funds for the development of new products also fall within the concept of innovation. Introduced ways of engagement are far from the traditional approach: first I earn, and after that I invest my own money. Bank credits and bank loans as the most popular still constantly dominate in the discussion about obtaining cash injection, but are no longer seen as the only available solution. In turn the choice of how to finance the project will always be associated with a range of different kinds of risks. New need of investors shall surely be the driving force for development of financing instruments, and what will be doing those tools innovating is probably limiting the possibilities and ways to protect against risks. Big business financially related to capital from international banks has its own rules. Since the law created for the corporations does not fit to the economic theory of the free market, we can

say that the "free market" remains only, and merely a theory. It is enough to mention the recent password "too big to fail" to be able to quickly determine which the project can count on governmental support in case of failure of the project or when any problems occur in the environment. Certainly, the SMEs companies have no chance for special treatment and relief granted due to malfunctioning system or managers' wrong decisions makings. The comparison arises of the single ant in an anthill - one does not mean much, but their multiplicity constitutes power. Small and medium-sized enterprises account for up to 95-98% of all enterprises in many countries, and their share in the GDP of many economies ranges from 50 to 80 percent. It is therefore a main pillar on which the economy of each country is based.

The huge role of small and medium-sized enterprises for the economy does not subject to any discussion. Therefore it is worth respecting and we must constantly observe the problems which the major market players belonging to the SME sector are to challenge.

Each company has its own characteristics resulting from the industry, area of operation, number of employees, etc. It is difficult to find exactly the same company and lead to comparability with the other. However, there are problems that affect the companies to the same extent or making them to take similar action in a constantly changing environment. Common issues include mainly the ways of obtaining funds, but also issues related to employment and the quality of the employees.

The function of the company, among other things, is development. The company is established to take actions to reach thriving and enter a phase of prosperity. But it is difficult to imagine the establishment of a business without the finance and capital. Even a small investment requires financial funds. Cash must be obtained previously and secure the continuity of the financing during the investment period. Market offers a full range of financial instruments for companies in the sector of small and medium-sized companies. In addition to traditional credit and loans they can benefit from leasing, government and EU grants, refund or to join the company in exchange for shares, etc. The choice depends on the conditions of support - among other things, the conditions for securing the return of the funds obtained, financing period, the interest rate and many other factors affect the decisions. Quite new possibility of financing the project makes the offer of support funds of private equity and venture capital in particular. The changes in the business environment, increasing competition and the dynamic development of information and communication technologies tend to seek not only the capital but also to searching solutions to support the production, distribution and marketing of products. Other needs of businesses may be related to the internal organization of the company and establishing relationships and building networks with the external environment. In such cases, venture capital funds can perfectly meet the needs of growing companies serving with their experience and professionals facilities.

The article discusses the situations and cases of companies on the Polish market. International bodies, including the OECD and the European Commission expect that in 2016 the Polish economy will accelerate between 3.4 and 3.5 percent. The head of the IMF mission to Poland, Daria Zakharova, discussing in July 2016 the results of the last inspection of the economy, points out that the Polish economy is growing steadily and it is the only economy in Europe that had not experienced a recession during the crisis. We should therefore expect further growth, what encourages companies to develop and to seek solutions giving advantage in the market. For venture capital funds it can mean the acceleration of investment in the economy.

## **2. VENTURE CAPITAL**

The concept of venture capital is often used interchangeably with the term private equity. But private equity is a concept much wider. Venture capital is defined as a private equity invested in companies that have not yet reached market maturity. These belong to the ideas in the early stages of development, the most of such are business concepts that are explored in terms of

commercialization. The so-called ideas "for sowing" refer to projects called start-up's. So we can say that those are plans or intentions only. In the interests of venture capital is also to invest in the expansion of companies before reaching maturity.

Poland's largest association of investors being interested in the development sector PE / VC, the Polish Private Equity Association, formulate a definition of private equity and venture capital as "investments in private equity, in order to achieve medium- and long-term profits from the increase in capital value. Private equity / venture capital (PE / VC) can be used for the development of new products and technologies, increasing working capital, acquisition of companies or for improving and strengthening the company's balance sheet. Venture capital (VC) is a type of private equity. These are investments made in the early stages of business development, for the start of the company or its expansion. ". Narrow definition speaks about VC as a "venture capital financing in the early stages of the operation (sowing: seed-link; start: start-up) or in an expansion phase. Entities providing such funds, accepting high risk and they expect a high return on investment".

Funds support financially small companies that already operate or have project at an early stage of development. The project must pass through a sieve team's opinion of the investment fund. In case of positive ratings company has a chance of getting funds from several to tens of millions of euros. Fund in exchange for its support is a shareholder of the company. Shares exceed 50 per cent of the capital.

The funds prefer to invest in the area of IT - information technology, high tech industry - modern technology, bio-tech, but also engage in more traditional industries. The flagship examples cited in the literature are available for almost everyone when you turn on your computer. Giants Google, Skype, and Virtual Poland in Poland had previously received support from the venture in the form of cash and know-how. The dream of every VC fund manager is to search on the market a promising team of people who after an injection of knowledge and finance will create the power. But before similar investments bring big money, it is necessary to put also not bagatelle capital to start.

Ventures constitute an alternative offer for banks that do not want to finance enterprises with short or no history of operations. And if they decide to support business like this, then they have to demand high security and regularity in the repayment of loan installments. Therefore venture plays a huge role, because they do not expect immediate results. They allow operators to develop an idea, and in return for the risk and patience expect a higher rate of return. The main objective - to increase the company's value - is in line both for supported businesses and investing in venture capital funds. In further time horizon VC funds are looking for investors who redeem fund shares, bringing them multiple profit. In addition to financing the funds offer support in a form of know-how, extensive contacts, etc. The activities focus on restructuring, involving among other things, cutting and control of cost, development, sales and marketing. It can be advisable also to support merger of the company with another business entity in order to achieve synergy and resale the shares in the final phase of the investment.

Finding an investor requires an earlier analysis of the market for venture capital funds. The individual funds for them lead right investment policy which may focus on specific industries. Funds may restrict its activities to the area of the country in which they operate. Other funds may omit the consideration of projects which are in very early stages of development.

Venture capital equity investors shall willingly invest in the company which will be characterized by:

- they have good managerial staff,
- they will have better products / services offer than your competitors, or technological handicap,
- they will be acting on the growing market,
- they will be growing faster than other companies in the given branch,

- they will have a substantial market share.

The equity managers make the huge concern. On the market, as we can hear very often, the most lacking people are those talented and with passion. Investment experts say that it's easy to find a good business idea but it needs someone who will be able to implement the plan successfully.

If the plan of applying for business support equity will be positively considered and it starts a phase of the investment, such a company will refer to many benefits. The most important benefit is the raised capital allowing the continued operation and development of the project. Equally important is the transfer of knowledge in the field of the management of the company. There are also benefits for employees and managers working in a growing company. The company formed by them becomes a substantial company with the times. In addition to attractive salaries, staff can count on incentive packages. Moreover specialists and managers coming from success projects become the object of interest of competition and often receive offers from the market to participate in the next project.

## **2.1. The way to development**

The investment venture capital fund are two stakeholders - the entrepreneur and the investor. The aim of both shareholders is the development, success and increasing the value of the company. Let's focus on the side requesting the support. Companies in the start-up phase have much to do in the sphere of primary as well as in the financial sphere. The way to finance the project can be divided into several stages.

Step 1. In the first stage of obtaining financing the company founders have to identify and define the important points for further action. The request form for financing the idea should be preceded as a SWOT analysis, it means it should contain description of the strengths, weaknesses, opportunities and threats for the project. The analysis should include descriptions of products or services, what is their uniqueness, how quickly can be copied by competitors and has to answer questions why this activity is to gain customer recognition and why the project is to generate profits at a satisfactory level. It's actually a step that every entrepreneur commencing activity should make. The analysis requires a thorough examination of the market of products and services, and in the next step is to analyze the market of the functioning vc funds. At selecting the fund we should consider the criterion of specialization in investing in companies with a similar profile.

Step 2. Business Plan. The talks start. Investor and entrepreneur talk. The entrepreneur presents the description of the project in a form of a business plan. The document should contain information about the company's strategy, development plans, experience of its founders and about the offered products or services in the context of the competitive environment. In addition, the financial section should include the analysis of prospective revenues and profits. This is a critical step for further negotiations with the VC fund. Investment specialists estimate that of each 100 business plans submitted only 5 qualify to enter into talks with the entrepreneur.

Step 3. Project study. Positive assessment in the pre-selection stage begins a thorough analysis of the company's so-called due diligence. Research is carried out by representatives of the fund who analyze the financial and legal business situation, competitive environment, innovation of our products or services and the ability to copy the idea.

Step 4: Negotiations of partners. Stage of negotiating the terms of the transaction begins even in course of examination of the equity condition. The investors are experienced lawyers and professionals from investment banks, opposite them sit entrepreneurs often represented only by inexperienced business enthusiasts. The talks relate to the transaction value, number of shares which the fund will take over and as to the responsibilities of the both parties. These are also personal issues relating to expectations of changes in the composition of the board. The

representatives designated by the investor are rarely appointed for direct management of the company and occupation of supervisory board functions. Their task is to advise on finance, management and marketing.

Step 5. Agreement. Signing the contract crowns the success of the talks completion. The company and the fund sign a contract, the company receives financing and it begins implementation of the development plan fixed for several years.

Step 6. Redemption. The funds usually invest for a period of 3 to 5 years. After this period, the fund begins to seek those willing to purchase the company. Most frequently that sought is again the one interested in the fund, a branch investor or the company's management (ie. MBO) or debut on the stock exchange.

## **2.2. Funds in Poland**

The Polish Market of PE/VC has developed since the 90s of the twentieth century. At the beginning the funds were created with public funds of the United States. Gradually the capital of the European institutions has appeared, and at the end of the century there was an increase in investments financed by foreign companies and commercial organizations. The Polish investors also joined the VC market. The Polish market of VC has been still growing, but despite the significant increase, this form of investing has not made a large share of GDP. The average share of PE / VC investments in 2007-2015 amounted to 0.14%. In 2015 this share amounted to 0.19% of the GDP. But in those years GDP increased from 313 to 428 billion PLN. However according to assessments the Polish sector of PE / VC has high growth potential. In the ranking of attractiveness in 2016 [Table 1] Poland ranks high on the 25th place with more than 73 points out of 100 possible to obtain. The indices of the previous years show that Poland has gained 35 points in 2007, and in 2011 only 36 out of 80. Thus a huge jump has been seen. In the Polish Private Equity Association there are over 50 members of the fund managing of private equity / venture capital. But there are more on market. Sources [Table 2] like The Invest Europe give 112 investors with investments over € 800 million in 2015. The number of separate funds, venture capital amounts to 64, and their funds involved in the investments reach nearly 30 million €. The increase in the amount of investment funds amounted in last year is € 157 million. The largest amount was invested in 2015 in the energy sector [Table 3]. For comparison, the same sources say the number of € 564 billion of the European investments PE/VC funds. This value covers approximately 91% of all investments financed in Europe by the private equity and venture capital funds.

*Table following on the next page*

*Table 1: The Venture Capital and Private Equity, Country Attractiveness Index, 2016 Annual, (<http://blog.iese.edu/vcpeindex/>)*

Country	Rank/Trend	Score	Country	Rank/Trend	Score	Country	Rank/Trend	Score
United States	1 -	100.0	Iceland	43 ↓	63.2	Uganda	85 ↑	42.8
United Kingdom	2 ↑	95.5	Estonia	44 ↑	62.6	Pakistan	86 ↓	42.6
Canada	3 ↓	94.3	Mauritius	45 ↑	62.4	Nigeria	87 ↓	41.8
Singapore	4 -	93.3	Romania	46 ↑	61.0	Tanzania	88 ↓	41.2
Hong Kong	5 ↑	92.7	Hungary	47 ↓	60.1	Ghana	89 ↑	40.2
Australia	6 ↓	91.9	Vietnam	48 -	59.5	Kyrgyzstan	90 ↑	40.1
Japan	7 -	91.8	Kazakhstan	49 ↑	59.4	El Salvador	91 -	38.4
New Zealand	8 ↑	88.7	Slovenia	50 ↑	59.1	Kenya	92 ↑	38.2
Germany	9 ↓	88.6	Bahrain	51 ↓	58.8	Namibia	93 ↓	36.7
Switzerland	10 ↑	85.7	Latvia	52 ↑	58.7	Bangladesh	94 ↓	36.0
Malaysia	11 ↑	85.6	Peru	53 ↓	58.7	Belarus	95 -	33.7
Denmark	12 ↓	85.4	Brazil	54 ↓	58.3	Malawi	96 ↓	33.4
Norway	13 ↑	85.2	Bulgaria	55 ↑	58.0	Ivory Coast	97 ↑	33.1
Finland	14 -	85.2	Czech Republic	56 ↑	57.6	Bosnia-Herzegovina	98 ↓	32.9
Sweden	15 ↓	84.6	Sri Lanka	57 ↓	56.4	Dominican Republic	99 ↑	32.3
Netherlands	16 -	84.4	Morocco	58 ↓	55.8	Rwanda	100 ↑	32.0
Ireland	17 ↑	82.2	Jordan	59 ↑	54.8	Bolivia	101 ↓	31.8
Belgium	18 ↓	81.6	Oman	60 ↓	54.3	Moldova	102 ↓	31.7
Israel	19 ↓	81.3	Slovakia	61 ↑	54.2	Guatemala	103 ↓	31.5
Korea, South	20 ↑	80.8	Argentina	62 ↓	54.0	Azerbaijan	104 ↑	29.1
France	21 ↓	80.3	Georgia	63 ↑	53.8	Cambodia	105 ↑	29.0
Taiwan	22 ↓	79.4	Zambia	64 ↑	53.3	Paraguay	106 ↓	28.3
Austria	23 ↓	78.5	Tunisia	65 ↓	53.2	Albania	107 ↓	26.4
China	24 ↓	77.1	Greece	66 ↑	53.2	Algeria	108 ↑	26.0
Poland	25 ↑	73.7	Cyprus	67 ↓	52.7	Cameroon	109 ↑	25.0

*Table 2: Number and investments of PE/VC in Poland (European Private Equity Activity Data, <http://www.investeurope.eu/research/activity-data/annual-activity-statistics/>)*

All Private Equity		2015			
Amounts in € thousands	Stage Focus	Amount	%	Num. of companies	%
Seed		2 824	0,4	25	22,3
Start-up		11 690	1,5	31	27,7
Later stage venture		14 668	1,8	8	7,1
<b>Total venture</b>		<b>29 181</b>	<b>3,6</b>	<b>64</b>	<b>57,1</b>
Growth		115 181	14,4	26	23,2
Rescue/Turnaround		0	0,0	0	0,0
Replacement capital		4 526	0,6	1	0,9
Buyout		653 309	81,4	21	18,8
<b>Total Investment</b>		<b>802 197</b>	<b>100,0</b>	<b>112</b>	<b>100,0</b>

*Table following on the next page*

*Table 3: Number and investment of PE/VC in Poland by Sector focus (European Private Equity Activity Data, <http://www.investeurope.eu/research/activity-data/annual-activity-statistics/>)*

<b>Amounts in € thousands</b>	<b>2015</b>			
	<b>Amount</b>	<b>%</b>	<b>Num. of companies</b>	<b>%</b>
<b>Sector focus</b>				
Energy & environment	417 348	52,0	6	5,4
Consumer goods & retail	81 078	10,1	12	10,7
Transportation	70 260	8,8	5	4,5
Business & industrial products	48 374	6,0	8	7,1
Computer & consumer electronics	43 079	5,4	22	19,6
Consumer services	39 314	4,9	10	8,9
Agriculture	34 079	4,2	4	3,6
Communications	32 203	4,0	12	10,7
Life sciences	18 273	2,3	12	10,7
Business & industrial services	15 588	1,9	14	12,5
Financial services	2 210	0,3	2	1,8
Chemicals & materials	271	0,0	4	3,6
Real estate	119	0,0	1	0,9
Construction	0	0,0	0	0,0
Unclassified	0	0,0	0	0,0
<b>Total investment</b>	<b>802 197</b>	<b>100,0</b>	<b>112</b>	<b>100,0</b>
<i>Subtotal High-Tech</i>	<i>7 755</i>	<i>1,0</i>	<i>13</i>	<i>11,6</i>

### **3. THE SME SECTOR**

Small and medium-sized enterprises (SMEs) relate to enterprises which play a key role in the economies around the world. They mainly contribute to economic growth and stimulate innovation in all the sectors. Small and medium-sized enterprises create the most jobs, and their share in the produced GDP ranges from 50% to as much as 80% depending on the economy. The most basic data allow for the formulation of observations that these are the most important market participants, as well as, contribute to global development. Enterprises SMEs, however, are the most sensitive to changes in the proximal and distal environment.

Actually, every country with a market economy devotes separate regulations governing issues related to the SME sector. In the European Union the definition of small and medium enterprises is defined by the Commission Regulation (EC) published in gazettes specific to each Member State. In the last Commission Regulation (EC) No. 800/2008 of 6 August 2008, there are specified the following categories of companies:

- Microenterprise - has fewer than 10 employees and an annual turnover not exceeding 2 million or annual balance sheet in total does not exceed 2 million.
- Small business - has fewer than 50 employees and an annual turnover not exceeding 10 million or annual balance sheet in total does not exceed EUR 10 million.
- Medium company - has fewer than 250 employees and has an annual turnover not exceeding EUR 50 million or an annual balance sheet in total not exceeding EUR 43 million.

#### **3.1. SMEs in Poland**

According to CSO data, in 2009, small and medium-sized enterprises constituted the dominant part of the entire collectivity of non-financial companies (1.670 thousand. - 99.8%). Over the years, the proportions have varied very significantly. In 2013, a community of small and medium-sized units amounted to 1.768 thousand [Chart 1]. In the sector of non-financial enterprises SMEs there were working more than 70% of employees, but most, since 39% worked in the micro units. The largest number of enterprises is located in the trade and repair of motor vehicles [Chart 3]. This type of activity also generates the most revenue, and gives the greatest number of jobs. The second most important industry is manufacturing. Then, construction and professional, scientific and technical activities.

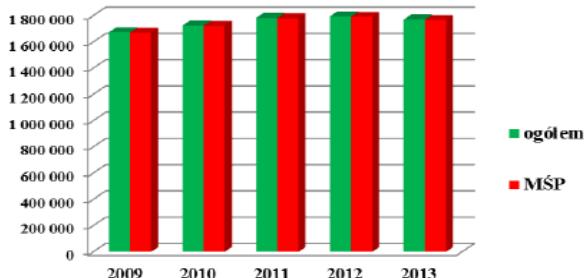


Chart 1: The number of SME sector against the total number of enterprises in 2009-2013  
<http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiebiorstwa-niefinansowe/male-i-srednie-przedsiebiorstwa-niefinansowe-w-polsce-w-latach-2009-2013,22,1.html>)

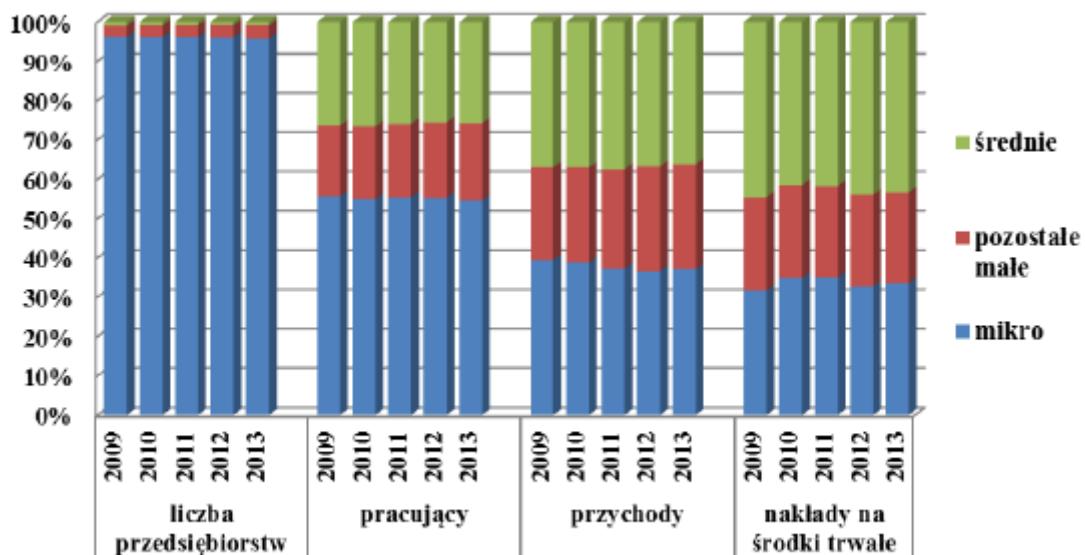


Chart 2: Basic data of the SME sector by size class in 2009-2013 (<http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiebiorstwa-niefinansowe/male-i-srednie-przedsiebiorstwa-niefinansowe-w-polsce-w-latach-2009-2013,22,1.html>)

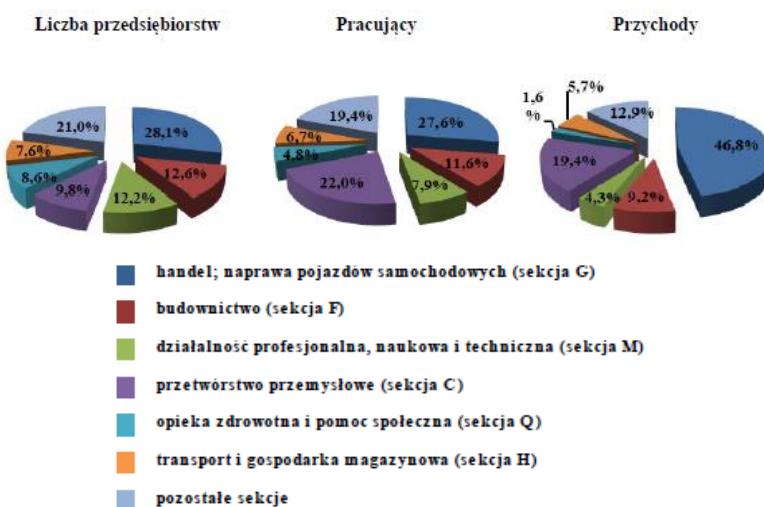


Chart 3: The SME sector in selected areas of the economy in 2013. (<http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiebiorstwa-niefinansowe/male-i-srednie-przedsiebiorstwa-niefinansowe-w-polsce-w-latach-2009-2013,22,1.html>)

#### 4. CONCLUSION

The potential of Polish venture capital continues to grow, many small businesses still facing the problem of lack of cash for development. An opportunity for entrepreneurs are now government loan funds, but they do not give support in terms of management and marketing. Businesses have greater confidence in the government, therefore support to companies should develop through the channels of public institutions.

#### LITERATURE:

1. Central Statistical Office. (2015). *Small and medium non-financial enterprises in Poland in 2009-2013*. Warsaw: Statistical Publishing Establishment. Retrieved 12.09.2016 from <http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiebiorstwa-niefinansowe/male-i-srednie-przedsiebiorstwa-niefinansowe-w-polsce-w-latach-2009-2013,22,1.html>.
2. Groh, A., Liechtenstein, H., Lieser, K., and Biesinger, M. *The Venture Capital and Private Equity, Country Attractiveness Index, 2016 Annual*. Retrieved 13.09.2016 from <http://blog.iese.edu/vcpeindex/>
3. Kornasiewicz A. (2004). *Venture Capital w krajach rozwiniętych i w Polsce*. Warszawa: Wydawnictwo Difin.
4. KPMG w Polsce. (2014). *Rynek Private Equity w Polsce: fakty a opinie*. <https://www.kpmg.com/PL/pl/IssuesAndInsights/ArticlesPublications/Documents/2014/Rynek-Private-Equity-w-Polsce-fakty-a-opinie-2014-KPMG-w-Polsce.pdf>
5. Łapacz, D. (2015). *The participation of small and medium-sized Enterprises in the processing of GDP - Poland on the background of the European Union*. Gdańsk: Contemporary Economy. Retrieved 13.09.2016 from [http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-29c5e354-7e54-4587-9d3a-14e03ac8e7c4/c/5\\_D\\_\\_Łapacz\\_WG\\_1\\_2015\\_ZiE.pdf](http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-29c5e354-7e54-4587-9d3a-14e03ac8e7c4/c/5_D__Łapacz_WG_1_2015_ZiE.pdf).
6. Sobańska-Helman, K., Sieradzan P. (2013). *Inwestycje private equity/venture capital*. Warszawa: Wydawnictwo Key Text.
7. *The Invest Europe Yearbook – 2015, European Private Equity Activity 2007-2015*. (2016). Retrieved 14.09.2016 from <http://www.investeurope.eu/research/activity-data/annual-activity-statistics/>.

## CROWDFUNDING IN THE EU – CHALLENGES OF THE INNOVATIVE SOURCE OF FINANCING

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### **ABSTRACT**

*Crowdfunding is a new, attractive and innovative source of financing for SME's. Although there is no established international definition, it typically refers to open calls for financing, often over internet. Monetary investors are rewarded with a product, symbolic reward, investment or lending. Calls for investment, typically called crowdfunding campaigns, can be used for various types of projects – SME's, start-ups, artistic project, creation of a specific product by an already established company, or other. It allows for an easy and quick fundraising option for investment seeker, and the same for investor, thus broadening the range of possible investors and greatly simplifying the investment. The average amount of funds raised through crowdfunding is estimated to be at EUR 1.5 billion in 2014., thus reaching a 116% annual growth between 2013 and 2014. However, due to the recent prominence of such campaigns, they remain largely unregulated in most countries of the EU, and thus present certain risks for the investors. Starting with the European parliament resolution of 9 July 2015 on Building a Capital Markets Union (2015/2634(RSP) and continuing with the Action Plan on building a Capital Markets Union, EU has given special attention to the crowdfunding, with a view on regulating and promoting use of this innovative financial instrument. This paper will analyze risks inherent to crowdfunding, provide analysis of the regulating tools on crowdfunding currently in effect in the EU, challenges to the cross-border funding and use comparative analysis of the USA and EU market to predict possible future regulation and thus future for the crowdfunding.*

**Keywords:** crowdfunding, EU regulation, financing, innovation

### **1. INTRODUCTION**

Small and medium sized enterprises (SMEs) are the drivers of economy and job creation. In the EU, 23 million SMEs represent 99% of businesses (Buysere, 2012). For the non-financial sector, they account for 58% of value added in the EU in 2014. Their importance is evident in employment – they provide 67% of total employment and account for 71,4% of the increase in employment in 2014 (Muller, 2015). When looking at the job creation, start-up companies take an especially important place. Around 60% of companies manage to survive the challenge of the first three years of business (OECD, 2015). However, once through, they greatly contribute to the job creation. On average, young companies provide 17% of employment, but are responsible for the generation of 42% of new jobs (Calvino, 2016). Among the many challenges the new companies face, access to financing is one of the key concerns. Large enterprises have access to capital markets that SMEs, especially start-ups, do not have. Obtaining enough capital is a necessary first step in almost any venture. However, the research results seem to show signs of improvement in EU. Some authors, focusing on developing countries worldwide, claim that access to finance is the single biggest barrier to starting a company (Wang, 2016). In the euro

area, access to finance seems a lesser concern lately. Its importance as an impediment is steadily coming down, after a long period of difficulty. “Access to finance” was considered the least important concern for euro area SMEs (10%) while “Finding customers” remained the dominant concern (27%), followed by lack of “Availability of skilled labour”, increases in “Costs of production and labour” and “Competitive pressures” and “Regulation”. There is still significant divergence across countries regarding the difficulties in accessing external sources of finance. Some 31% of SMEs in Greece, 13% in Italy and 12% in Ireland and the Netherlands mentioned that access to finance was the most significant problem, compared with around 6% of SMEs in Austria and Germany and 8% of SMEs in Finland (ECB, 2016). Still, less than half of SMEs perceive no limitations in their access to future financing, namely 41% in the EU28. Those that do perceive such limitations most often cite insufficient collateral or guarantees, and interest rates and prices of financing being too high (EC, 2016). The results of the European Commission's Innobarometer survey confirm that access to funding is a key obstacle for spurring R&D and the commercialisation of innovative products or services (EC, 2016). The conclusion from this data can only be that SMEs in less developed countries, with the lowest rate of economic growth, are the ones having most trouble obtaining the necessary financing, especially in the area of R&D for start-ups.

After the financial crisis and the economic recession that started in 2007, European Commission has undertaken a number of initiatives and programmes to strengthen the economic growth and sustainability and resilience of economy. The Competitiveness and Innovation Framework Programme (CIP) was designed to provide SMEs with better access to finance, as well as support for innovation, and regional business support. CIP was active between 2007 and 2013, and it provided more than EUR 1 billion to help more than 340,000 SMEs get access to loans and equity finance (EC, 2016). CIP was superseded by COSME programme in 2014. COSME will run until 2020 and it has a planned budget of EUR 2.3 billion (EC, 2016). In 2011, an Action plan to improve to access to finance for SMEs was communicated. This Action plan recognized the difficulties SMEs have in obtaining the financing they need in order to grow and innovate (EC, 2011).

European Commission didn't limit its actions to the direct support of SMEs. A comprehensive legal framework was initiated in order to provide SMEs with a stable and sustainable business environment. A number of workshops and public consultations led to the Green Paper consultation on the long-term financing of the European economy of March 2013 (IP/13/274) which initiated a broad debate and lead to replies from all segments of the economy. The paper, among other issues, called for changes in efficiency and effectiveness of the financial markets to provide long-term financing instruments and to ease the access of SMEs to the bank and non-bank financing (EC, 2013). This led to the European parliament resolution of 9 July 2015 on Building a Capital Markets Union (2015/2634(RSP)). On 30 September 2015, the Commission adopted an Action plan on building a Capital Markets Union (CMU), setting out a list of key measures to achieve a true single market for capital in Europe (EC, 2015). The three main objectives of the CMU are broadening the sources of financing in Europe towards non-bank financing; deepen the single market for financial services; and to help promote growth and financial stability. CMU focused on easing the access to financing for SMEs, including access to public markets for raising capital and providing a legal framework for the alternate source of financing, thus complementing the set of potential financing instruments which are

complementary to bank financing . In the Economic Analysis, an accompanying document<sup>1</sup>, it is stated that the overreliance on banking is an impediment for growth and a weakness of the whole system, which led to the economic downturn following the recent economic crisis.

In these documents crowdfunding is recognized by the European Commission as one of the most potent financial instruments to promote start-ups and innovative companies. In the Communication from 27 March 2014 titled “Unleashing the potential of Crowdfunding in the European Union“, European Commission has highlighted crowdfunding as an important part of the previously mentioned plans for improved financing and long term development of SMEs<sup>2</sup>. On 25 June 2014, following a public call for applications to select the members, the “European Crowdfunding Stakeholders Forum” (ECSF), and expert group, was set up by the European Commission. The group

should assist the Commission in developing policies for crowdfunding to flourish while taking into account the interest of contributors<sup>3</sup>. ECSF had 4 meetings so far, on providing assistance, guidance and data which were contributing factors for the Report on Crowdfunding in the EU Capital Markets Union, published on 3 May 2016. In the report, the importance of crowdfunding for reaching the CMU Action plan objectives were highlighted yet again (Commission staff working document, Crowdfunding in the EU Capital Markets Union, SWD (2016) 154 final, 3.5.2016.).

## **2. CROWDFUNDING, BENEFITS AND RISKS**

### **2.1. What is crowdfunding?**

There is no single, universally accepted definition of crowdfunding.

One of the possible definitions is the one proposed by De Buysere et al. It states that crowdfunding can be defined as a collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organizations. This is usually done via or with the help of the Internet. Individual projects and businesses are financed with small contributions from a large number of individuals, allowing innovators, entrepreneurs and business owners to utilise their social networks to raise capital. It proposes further division into four basic types of crowdfunding: Donation (a donor contract without existential reward); Reward (purchase contract for some type of product or service); Lending (credit contract, credit is being repaid plus interest); and Equity (shareholding contract, shares, equity-like instruments or revenue sharing in the project/business, potential up-side at exit) (Buysere, 2012).

Lambert and Schwienbacher (2010) propose the following definition: "Crowdfunding involves an open call, essentially through the Internet, for the provision of financial resources either in form of donations (without rewards) or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes" (Bellaflémme, 2010). Valenciane and Jegeleviciute (2013) describe crowdfunding as a method to establish the connection between entrepreneurs, who aim to raise capital, and novel investors, who form an emerging source of capital and are willing to invest small amounts, through internet-based intermediaries (Valenciane, 2013).

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<sup>1</sup> Commission staff working document, Economic analysis, Accompanying the document COM (2015) 468 final, SWD (2015) 183 final, 30.9.2015.

<sup>2</sup>Communication from the Commission, Unleashing the potential of Crowdfunding in the European Union, COM (2014) 172 final, 27.3.2014.

<sup>3</sup> Call for applications for participation in a European Commission informal expert group „European crowdfunding stakeholder forum“ (ECSF), 16.4.2014.

European Commission defines crowdfunding as an open call to the public to raise funds for a specific project<sup>4</sup>, or alternatively, as an emerging alternative form of financing that connects directly those who can give, lend or invest money with those who need financing for a specific project<sup>5</sup>. European Commission offers two possible divisions of types of crowdfunding. The first one includes crowd sponsoring (donation, reward od pre-sales based crowdfunding), crowd investing (profit-sharing or securities-based) and crowd lending campaigns. It is stated, however, that crowdfunding is still in the early development stage so these main models can evolve in the future<sup>6</sup>. The second division is that on crowdfunding with non-financial returns (donations, rewards and pre-sales) and crowdfunding with financial returns (crowd investing and crowd lending)<sup>7</sup>.

These definitions and divisions have a lot in common, even if some elements are defined slightly differently. There is also the issue of hybrid forms, which combine two or more aspects outlined above. As the crowdfunding increases in volume and importance, spreads outside of national borders in the EU area and before further regulation arrives which deals precisely with various appearances of crowdfunding, it will be necessary to find an international and universally accepted definition of crowdfunding.

## 2.2. Benefits of crowdfunding

Crowdfunding has always been around in human society. The act of pulling resources together is what enabled us to advance from the stone age to the level of technological advancement that we enjoy today. Yet, as capitalism developed, and business regulation encompassed every step and every aspect of running a business, it became a huge burden to actually engage in running or owning a business except on a professional basis, or with the help of other professionals. The prevalent model of owning a part of a business – stock exchange – has become so highly regulated that it is not possible to take part in it except through specialized companies and certified individuals. Similarly, setting up and running a company can be a huge challenge, given the enormous amount of regulation that needs to be followed, which regularly increases on the EU level. With the strict penalties for not doing so, it can be a discouraging experience. As stated, crowdfunding has always been there. Donations to various charity causes have always existed. Statue of Liberty has been constructed with the funds gathered from small private donors. Democracy is hard to imagine without donations to political parties (though the morality of it can be question in some cases). US president Barack Obama made masterful use of crowdfunding in his 2008 campaign, collecting more than three quarter of a billion USD in crowdfunding. Around half of that amount was in contributions of less than 200\$. Yet, crowdfunding in business is a novel feature, gaining prominence only in 2008 and beyond. Two aspects have benefitted the rise and spread of crowdfunding in mainstream business. The first one is Age of Internet, and the second is the economic crisis of 2008.

The economic crisis aspect is easy to explain. With the near-collapse of the financial system, the financing became much harder to obtain. Renewed and much more risk-assessment

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<sup>4</sup> Communication from the Commission, Unleashing the potential of Crowdfunding in the European Union, COM (2014) 172 final, 27.3.2014.

<sup>5</sup> European Commission Memo from 27 March 2014, [http://europa.eu/rapid/press-release\\_MEMO-14-240\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-14-240_en.htm?locale=en), accessed on 7.9.2016.

<sup>6</sup> Communication from the Commission, Unleashing the potential of Crowdfunding in the European Union, COM (2014) 172 final, 27.3.2014.

<sup>7</sup> European Commission Memo from 27 March 2014, [http://europa.eu/rapid/press-release\\_MEMO-14-240\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-14-240_en.htm?locale=en), accessed on 7.9.2016.

procedure and regulation (in the EU Basel III, MiFID, CRD IV, AIFMD, to mention a few), low liquidity of banks, lack of trust in financial institutions, reduced purchase power, low market demand, fragile partnering companies and fear of what tomorrow may bring made starting up a business a lot more difficult proposition. Some company managers adapted, and after a few successful crowdfunding campaigns, the model became more widespread.

Age of Internet enabled numerous business opportunities over the last two decades, and it was a matter of time when the new tools, especially Web 2.0, will be used in a creative manner for fundraising. Gaining public attention with the computer game and gadget projects through the platforms such as Kickstarter, it quickly spread to other business. Internet allows unprecedented level of communication between consumers and companies seeking capital, using videos, graphic material, text and social networks for promotion of their products and plans. With the ability to quickly provide small payments, suddenly everyone could become an investor, without any prior knowledge of the sector or stringent legal procedure. The freedom and speed of information that the Internet offers were therefore used to create a funding model before the regulators could take note of what was happening. This, of course, also presented new risks for the investors. We now have to find the right answer to this challenge of providing both safe and secure investment models while not impeding growth of the crowdfunding model.

### **2.3 Risks of Crowdfunding**

Unique risks and uncertainties exist for both the investors and project initiator in the crowdfunding system.

Due to the snapshot nature of crowdfunding platforms, and a lack of elaborate project and financial plans, the probability of the project finishing as planned is uncertain. For instance, backers may not receive the return as specified. In this regard, start-ups going bankrupt or delayed delivery of pre-sold products are among the most prevalent problems (Bruntje, Gajda, 2016). Advertising and advice by promoters can be misleading or even fraudulent<sup>8</sup>. Due to the small amounts of money pledged or raised, most crowdfunding campaigns fall outside of security instruments governing more traditional investment models (depending on national legislation). For example, UKs Financial Conduct Authority considers crowdfunding, and especially the investment model, to be a high risk investment activity<sup>9</sup>.

Crowdfunding can be risky for project initiators as well. Start-ups face problems as they grow invariably of the source of capital, but some issues are inherent to the crowdfunding. For instance, many project initiators who use crowdfunding as pre-sales mechanisms do not possess scalable production facilities. As a consequence, many products and other rewards are delivered with delay, potentially damaging the reputation of the project initiator. This may also decrease profitability of the project due to unforeseen extra costs (Bruntje, Gajda, 2011).

## **3. CROWDFUNDING IN THE EU AND USA**

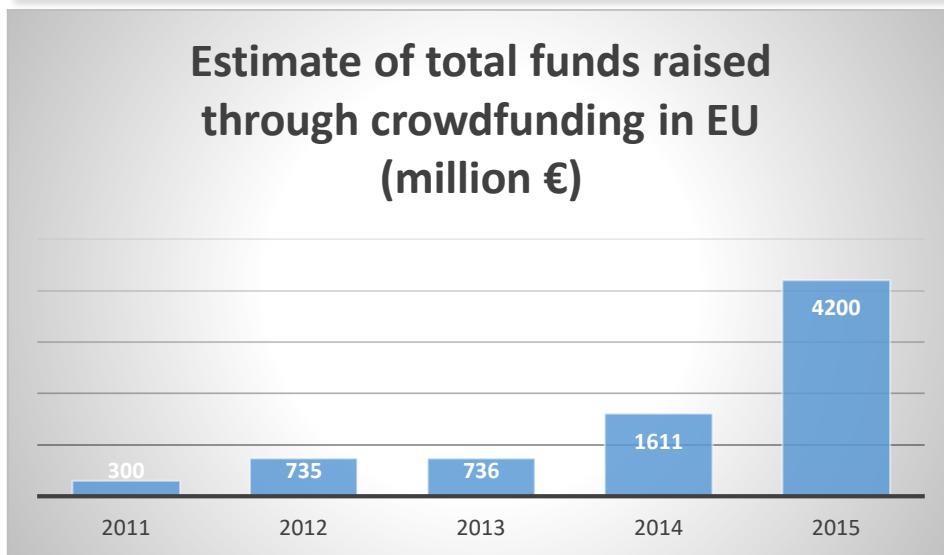
### **3.1 Size of the EU market**

From the humble beginnings in mid-2000, crowdfunding has progressively increased in size and importance in EU. Although still small compared to the venture capital market, its speed of expansion, the potential of growth and other previously outlined advantages will make it a decisive factor in the economic progress and long term sustainability of SMEs in EU.

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<sup>8</sup> Communication on crowdfunding in the European Union, Frequently Asked Question, Brussels, 27.3.2014.

<sup>9</sup> Financial Conduct Authority website, <https://www.fca.org.uk/consumers/crowdfunding>, accessed on 22.9.2016.



*Chart 1: Total funds raised through crowdfunding in EU (For 2011.: De Buysere et al. 2012 “A framework for European crowdfunding”; For 2012.: Communication from the Commission, Unleashing the potential of Crowdfunding in the European Union, COM (2014) 172 final, 27.3.2014.; For 2013. and 2014.: European Commission, Crowdfunding: Mapping EU markets and events study, 30.9.2015.; For: 2015. Commission staff working document, Crowdfunding in the EU Capital Markets Union, SWD (2016) 154 final, 3.5.2016.)*

Given the lack of a specific and universally accepted definition of crowdfunding and different legal solutions present today, it is not possible to correctly measure the size of the total funds raised. Therefore, the data present in Table 1. is only an estimate, gathered through the various sources, all of which varied in the market coverage and methods used. The inconsistency is especially obvious between 2012. and 2013., which in the graph indicate no growth, while in reality the growth was consistent. Until better data arrives, this table is useful not because it accurately depicts the amount of capital raised, but rather because it relatively accurately shows the trends in the crowdfunding model, and that is the incredible rate of growth which increases exponentially every year.

Looking at the data in Table 2, we can notice 2 that more than the 89% of crowdfunding market is carried by the United Kingdom. This disproportionality can be explained by the linguistic connection with the USA market, on which the crowdfunding expansion started first. This provided the United Kingdom market with an early start. Despite the different starting positions, the amount of capital raised through crowdfunding is increasing equally in almost all Member States. One indicator of the crowdfunding activity is the number of the active platforms. There are some 510 crowdfunding platforms active today in the EU, which is an average increase of 49,55% annually between 2009 and 2014 (EC, 2015).

*Table following on the next page*

*Table 1: Total amount of capital raised through crowdfunding by Member States in 2014.  
 (European Commission, Crowdfunding: Mapping EU markets and events study, 30.9.2015.)*

Country:	Amount raised (€ 000)
United Kingdom	1.397.611
France	50.494
Germany	36.633
Netherlands	16.204
Spain	13.929
Estonia	11.281
Finland	6.489
Sweden	5.058
Italy	4.504
Poland	4.111
Austria	2.297
Denmark	2.271
Ireland	2.010
Czech Republic	1.511

Country:	Amount raised (€ 000)
Belgium	1.381
Slovakia	936
Romania	586
Portugal	511
Hungary	330
Greece	226
Bulgaria	186
Slovenia	152
Malta	125
Croatia	101
Lithuania	57
Latvia	48
Luxemburg	14
Cyprus	2

### **3.2. Regulatory framework in the EU**

There is no specific legal regulation of crowdfunding on the EU level. Following the initial assessment inside the Capital Market Union Action plan, the European Commission does not intend to come up with legislative measures, but remains committed to promotion of crowdfunding and regular assessments of possible issues requiring legislative action (EC, 2014). The diversity of the crowdfunding market makes it difficult to be singularly regulated. Many different appearances of crowdfunding require different approaches to the issue of regulatory framework. This is further compounded by the different solutions in national legislation, due to the lack of the EU regulation in this specific area.

On the one hand, it is important that regulatory framework allows for unimpeded development of crowdfunding platforms and continues to provide easy access. Excessive requirements on capital requirements, conduct of business rules, conflicts of interest rules and organisation requirements can stifle the creativity offered in this sector and the impetus of growth. On the other hand, investors are entitled to a certain degree of protection, and harmonization is essential for the cross-border activities.

Some aspects, such as donation-based crowdfunding or pre-payment or rewards-based crowdfunding, deal with small amounts of money and don't require any further legislative actions. For example, UKs Financial Conduct Authority intentionally excludes such models from regulation (Financial Conduct Authority).

It gets a lot more complex in the field of loan-based or investment-based crowdfunding. EU rules may apply to financial-return forms of crowdfunding, depending on the type of activity and the specific business model used. These include the Prospectus Directive, the Payment Services Directive, MiFID, CRD IV, AIFMD, the Consumer Credit Directive, the Distance Marketing of Financial Services and the Regulations on Capital Requirements, European

Venture Capital, European Social Entrepreneurship Funds<sup>10</sup> and possibly some other, like the Unfair Commercial Practices Directive, Unfair Contract Terms Directive and Data Protection Directive. Only some of these instruments would apply to a given business model and only in specific cases, depending on the financial crowdfunding campaigns design (such as the amount of money being raised).

Today, seven EU Member States have introduced specific national regulatory frameworks on crowdfunding, with several others preparing to regulate said area<sup>11</sup>. This has a negative effect on the cross-border activities of crowdfunding platforms and projects. In 2015, 46% of crowdfunding platforms engaged in a comprehensive study indicated zero funding inflows from outside of their country while 44% of firms had between 1-50%. 77% of surveyed firms had 10% or less of total funding coming from outside their country of operations. As in 2014, European alternative finance activity remains heavily domestic<sup>12</sup>. One of the areas that can be harmonized are the offerings under securities laws. Namely, the Prospectus directive doesn't regulate sub-€5 million public offerings, and Member States cannot require prospectus for offerings under 100,000 € threshold. The problem is that for offerings between 100,000 € and 5,000,000 € the choice is left to the individual Member States whether they grant an exemption on offerings up to 5,000,000 € or not (Bruntje, Gajda, 2016). Since most crowdfunding offers fall within this amount, the differing national legislation prevents start-ups from raising funds across the border. Another unregulated issue is limitations in public offerings for limited companies by national company laws, given that start-ups usually choose simpler forms of company type, with all the limitations and restrictions. Investment type contracts might be seen as derivatives by one national legislation, and as securities by another, thus falling under either the Prospectus Directive or Markets in Financial Instruments (MiFID) directive, and therefore either gain the permission to operate under European passport (in case of MiFID) or not. In order to evade such legal restrictions, crowdfunding platforms are sometimes set up on the eBay model, providing only technical means through which investor and project initiator can get in contact with each other (Bruntje, Gajda, 2016). As stated before, the challenge is to balance excessive regulation offering more security for the investor, without limiting and discouraging the project initiators, and to allow them for cross-border operation with as few obstacles as possible. Given the plethora of national law regulation options currently in place, only the harmonized approach on a European level can break down the barriers, limits and restrictions investors and crowdfunding platforms face in cross-border activities. Therefore, the European Commission should, in due time and in harmony with other legislation being prepared, build a European legislative framework to facilitate crowdfunding.

### 3.3. Crowdfunding in the USA

Crowdfunding was a phenomenon first observed in the USA, and as of 2015., the size of the market was estimated to be € 33.58bn, coming up from the € 9.65bn in 2014. and € 3.24bn in 2013. (Wardrop, Lui, Burton, James, 2016). The USA crowdfunding market is therefore substantially larger and with a far more explosive growth than that of the EU. This is no small part due to the timely regulation, namely the Jumpstart Our Business Startups Act (JOBS Act), signed by president Obama on April 5, 2012. Especially important parts of this act are Title II (Access to capital for job creators, signed into effect on September 23, 2013.) and Title III (Crowdfunding, signed into effect on May 16, 2016.). This regulation allowed for tremendous

<sup>10</sup> European Commission Memo from 27 March 2014, [http://europa.eu/rapid/press-release\\_MEMO-14-240\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-14-240_en.htm?locale=en), accessed on 7.9.2016.

<sup>11</sup> Commission staff working document, Crowdfunding in the EU Capital Markets Union, SWD (2016) 154 final, 3.5.2016.

<sup>12</sup> Sustaining momentum, The 2nd European alternative finance industry report, Cambridge Centre for Alternative finance, September 2016

change in ease of doing business. Previously, the cost for registration to advertise and sell securities was prohibitively high. It ranged from \$ 300,000 to \$ 500,000 for legal accounting, filing and other fees for an underwritten public offering under Securities Act. With the exemption under Regulation A (sub - \$ 5 million offering), it still costed between \$ 40,000 and \$ 60,000, while offerings under Regulation D still had the limitation on the number of unaccredited investors to 35 (Stemler, 2013), (accredited investors are those individuals who earn more than \$200,000 per year or have a net worth of over \$ 1 million (Barnett, 2016). Donations or rewards models are not regulated.

Title II allowed for much easier registration, speeding up the process and lowering the cost of public offering, raising exemptions to \$ 50 million, allowing for an unlimited number of accredited investors and raising restrictions on the advertisements on the sale of equity. These and other provisions of the Title II allowed for the explosive growth of crowdfunding the USA. Yet, the provisions of the Title III are providing the real change. Entrepreneurs can raise up to \$ 1 million without registration with the SEC, though they have to provide disclosures (financial, business and risk) with regular updates, and funding portals are defined and regulated (Stemler, 2013). Investors can invest up to 5 or 10% of their annual income or net worth, with no need for accreditation (European Crowdfunding Network, Review of crowdfunding regulation, 2014.). This regulatory framework allows for unprecedented freedom of investing, which is certain to help keep the impetus of growth of SMEs in USA.

#### 4. CONCLUSION

Crowdfunding can be a powerful propellant of the SME financing, and therefore of the economic growth in the EU. It allows for financing of companies which may otherwise not be able to get funded by the most traditional financing instrument in EU, bank loans, and it does so with lower costs for the entrepreneur. At the same time, it allows for a huge amount of capital stored in citizen bank deposit to be activated. The success of the crowdfunding in USA shows how good regulation can open up new possibilities for growth. Yet, the fragmentary nature of national legislation is limiting crowdfunding to national borders, with huge obstacles for cross-border operations, if appropriate regulation is available at all. The European Commission, which monitors the developments, should proceed and start building European regulatory framework in order to remove those obstacles and fully harness the power of crowdfunding.

#### LITERATURE:

1. Belleflamme, P., Lambert, T., & Schwienbacher, A. (2010, June). Crowdfunding: An industrial organization perspective. In *Prepared for the workshop Digital Business Models: Understanding Strategies', held in Paris on June* (pp. 25-26).
2. Brüntje, D., & Gajda, O. (2016). Crowdfunding in Europe, State of the Art in Theory and Practice. Springer International Publishing.
3. Calvino, F., Criscuolo, C., & Menon, C. (2016). *No Country for Young Firms?: Start-up Dynamics and National Policies* (No. 29). OECD Publishing.
4. Stemler, A. R. (2013). The JOBS Act and crowdfunding: Harnessing the power—and money—of the masses. *Business Horizons*, 56(3), 271-275.
5. Valanciene, L., & Jegeleviciute, S. (2013). Valuation of crowdfunding: benefits and drawbacks. *Economics and Management*, 18(1), 39-48.
6. Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries?—An empirical evidence from an enterprise survey. *Borsa Istanbul Review*, 16(3), 167-176.
7. Commission staff working document, Crowdfunding in the EU Capital Markets Union, SWD (2016) 154 final, 3.5.2016.

8. Commission staff working document, Crowdfunding in the EU Capital Markets Union, SWD (2016) 154 final, 3.5.2016.
9. Commission staff working document, Economic analysis, Accompanying the document COM (2015) 468 final, SWD (2015) 183 final, 30.9.2015.
10. Communication from the Commission, An action plan to improve access to finance for SMEs, COM (2011) 870/final, 7.12.2011.
11. Communication from the Commission, Unleashing the potential of Crowdfunding in the European Union, COM (2014) 172 final, 27.3.2014.
12. De Buysere, K., Gajda, O., Kleverlaan, R., Marom, D., & Klaes, M. (2012). A framework for European crowdfunding. *European Crowdfunding Network*.
13. ECB, June 2016, Survey on the Access to Finance of Enterprises in the euro area, October 2015 to March 2016
14. European Commission (2015), Survey on the Access to Finance of Enterprises (SAFE): Analytical Report
15. European Commission Memo from 27 March 2014, [http://europa.eu/rapid/press-release\\_MEMO-14-240\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-14-240_en.htm?locale=en), accessed on 7.9.2016.
16. European Commission, Action plan on building a Capital Markets Union, COM (2015) 468 final, 30.9.2015.
17. European Commission, Crowdfunding: Mapping EU markets and events study, 30.9.2015.
18. European Commission, Green Paper – Long term financing of the European Economy, COM (2013) 150 final, 25.3.2013.
19. OECD (2015), OECD Science, Technology and Industry Scoreboard 2015: Innovation for growth and society, OECD Publishing, Paris
20. Muller, P., Caliandro, C., Peycheva, V., Gagliardi, D., Marzocchi, C., Ramlogan, R., & Cox, D. (2014). Annual Report on European SMEs. *Final Report-July*.
21. Wardrop, B. Z. R., Lui, T. Z. A., Burton, J., & James, A. (2016). Sustaining momentum, The 2nd European alternative finance industry report, Cambridge Centre for Alternative finance, 9/2016
22. Call for applications for participation in a European Commission informal expert group „European crowdfunding stakeholder forum“ (ECSF), 16.4.2014.
23. Barnett, C., Why Title III Of The JOBS Act Will Disappoint Entrepreneurs, Forbes, retrieved 23.9.2016. from <http://www.forbes.com/sites/chancebarnett/2016/05/13/why-title-iii-of-the-jobs-act-will-disappoint-entrepreneurs/2/#4082e7913a7f>
24. Financial Conduct Authority website <https://www.fca.org.uk/consumers/crowdfunding>, accessed on 22.9.2016.
25. [http://ec.europa.eu/growth/industry/innovation/facts\\_figures/innobarometer/index\\_en.htm](http://ec.europa.eu/growth/industry/innovation/facts_figures/innobarometer/index_en.htm), accessed on 7.9.2016.
26. [https://ec.europa.eu/growth/access-to-finance/cip-financial-instruments\\_en](https://ec.europa.eu/growth/access-to-finance/cip-financial-instruments_en), accessed on 7.9.2016.
27. [https://ec.europa.eu/growth/smes/cosme\\_en](https://ec.europa.eu/growth/smes/cosme_en), accessed on 7.9.2016

## USING OF STRUCTURAL FUNDS BY SMEs AND START-UPS IN THE SLOVAK REPUBLIC

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### **ABSTRACT**

*Business environment is connected with Slovak economy and according to the last decade of years are Small and Medium enterprises (SMEs) the biggest GDP creators. SMEs cover 99.5% of the enterprise population so they are considered as the indicator of economy. Start-ups belong to SMEs, but there are specific due to their scalable and repeatable business model. There is increasing rate of SMEs and Start-ups in recent years. It is clear that Slovak republic has a high innovation potential and a very significant development begins in the area of Start-ups. Financial resources including funding are usually inevitable for the development of Slovak SMEs. There are two main types of capital sources in companies: external and internal resources. External capital can be gain from multiple sources and there is an opportunity to use funding by government funds and European funds. A noticeable problem is the lack of knowledge about funding options for business projects by government and European Union. In the following paper, we will define the sources of financial support of SMEs in Slovak republic focusing on structural funds. We will analyse the knowledge of entrepreneurs about mentioned funds. We will summarise the knowledge of entrepreneurs about their options receive grants. The goal of publication is to identify percentage of using state and regional funds by Slovak SMEs and particular problems of this issue. The theoretical part of publication will work with a literature review. The empirical part of the article will be based on the real case study.*

**Keywords:** start-up, venture fund, Slovak, operating program, SMEs

### **1. INTRODUCTION**

Start-ups are a new phenomenon of the last decade of years. There are several successful Start-ups in Europe and they are a part of small and medium enterprises. In the EU, the SMEs represent more than 99% of European enterprises and two thirds of private sector jobs and contribute to more than half of the total added value created by businesses in the EU. The SMEs represent the important element of the important “driving engine” of the European economic growth and the opportunity to create maintainable jobs. About 85% of all new jobs in the EU (from 2002 to 2010) were created by the SME. Nine out of ten SMEs are actually micro enterprises with fewer than 10 employees. Many of mentioned enterprises are Start-up companies with global potential. Various action programmes have been adopted to support SMEs.

Supporting the creation and growth of businesses, in particular SMEs are key ways by which cohesion policy helps to boost regional economies. For these reasons, many European institutions deal with the issue of SMEs. Start-ups are considered as a type of SME characteristic by specific traits, such as an innovative idea and a global potential. Action program especially focuses on the issue of Start-ups. Authorities take Start-ups as institutions

connecting research and innovations and new entrepreneurship. There are various sources of funding, which can be filled by SMEs and Start-ups. Open challenges in operation programs and venture capital funds powered by EU member states belong to them.

## **2. RESEARCH METHODOLOGY AND DATA**

There are many opportunities to gain financial resources from regional funds, grants and donations as consistent with current operating programs. The research questions is if potential small and medium entrepreneurs and Start-up founders know the requirements and information necessary for applicants. We will analyse to which extant mentioned source of funding is used within Slovak SMEs and Start-ups as the form of SMEs.

The empirical part of research is built on analysis of data collected in two bachelor thesis, where one of authors was a supervisor. We used the method of secondary analysis with statistics of using venture capital funds hold by Slovak Business Agency. Empirical part is divided into two parts:

- Analysis of Slovak entrepreneurs' approach to Operating Program Research and Development
- Analysis of using government venture capital funds in Slovak republic

## **3. LITERATURE REVIEW**

SME is defined in EU law (EU recommendation 2003/361). The European Commission has adopted Commission Recommendation of 6 May 2003 concerning the definition of enterprise (Article 1 of Annex, appointed Recommendation). The definition of micro, small and medium-sized enterprises is analysed in Article 2 of Annex, appointed Recommendation. The definition of an enterprise is: “An enterprise is considered to be any entity engaged in an economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity.” (Article 1) The second definition is very precise and detailed: “The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million. Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.” We can conclude that SME is the company which is defined by 2 main factors:

- Number of employees;
- Either turnover or balance sheet total.

A firm which is part of larger grouping may need to include employee/ turnover/ balance sheet data. Table 1 shows the characteristics of micro; small and medium-sized enterprises. The difference between a start-up and a small company is visible in the character of companies ‘goals. Small companies focus on profitability and a stable long-term value. Start-ups are based on a growth potential and incomes. Both of them want to be profitable in the end, but start-ups need to attract investors. The profitable company doesn’t need any investor when we don’t think about the stage of expansion. (RENTKOVÁ, K. AND ROŠTÁROVÁ, M., 2016)

Small Business Act is a framework for measures to support SMEs. This act is based on ten principles to guide the conception and implementation of policies both at EU and Member State

level. These pillars are: business, a second chance, Think Small First principle, sensitive administration, state aid and public procurement, access to finance, the single market, skills and innovation and internationalization. However, the Commission regularly evaluates its application in the Member States. Supporting entrepreneurs, attracting investors and enhancing the productive capacity of regions are vital to improving their economic performances and helping those that are lagging behind to catch up. Review of Small Business Act was adopted in 2011 which noted the slow progress in the adoption of measures to support SMEs in priority areas. Entrepreneurship 2020 Action Plan represents the EU long-term strategy. This strategy aims to improve the business environment by strengthening the entrepreneurial culture and increasing the EU's entrepreneurial potential. The plan is based on three pillars: an entrepreneurship education and training, an appropriate business environment, greater involvement in the business of selected groups of people (elderly, women.) (Jeck, T., 2015)

SMEs dominate the Slovak economy, covering 99.5% of the enterprise population as of 2012. The vast majority of SMEs (86.6%) were micro enterprises, employing up to 9 employees. Self-entrepreneurs are an important component of the enterprise population in the Slovak Republic, a significant part of which are employing firms. In 2013, there were altogether 39 531 self-entrepreneurs with at least 1 employee, with the exception of 2 all of them are part of the SMEs population. (OECD, 2015) Table 2 shows an overview of the status of small and medium enterprises in Slovakia in 2014.

Steve Blank (famous start-up entrepreneur) defines start-up as „*temporary organization designed to search for repeatable and scalable business model.*“ (BLANK, 2012). He defines start-up as a product, where the main goal of a company is to look for a potential investor.

**Eric Ries**, Steve Blank's student, has a different point of view. According to Ries, a start-up is a: „*a human institution designed to create a new product or service under conditions of extreme uncertainty.*“ (ŠLAHOR- MAJERČÁKOVÁ, 2013) Innovation and added value to the customer is key for a start-up.

**Paul Graham defines start-up as:** „*a company designed to grow fast. Being newly founded does not in itself make a company a start-up. Nor is it necessary for a start-up to work on technology, or take venture funding. The only essential thing is growth.*“ (SBA, 2015)

Available financial resources are a key factor for the development of SMEs, also in the Slovak Republic. SMEs may be funded from various sources (**own resources and external resources**). In recent years we can observe the decline of funding for SMEs in developed countries, as a result of the global crisis. The decline in profitability of SMEs has resulted in a reduction in the development of their own resources. (RENTKOVÁ, K. AND ROŠTÁROVÁ, M., 2016)

SBA deals with the analysis, but especially the support of SMEs in Slovakia. Promoting the use of risk capital is one of the priority areas. SBA is the founder of National Holding Fund Ltd. (hereinafter NHF, Ltd.). NHF Ltd.:

- Manages three venture capital funds without legal personality:
  - **The Seed Capital Fund** - the amount of single investment from this Fund is determined by the interval from 6,600 EUR to 663,878 EUR. The resources of the Fund may be invested in three basic stages of the life cycle of the company

(i.e. seed, start-up and development) in the form of equity or its combination with a credit.

- **The Regional Seed Capital Fund** - the amount of single investment from this Fund is determined by the interval from 6,600 EUR to 165,959 EUR. The resources of the Fund may be invested in three basic stages of the life cycle of the company (i.e. seed, start-up and development) in the form of equity or its combination with a credit.
- **The Fund SISME** - The maximum amount of investment may reach 165 969 EUR. The resources of the Fund may be invested in two stages of the life cycle of the company (i.e. seed, start-up) in the form of equity or its combination with a credit.
- Manages four venture capital funds with separate legal subjectivity:
  - **The Seed Capital Fund, LP** - The permissible amount of financial investment in one company reaches an average of 663,878 EUR. It is intended for start-up or innovative projects.
  - **The Slovak development funds, Inc.** - It focuses on investments in equity in the small and medium-sized enterprises. The companies in which the Fund invests must have a mature management team that has the necessary management skills and entrepreneurial approach. They should produce products or provide services with high added value and should have high growth potential.
  - **The Slovak Growth Capital Fund, Inc.** - The maximum average amount of investments in one calendar year shall not exceed 3,319,392 EUR. The Fund mostly invests in portfolio investments generally exceeding 25% of the registered capital of the target company or equity instruments that will guarantee adequate impact on the activities of Target Company. The investments are intended to companies in various stages of their development.
  - **The Innovation and technology Fund, Inc.** - The mission of the Fund is to use venture capital to support entrepreneurial initiative and promote the development of entrepreneurship, employment and business towards an innovative economy.

Operating program Research and Development focuses on Start-ups support. One of the main goals named The Growth of establishing competitive SMEs is described in Horizon 2020 strategy as (Horizon 2020):

- **The support of research, development and innovations** realised in less developed regions in Slovakia in the identified needs to increase the research, development and innovation level, to increase the Slovak research teams' competitiveness and to increase the volume of investments in research and innovations by the private sector.
- **The support of research, development and innovations in Bratislava region** to reinforce the research, development and innovative business capabilities in the service industry in Bratislava, supported the consolidation of the integration of research and development capacity in research institutions (governmental, public, non-profit) sector. The key importance is linked to further development of mentioned capacities, particularly in relation to neighbouring countries and even to encourage cooperation with the academic sector.

- The strengthening of growth and competitiveness of SMEs in less developed regions SR to stimulate entrepreneurship in particular by facilitating the economic exploitation of new ideas, the creation of new businesses and increasing the extent of their survival in the market, the creation of favorable conditions for growth and innovation, developing new business models for SMEs and internationalization to achieve expected results defined for each specific objectives.
- The strengthening of growth and competitiveness of SMEs in Bratislava Region

SME Instrument is described as "*an opportunity for SMEs to receive up to 2.5. million EUR of EU funding for development and commercialization of innovation. The received funding will help entrepreneurs to reduce the risks and bridge the funding gap for demonstration and scale-up of your innovation into market ready products.*" (**Horizon 2020**)

Provided with about € 3 billion in funding over the period 2014-2020, the SME Instrument helps high-potential SMEs to develop groundbreaking innovative ideas for products, services or processes that are ready to face global market competition. Available to SMEs only, which can however organise a project in the way that best fits their business needs – meaning that subcontracting is not excluded – the new scheme has opened a new highway to innovation through phased, progressive and complimentary support.

During the first two years of implementation (2014-2015), more than 1200 SMEs were selected to receive funding under the SME instrument call; as such, 513 million Euros were invested in the success of innovative SMEs. By the end of Horizon 2020, the SME instrument should have supported some 7500 SMEs to get their innovations delivered onto the market. (RENTKOVA-ROSTAROVA, 2016)

## 5. RESULTS

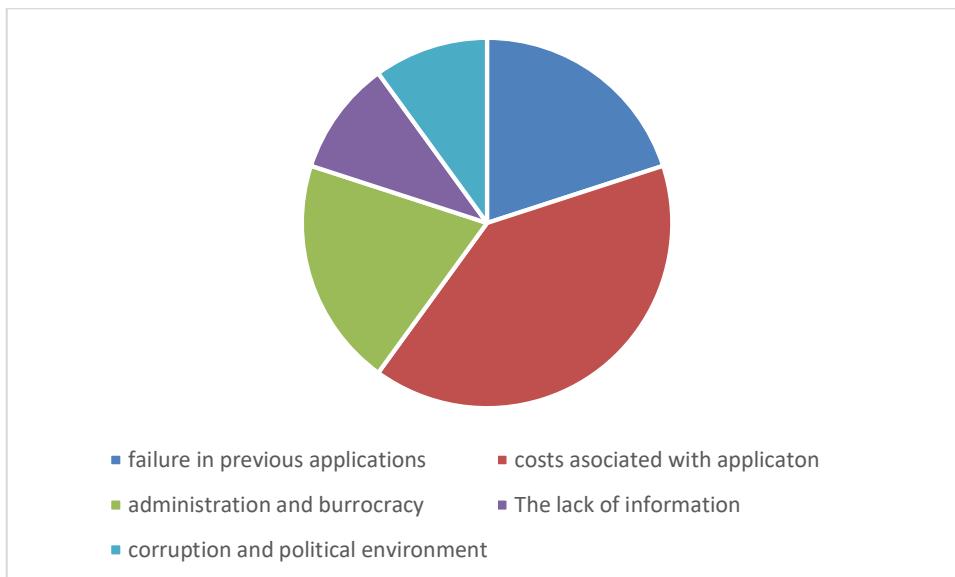
90 percent of respondents did not ask apply funding via any regional policy fund. Participants know about possibilities of gaining financial resources by European operating programmes, but most of entrepreneurs do not apply for them.

The research was oriented on barriers of writing applications for obtaining the financial contribution by Slovak Agency for research and development. Main reasons are bureaucracy, a low rate of success and secondary costs connected with the application.

Chart 1 illustrates the percentual rates of the most frequented reasons why Start-up entrepreneurs do not participate in open challenges in The Operating Program Research and Development.

*Chart following on the next page*

Chart 1: Barriers to applying for funding via The Operating Program Research and Development



Source: authors

40 percent of respondents consider costs associated with submitting requests in open challenges. It is almost impossible to successfully receive funding without the help of consulting companies. Prices of specialised consultants and their services depends of a type of application, but the average cost is about 5000 Eur. The mentioned sum is expensive for typical small entrepreneur or Start-up founder. We have to consider that SMEs pays for consulting services in case of a failure too.

The second most frequent reason why entrepreneurs do not apply for funding via Operation Program's challenges is their own failure and bad experience of the failure of other entrepreneurs they personally know. In combination with additional costs is the failure level the most important problem.

State owned institutions and government initiatives are still connected with a high level of administrative duties for entrepreneurs and a big number of bureaucratic rules. Self-employed people often want to be independent, so they prefer to set up their own business rather than working in a corporate. 20 percent of participants find out administration linked to EU funding very timeconsuming and ineffective.

The lack of knowledge about venture capital funds and applications in Operating Programmes is the most important problem for 10 percent of respondents. Basic informations is accessible online on particular official websites powered by Slovak government, European Comitee and consulting companies operating in field. Mentioned data are not enough detailed so entrepreneurs have to contact authorities to gain more information. Requirements for materials, which are included in applications, are high and many SMEs or Start-ups are not able to create them without any professional help.

Corruption and disfavourable political environment constrain entrepreneurs to trust authorities and to believe that they are able to obtain resources without contacts in government and state agencies. Slovak political environment is not so detective in comparison to other EU states, but results could be much better. 20% of respondents applied for funding in open challenges published by Slovak research and development agency. Just one participant was successful and received the donation for manufacturing the prototype of his new product. He applied for 5000 Eur and did not use the help of consulting companies.

Start-up entrepreneurs prefer external sources of financing via venture capital funds, business angels. Typical Small entrepreneurs not belonging to the Start- up field use bank loans and own savings. A very similar situation can be seen in filling venture capital funds powered by government institutions. In literature review we briefly defined particular venture capital funds and their focus. Table 1 shows the number and volume of approved investment proposals in funds in 2014. Table 1 shows that venture capital investment in the Slovak Republic is still significantly low. Venture capital investments in 2014 remained equal comparing to the previous year. Total funding over the period was very marginal. (OECD, 2015b) The most significant progress is visible in case of The Innovation and Technology Fund. There were 4 realised proposals in 2014 and mentioned approved proposals were the first during the fund existence.

**Table 1: The number and volume of approved investment proposals in funds in 2014**

Fund name	The number of approved proposals in 2014	The volume (EUR) in 2014	The number of approved proposals since the beginning of Funds	The volume of approved proposals since the beginning of Funds (EUR)
<b>The Seed Capital Fund</b>	0	0	71	21,465,463
<b>The Regional Seed Capital Fund</b>	0	0	37	3,715,004
<b>SISME Fund</b>	0	0	10	1,490,330
<b>The Innovation and technology Fund, Inc.</b>	4	1,415,000	4	1,415,000
<b>The Seed Capital Fund, LP</b>	0	0	34	11,336,408
<b>The Slovak development funds, Inc.</b>	1	29,549	25	24,225,422
<b>The Slovak Growth Capital Fund, Inc.</b>	1	3,000,000	23	49,302,074
<b>Total</b>	6	4,444,549	204	112,949,701

Source: SBA (2015).

## **6. CONCLUSION**

Slovak SMEs and Start-ups are pioneers in filling resources from state venture capital funds and opened challenges in Operating program Research and Development. We identified the main barriers for concerned applicants as follows: the costs associated with application, The failure in previous applications, Administration and bureaucracy, The lack of information, corruption and political environment. 40 percent of respondents do not apply for donations from venture funds and grants due to the high value of costs. We can conclude from the above information that venture capital, as an alternative source of external financing of SMEs, in

Slovakia is still low developed. This statement is confirmed by the OECD report used as one of the main sources of publication.

**LITERATURE:**

1. BLANK, S. 2010. A Startup is Not a Smaller Version of 1 Large Company. From: <http://steveblank.com/2010/01/14/a-startup-is-not-a-smaller-version-of-a-large-company/>.
2. EUROPEAN COMMISSION. (2015a) Business support. Retrieved from: [http://ec.europa.eu/regional\\_policy/activity/business/index\\_en.cfm](http://ec.europa.eu/regional_policy/activity/business/index_en.cfm).
3. EUROPEAN COMMISSION (2015B). 2015 SBA Fact Sheet. Retrieved September 2, 2016, from [http://ec.europa.eu/growth/smes/business-friendly-environment/performance-review/files/countries-sheets/2015/slovakia\\_en.pdf](http://ec.europa.eu/growth/smes/business-friendly-environment/performance-review/files/countries-sheets/2015/slovakia_en.pdf).
4. EUROPEAN COMMISION (2015). HORIZON2020. Retrieved September 5, 2016 from <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/sme-instrument>
5. KOMORNÍK, J. (2006). Growth Opportunities in Emerging EU Wealth Markets. In: A strategic analysis London : VRL Publishing Ltd, 2006. S. 61-66
6. OECD (2015) Financing SMEs and Entrepreneurs 2015: An OECD Scoreboard. OECD Publishing, Paris. Retrieved March 28, 2016, from [http://dx.doi.org/10.1787/fin\\_sme\\_ent-2015-en](http://dx.doi.org/10.1787/fin_sme_ent-2015-en).
7. PAPÍK, M., (2015). Comparison of asset structure of insurance companies and pension funds, In Globalization and its socio-economic consequences : part 2. s. 551-558. vyd. 1. 2015. Žilina. ISBN 978-80-8154-145-2
8. RIES, E.: (2011). The Lean Startup. Crown Business, New York. 2011. ISBN 978-0-307-88789-4
9. RENTKOVÁ, K. – ROŠTÁROVÁ, M. (2016). Analysis of start-up investments in European region. In: Innovation management and education excellence vision 2020: from regional development sustainability to global growth. Norristown, PA: IBIMA, 2016. S.1946-1956.
10. SLOVAK BUSINESS AGENCY. *Rizikový kapitál*. Retrieved from: <http://www.sbagency.sk/rizikovy-kapital-0#.VfltmxHtmko>.
11. SLOVAK BUSINESS AGENCY. (2015) Report on the state of Small and Medium Enterprises in the Slovak Republic in 2014. Retrieved from: [http://www.sbagency.sk/sites/default/files/sprava\\_o\\_stave\\_msp2014.pdf](http://www.sbagency.sk/sites/default/files/sprava_o_stave_msp2014.pdf).
12. ŠLAHOR, Ľ. – MAJERČÁKOVÁ, D. (2013). Leadership and management development in social service organizations. In: Theory and practice in management. Bratislava: Univerzita Komenského v Bratislave, 2013. p. 60-65.
13. ŠÚSR (2016) Regional statistical yearbook of Slovakia 2015. Bratislava: Štatistický úrad Slovenskej republiky.

## IMPACT OF CREATIVITY AND INNOVATION IN ORGANIZATION

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### **ABSTRACT**

*We live in a world that is changing faster than ever and meet the challenges that are unpredictable. Changing the role and functioning of today's business systems, as well as basic subjects of economic activity is caused by the radical change of the role and importance of their employees. In this sense, new, modern managers are required who, in conditions of great economic uncertainty, rapid technological changes, dynamic transformation and changes in property relations, can provide an effective achievement of the goals of business and development policy. The organization cannot be innovative without leadership ready to change. Management needs to be emotionally intelligent in order to be able to identify, correctly communicate, motivate, reward and encourage the creative employees to realize their ideas, resulting in an innovative organization.*

**Keywords:** Creativity , leadership, management, organization

### **1. INTRODUCTION**

We live in a world that is changing faster than ever and meet the challenges that are unpredictable. Because of continual change, organizations around the world insist they need people who think creatively and communicate and work in teams. In this sense, new, modern managers are required, who, in conditions of great economic uncertainty, rapid technological changes, dynamic transformation and changes in property relations, can provide an effective achievement of the goals of business and development policy. In other words, people who are flexible and have the ability to quickly adapt are needed. Changing the role and functioning of today's business systems, as well as basic subjects of economic activity, is caused by the radical change of the role and importance of their employees. The rapid economic development requires new knowledge, which must comply with the innovations in the region because it is one of the essential conditions for survival in the today's volatile global market. The competitive position of each business system in the business environment depends on its flexibility, creativity, imagination, innovation and focus on the quality of their employees. The creativity of employees and corporate innovation has become the primary factors in achieving the goals of the company and maintaining a profitable business. Organizations and business systems often say they cannot find creative employees, while business leaders, politicians and teachers constantly underline the importance of improving creativity and innovation.

### **2. CREATIVITY AND INNOVATIONS IN ORGANIZATIONS**

Creativity is often defined as the creation of new and useful ideas in terms of products, processes or services (Amabile, 1996). Sternberg (1999) defines creativity as a process through which individuals and groups are coming up with new and useful ideas of which just individuals and groups can benefit. Another widely accepted definition emphasizes that creativity brings

new and useful ideas, and is the foundation of organizational effectiveness, while innovation is the successful implementation of creative ideas within an organization (Amabile, 1996). Hence, according to these definitions, creativity relates to the individual level, while innovation is at the organizational level (Zhou and George 2003). Wallas (1926) identified the following phases of the creative process of an individual: preparation, incubation, illumination and verification. In the preparation phase, one perceives the problems and investigates the connection between them. In the incubation or production phase, where the problem is generated, one often operates unconsciously to solve problems. In the phase of illumination, the individual becomes aware of new solutions and all the parts are stacked into a new whole. This occurs either spontaneously (aha! effect) or as a result of a careful research. Illumination is actually the culmination of incubation. In the verification stage, the decision-maker should confirm the solution or conclude whether the solution meets the problems and goals set.

The cognitive approach assumes that creativity is based on the capacity for doing unusual and new mental connections of the concepts (Campbell, 1960). Creativity and innovation within the organization are processes, outcomes and products of efforts to develop and introduce new and improved ways of working. The phase of creativity in this process relates to the generation or creation of ideas, while the phase of innovation relates to a later stage of the implementation of ideas that lead to better procedures, practices or products. Creativity and innovation can occur at individual, group and organization levels, or at the combination of the mentioned levels.

Organizational innovations, as the entire process, are the way by which the organization integrates external and internal resources, devices, proposes, checks, approves and finally applies the ideas, products, services, procedures and processes that are new and useful to the organization (Zhou and George, 2003). Creativity is usually viewed as the creation of ideas, while the realization of the ideas is considered as the innovation (Amabile, 1996). The creative process of the individuals is often explained through the Maslow's concept of the need for self-actualization (Maslow, 1954). The largest contribution to creativity can be expected from those people who have reached the level of self-actualization, which means that all their 'lower' needs have already been satisfied. This does not mean that creativity is not reflected on those individuals who have not yet satisfied their 'lower' needs such as food, shelter, security, etc. Creativity may be viewed as a form of behavior, which resulted in the creative problem solving from the perspective of employees. The creativity of a manager, or a leader, does not necessarily relate to his personal creativity, but it also includes creative approaches to managing and dealing with the employees within the organization.

## **2.1. Role of leaders in creative management**

Leadership is a set of processes, which the organization primarily produces or adapts to the circumstances that change significantly. The leadership defines how the future should look like, directs people towards this vision and inspires them to achieve it despite the obstacles (Kotter, 1996). Therefore, it can be concluded that leadership is a process whereby an individual influences the group, i.e. the employees, in order to achieve the objectives of the organization. In other words, the leadership implies a manager who makes a good choice of objectives and has the ability to affect the employees to accept them. On the other hand, the leadership is also

the employees who understand the goals and their importance and consciously or unconsciously accept different types of the leader's impact on them, thus demonstrating the different forms of power that employees perceive as its uniqueness and superiority. Leaders are those who can inspire their employees to think more openly and to devote themselves to their tasks in order to create new solutions for products that the market demands. They are also in a position to nurture, support and direct the creativity of employees to form the organizational climate and culture that supports innovation. This climate gives employees security, autonomy and intellectual stimulation necessary for creativity. Leadership is a necessary factor in the strategic organizational changes aimed at increasing the creation of new and useful ideas by employees, as well as the application of these ideas in the business organization. Through the influence, relations and strategic behavior, leaders can inspire, support, direct and evaluate the creativity of employees, resulting in the competitiveness of an organization in today's business environment characterized by constant changes (Žagars et al., 2012).

Management is an active carrier of any organized, goal-oriented functioning of people and using other resources of the organization. Management as a practice involves the activities related to the manager's functions - planning, organization, management and control. Therefore, management can be defined as knowledge or skills to perform manager's functions. Unlike the management as a set of knowledge, or science, it as skills implies the ability of managers as individuals to perform manager's functions in real, but never in the same conditions. Creative management is defined as the managing process with the objectives related to the increase, evaluation and preparation of new ideas for the implementation within the organization (Berman & Kim, 2010). It is considered as an effective approach to encouraging new ideas and solutions, as well as the expansion of innovative practices (Berman & Kim, 2010), focusing on developing new ideas which is the first part of the innovation process. Creative management offers new perspectives on the leadership and specific strategies of managing changes. It is important to mention that the creative management is seen as a kind of scientific management in organizations, which means searching and acquiring information from members of the organization in response to new challenges. The purpose of the creative management is to create the processes that explicitly affect the growth of creativity and innovation (Berman & Kim, 2010).

Organizational innovation can be defined as »the intention of the organization to develop new or improved products or services, as well as its success in placing these products on the market« (Gumusluoglu & Ilsev, 2009). Innovation is the transformation of new ideas into useful products or services. Thus, creativity is the predecessor of innovation, while innovation is the outcome of applied creativity.

## **2.2. Theory of transformational leadership**

The organization cannot be innovative without the leadership ready to change. Such a leadership transforms personal values and concepts of the employees in order to encourage them to higher level needs and aspirations and is called the transformational leadership (Jung, 2001). The transformational leadership emphasizes on people who have a vision are creative, innovative and not afraid to run a big change. The theorists of this approach argue that it is

important that the leader persuades the members of the organization to believe in his vision of success, where of course the interest of the organization is always first. The leader of the transformation must be able not only to acquire all members of the organization he headed, but also to cooperate with them in order to develop new strategies and tactics of the organization.

The creation of this theory is linked to Bernard Bass who fully rounded it in cooperation with Avolio. The essence of this theory is the thesis that the transformational leaders motivate followers to do more than what is expected of them. Numerous factors act on this phenomenon. According to Bass, they can be grouped into four groups: 1) charisma or ideal influence, 2) motivation that inspires, 3) the stimulation of intellect and 4) care for the needs of followers.

The behavior that results from the transformational leadership closely coincides with the determinants of innovation and creativity in the workplace, such as vision, support for innovation, autonomy, encouragement, recognition and challenges. These leadership behaviors act as forces that promote creativity: the individualized consideration "serves as a reward" to the followers by providing them with recognition and encouragement. Intellectual stimulation "enhances research opinion" by providing the support for innovation, autonomy and challenge. The inspiring motivation "provides the encouragement during the process of creation and development of an idea," directing the followers to follow the vision of the organization (Bass et al., 2003). All this results in an intrinsic motivation that employees feel, which is an important source of creativity (Tierney et al., 1999).

The transformational leaders who develop self-efficacy of their employees (Bass, 1990) positively impact on their creativity. The employees with the improved self-efficacy are more frequently motivated to generate new ideas and solutions. In addition, the emotional ties that the transformational leaders build with their followers leading to higher levels of creativity (Bass, 1990). Gumuslouglu and Ilsev (2009) propose a model that works on transformational leadership, both at the individual and organizational level. They conclude that such leadership, primarily through a psychological support, positively affects creative employees, which ultimately influences the innovation of the organization as a whole. Amabile (1996) warns at the working environment provided by the leadership that encourages creativity, while Zhou and George (2003) indicate that the executives encourage a higher level of creativity at work. The role of leadership is crucial for motivation and rewarding of employees. The management establishes a system that rewards creative performance (Tierney et al, 1999). The influence of the leadership can be direct or indirect. A manager can influence the employee's creativity by his/her own behavior that encourages or discourages employees to enter into the risk and proposes new and useful ideas (Zhou and George, 2003). The management is the most important factor affecting the innovation in the organization through organizational culture, strategy, structure, reward systems and enterprise resources through a direct effect on the behavior of employees and their creativity (Baer et al., 1996) and successful employee motivation (Tierney et al, 1999).

Leadership is a phenomenon that exists between leaders and employees (Gumuslouglu and Ilsev 2009). Tierney (1999) emphasized the importance of the emotional intelligence of leaders, his intuition and sensitivity in encouraging the creative performance of employees.

Emotional intelligence is associated with the creativity of managers and employees, and includes the following features: a clear expression of emotions, the awareness of verbal and non-verbal expression of emotions, managing of emotions in both themselves and interaction with others, the use of emotion in the flexibility in planning, creativity in thinking, motivation and ability to divert attention. The capacity and motivation to cultivate the creativity of employees are conditioned by the leaders who model the elements of the cultural, structural and organizational process of creativity (Mayer et al, 2000). According to Zhou and George (2003), the participation in creativity in organizations inevitably creates conflicts and emotionality-charged debate, but the conflicts are not necessarily negative phenomena because they stimulate competitiveness and prevent sleepy and not stimulating atmosphere in an organization, which does not often contributes to the development of innovation.

Management is, in essence, a truly emotional process in which managers show their emotions and try to understand the emotions of their employees. Zhou and George (2003) point to an important role of emotional intelligence of managers in supporting or inducing innovation through five complementary ways: identification, the collection of information, generation and evaluation of ideas, modification and implementation. Identification lies in recognizing and can be reactive (identification of problems) or proactive (identifying opportunities). Collecting of information is crucial for the production of ideas in the stage associated with inspiration for creativity. Creativity matures through the evaluation and adjustment of ideas in communication with others. At the end, the idea, when it passes all the previous steps, can be actualized. Amabile et al (2004) provided the empirical evidence of the importance of the leader's support to the creativity of the staff in a study dealing with the perceptual and affective responses of the staff to the leader's behavior. Results of this study showed that the leader's behavior interfered with the reactions of employees, which continued to influence the creative performance of the employees. Moreover, the results showed that the leader's behavior, not only affected the employees' perception of the leader but also their perception of themselves, especially in terms of the competence on the evaluation of their work. Gümüşluoglu and İlsev (2009) in his study on the impact of transformational leaders point out that they “transform personal values of employees and their attitudes, moving them to higher levels of their aspirations and needs”.

According to Elenkov and Manev (2009), the impact of a transformational leader inspires and increases his/her commitment to achieving common goals. However, to all of that, the organizational climate and culture supporting innovations that provide a further support during this process proceed. The innovative climate and culture cannot speak enough about the environment that encourages the cooperation and the experimentation, which can even include the rewarding of failure. When there is a positive relation in for innovation the organization, the positive effects of the transformational leadership in relation to innovation are higher.

This actually means that transformational leaders are not the only ones who are training their employees, but they are able to influence the organizational climate that can encourage creativity. Transformational leadership can only affect the willingness of employees to start thinking about innovation, but until they begin to think of themselves as capable of being innovative, the transformational leadership will have no effect on their creative behavior. Transformational leadership is not the only factor that already exists, but there are other

personal factors and situations that determine whether an individual feels able to be innovative, no matter how motivated to do so. The role of transformational leaders is motivational in nature. The leader's task does not involve taking responsibility for the products of creative employees, but it relates rather to encouraging employees to try to innovate, and allowing them the opportunity to take the contextual risk (Gumusluoglu & Ilsev, 2009). By rewarding even failed solutions, a creative manager or a leader encourages his employees to transcend their own limits, propose and explore new creative ideas and solutions from which their organization can benefit.

### **2.1.3 The characteristics of creative individuals**

A creative manager is the one who particularly distinguishes creative productivity and possess particularly expressed some specific personality traits, such as the following: the flexibility of thinking and behavior, a strong sense of independence of personal thought, ability to withstand vague or unclear situations, willingness to accept challenges and consciously takes risk, unconventional attitudes, ways of thinking and personal style, a high degree of self-discipline and dedication to work or preoccupation, the inner feeling of the special importance of what is the subject of concerns, the need to see personal/estimate as an imaginative, original and imaginative person. Most of these characteristics contribute to maximizing the creative potential of managers (Kvaščev, 1991). According to Guildford (1950), it is of utmost importance to recognize and meet certain abilities that can be associated with creativity, among them stand out:

- fluency, which includes the capacity to produce a large number of ideas,
- flexibility, which is interpreted as the ability to change the existing mental assembly,
- originality, i.e. the ability to find a unique solution,
- the elaboration, i.e. the ability to develop the ideas,
- the sensitivity of the problem and
- the ability to come to grips with the complexity.

The key features of creative individuals are the capacity for transformation, the intention and decision-making power, i.e. some kind of prudence in making decisions that are relevant to a new idea (Sterngberg et al., 2004). According to Kvaščev (1980), the characteristics that encourages creativity managers have also a great importance, such as non-conformism, strong super-ego (conscientiousness, firmness, seriousness), powerful ego (which includes emotional stability, maturity and coolness), self-developed motif curiosity, risk appetite, courage, spontaneity, well-integrated personality of a manager with a developed self-confidence and a high need for achievements, patience, tolerance, persistence, perseverance and systematic, by achieving independence adverse impact of social habits, customs and social confrontation, difficulties in isolating and narrowing the problem, emotional factors and others. Of these factors which boost the creativity of managers, a dominant role has nonconformity, non-deference to what is settled in the company, a departure from the established habits, stereotypes and patterns, from what leads to stagnation.

There were numerous factors that constrain the creative managers' behavior, such as classic (stereotypical) mode, excessive fear of failure, submission to authority, conformity, low level of aspiration, poor motivation and lack of curiosity, being initiative, the absence of critical

judgment, insufficient adaptation to the new situation, lack of training and preparedness, too extensive and too broad assignments as well as inadequate projects, irrational work organization, the time dimension in terms of accuracy and speed of solving problem situations, time alignment of programs and projects, and rigidity. Of these factors inhibiting a creative manager, rigidity has a dominant role. According to majority of the studies, the prominent characteristics of rigid managers are as follows (Kvaščev, 1991):

- to a lesser extent are curious,
- have developed the so-called conformist motivation,
- are not self-confident, dominant or initiative,
- are very susceptible to authority,
- are less able to adapt to new and changing situations,
- difficult and slow modify their behavior,
- are not spontaneous in behavior,
- have a low frustration tolerance,
- are less resistant to stressful situations,
- are productive and
- are not emotionally independent.

Therefore, it is important for creative managers to examine the causes of the rigid behavior and to change, where possible, at least the above-mentioned properties. By this, they will indirectly change the rigid behavior of their associates. So, it can change the stereotyped or inappropriate behavior and the habits that interfere with problem-solving, rid of the excessive conformism, the submission to authority and the conventional behavior, develop the creative research attitude, non-conformity, and so on.

### **3. CONSLUSION**

The obstacles at the internal levels are primarily found in the management which should be innovatively literate to foster the innovation organization that he/she manages. In addition, the management needs to be emotionally intelligent to make it possible to identify correctly and to communicate, motivate, reward and encourage creative employees to realize their ideas, resulting in an innovative organization. In short, the leadership ready to change is a prerequisite for the innovative entrepreneurship. Speaking of personality traits that are associated with creative potential, we concluded that the creative people tended to an unconventional behavior and were not afraid of risk, but just such leader's behavior can foster the creativity in the employees. The leader encourages creativity in the organization by affecting the characteristics of the organization, including the culture and the reward system, as well as the behavior of their employees; this is one of the basic conditions of good acceptance and implementation of change and innovation in organizations. It is essential that a leader possesses interpersonal skills to facilitate the group interaction and effectively leads the process from the idea generation to its evaluation. Creative individuals in an organization are not sufficient to develop an innovative organization. The management ready to change, innovatively literate, emotionally intelligent and charismatic cannot be achieved without the innovation in the organization of creative individuals and teams who are adequately encouraged by the strategies and techniques of human resource management.

## LITERATURE:

1. Agars, M., Kaufman, J. C., Deane, A., & Smith, B. (2012). Fostering individual creativity through organizational context: a review of recent research and recommendations for organizational leaders. *Handbook of organizational creativity*, 271-291.
2. Amabile, T. M. (1996). *Creativity in context*. Boulder: Westview.
3. Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15(1), 5-32
4. Bass, B. & Avolio, B. (1990). The Implications of Transactional and Transformational Leadership for Individual, Team and Organizational Development. *Research in Organizational Change and Development*, 4 (231-272)
5. Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, 88(2), 207
6. Baer M., Oldham G.R., & Cummings A. (2003). Rewarding creativity: when does it really matter? *The Leadership Quarterly*, 14, 569-586.
7. Berman, E. M., & Kim, C. G. (2010). Creativity Management in Public Organizations. *Public Performance & Management Review*, 33(4), 619-652.
8. Elenkov, D. S., & Manev, I. M. (2009). Senior expatriate leadership's effects on innovation and the role of cultural intelligence. *Journal of World Business*, 44(4), 357-369.
9. Guilford, J.P. (1950). Creativity. *American Psychologist*, 5, 444–454.
10. Gumusluoglu, L., & Ilsev, A., (2009.) „Transformational leadership and Organizational Innovation: the Roles of Internal and External support for Innovation“, *Journal of Business Research*, 62, 461-473.
11. Jung DI. (2001.). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal*, 13, 185-195.
12. Maslow, A.H. ( 1954.), *Motivation and Personality*. New York: Harper & Row Publisher.
13. Mayer, J. D., Salovey, P., & Caruso, D. (2000.). *Models of emotional intelligence*. In R. Sternberg (Ed.), *Handbook of human intelligence*, New York: Cambridge University Press, str. 396.–420.
14. Kvaščev R., 1980, Podsticanje i sputavanje stvaralačkog ponašanja ličnosti, Sarajevo: Svjetlost.
15. Kvaščev R., 1991, Psihologija stvaralaštva. Beograd: BIGZ.
16. Kotter, J. P. (1996). *Leading Change*. Boston: Harvard Business Scholl Press.
17. Sternberg, R. J. (Ed.). (1999). *Handbook of creativity*. Cambridge: Cambridge University Press.
18. Tierney, P., Farmer, S. M. & Graen, U. B. (1999.). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52, 592-620.
19. Wallas, G. (1926.). *Art of Thought*, New York: Harcourt Brace.
20. Zhou, J., George, J.M. (2003.). Awakening Employee Creativity: The Role of Leader Emotional Intelligence“, *The Leadership Quarterly*, 14, 545-568.

## “ORGANIZATIONAL HISTORIOGRAPHY” AS AN INTELLECTUAL TOOL TO IMPROVE THE QUALITY OF ENTREPRENEURSHIP TODAY: CASE STUDY OF “THE NEW CULTURE OF WORK”

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### **ABSTRACT**

*This paper discusses a concept of “organizational historiography” as a way of critical “reading the business past” while avoiding both “organizational forgetting” and “presentism”. This relatively new sub-branch of business history is practically orientated and can serve reflective managers as a source of inspiration, warnings and – more generally – development of contextual intelligence. The author of this paper analyzes- as an example- the Polish model of sustainable entrepreneurship – “The New Culture of Work” – developed between 1945 and 1948. The paper assumes that similar models can be found in different cultures to enrich the global business.*

**Keywords:** *new culture of work, organizational historiography, organizational memory studies*

### **1. INTRODUCTION**

This article falls within the area of Organizational Memory Studies (OMS). More precisely, it deals with a discursive variant of the mentioned research projects that address memory in a processual way, as a dynamic phenomenon. Hence, from this cognitive perspective, instead of talking about “memory”, one should rather talk about “organizational remembering”. It is a type of social remembering, also referred to as collective remembering, and constitutes a dynamic process of representing the past “in a whole set of ideas, knowledges, cultural practices, rituals and monuments through which people express their attitude to the past and which construct their relations to the past” (Misztal 2003; referenced by Rowlinson, Booth, Clark, Delahaye & Procter 2010: 71).

Humanistic management brought a substantial enrichment of the subject matter of organizational remembering (cf. Kostera 2012). The promoter of this trend in organizational sciences, pursuing her activities in Poland and Great Britain, proposed, together with Sylwia Ciuk, to apply the metaphor of the mythical Lethe River<sup>1</sup> to the reality of contemporary business. Thereby, they identified an archetypical antonymy of learning by an organization, i.e. organizational forgetting. By analogy to learning processes, according to the researchers, there exist two levels of memory loss by an organization: (1) single-loop forgetting that consists in oblivion of practices and (2) double-loop forgetting that concerns loss of memory in an organization of its underlying values.

Double-loop forgetting, i.e. the process of “forgetting one has forgotten” deprives organization members of sense of identity (Ciuk & Kostera 2010). Double-loop forgetting occurs not only in companies or institutions. It appears also in contemporary management sciences, taking on the form of programmatic ahistoricism<sup>2</sup>.

Advancing the antonymic approach to the issues of organizational remembering/forgetting initiated by Kostera and Ciuk’s paper, I propose to take into critical consideration the functional significance of formulating questions derived from past experiences when confronted with the challenges that organizations face today and, as may be foreseen, will face in the future. Such questions relate to both practices, i.e. minimizing single-loop forgetting, and values, i.e. coping

<sup>1</sup> It is, of course, a river in Hades the waters of which were believed to induce oblivion.

<sup>2</sup> I further discussed ahistoricism of contemporary management in: Ochinowski (2013).

with double-loop forgetting. The questions of that type have their source in broadly construed, critically interpreted organizational traditions.

I propose to term the process of intentional, dynamic and discursive initiating and posing of questions that arise from traditional managerial practices and ideas by management researchers, as well as by reflective managers-practitioners, as organizational recalling. It concerns the questions that emerge in the course of community and interdisciplinary discussions and metaphorically understood discussions between management theory and practice as well as between the past and the present/the future. Viewed as such, organizational recalling constitutes a subset of organizational remembering.

## 2. ORGANIZATIONAL HISTORIOGRAPHY – A SHORT PRESENTATION OF THE EMERGING SUBDISCIPLINE OF BUSINESS HISTORY

If a scholar interested in management or a reflective practitioner researches the past, all while complying with the principles relating to tools and techniques applicable to historiography, then – most broadly speaking – the scholar practices organizational history or business history. When he/she critically interprets historical works or other stories devoted to the “past times”, making use of the cognitive apparatus of history of historiography, to identify content that is crucial for organizing, then he/she enters the field of organizational historiography. It is worthy of reminding that history of historiography is a branch of sciences about the past, which critically reflects on researching, writing and teaching (including also promotional activities) history. In Poland, the community of historians of historiography associated with Andrzej Wierzbicki has intently incorporated organizational issues into the scope of its interests for several years.

Summing up, according to the terminology suggested by Monika Kostera, based on scholarly practices of Western authors (e.g. Jacques 2006, Down 2012, Rowlinson, Casey, Hansen & Mills 2014), organizational historiography means using the cognitive apparatus of history of historiography both for research purposes to cater for the needs of management, as well as in order to enrich the reading of publications on the past (and various other stories about it) by a reflective manager who thereby seeks inspiration for his/her own practice.

Apparently, history of historiography and management are two worlds very distant from each other. However, they turn out to have a common area of interest, of great significance for each of them, namely the issue of **change**. Polish historians of historiography quite commonly assume after Andrzej F. Grabski, the doyen of this professional group who passed away 25 years ago, that the main subject of their research is designated by the analysis of modes of “understanding changeability of human reality” (Grabski 1990: 8). Today, it would slightly seem a truism to remind that the omnipresent change poses a fundamental challenge for managers, whose everyday actions is determined by the need to practically incessantly confront the liquidity of the modern life (as Zygmunt Bauman called it), also organizational life (Bauman, Bauman, Kociatkiewicz & Kostera 2015).

Historians of historiography contrast the nervousness of management representatives in the face of the “power of changeability” with a “breath of history”, a prospect of “the long term” [*“longue durée”*], as Ferdynand Braudel wished, and a multi-contextual approach, i.e. a balanced view of the reality of change from the perspective of experience of various organizations, institutions, groups, societies, nations, heroes and barbarians of history<sup>3</sup>. They propose that managers search for inspiration for a sustainable “harnessing of the change” by critically reading both scholarly and commemorative publications on the past as well as by analyzing other carriers of the vision of “what happened in the past” (starting from “yesterday”), such as museums, souvenirs and widely understood stories. The aim is to search history (not only narrowly understood business history or organizational history), mediated via its multifold

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<sup>3</sup> I owe this metaphor to Jędrzej Sudnikowicz, a poet, writer, cultural anthropologist and culture management practitioner.

“perpetuations”, for: (1) threads relating to *organizational theory and theoretical proposals*, which may enrich contemporary business practice, (2) *cultural patterns and good practices* extracted from the past, as intellectual tools to optimize business activity today and in future, (3) a set of *unused or forgotten opportunities* in the area of widely understood organizational activity and identification of roots of these opportunities, as well as determinants of their limitations, (4) *bad experiences*, which may serve as warnings (history is both heritage and burden, cf. Bugajewski 2010), (5) *opportunities for the development of contextual intelligence* in employees and the management personnel. This intelligence consists in the ability to take into consideration a diversified context of enterprise’s activity in long (from a business perspective) periods of time. One of the methods of developing the said competence is through interest in history oriented towards comprehending it.

Organizational historiography constitutes an intellectual perspective, which not only encourages to draw on experience of history but also enables protection against the greatest threat of naive “historical” thinking, i.e. *presentism*. Presentism consists in a mechanical use of past experiences as ideal and invariant “patterns” explaining contemporary phenomena and, conversely, in assessing historical experiences from the point of view of knowledge, perceptions or views of people living today. Then, persons from the past are ascribed contemporary ways of thinking, contemporary knowledge, acting in the same conditions as those prevailing nowadays, and so on. This gives rise to a false, and at the same time dangerous, conviction that the world of organizations, and not only organizations, has always been the same as presently. The heroes of “The Flintstones” cartoon can celebrate Christmas while living in the Stone Age era, and a contemporary manager should predominantly imitate, for example, the biblical David or the winner of the battle of Salamis – Themistocles (cf. Booth & Rowlinson 2006).

Historians of historiography know well that the images of history are an outcome of a *dialogue* conducted within the research community of historians, which determines the area of “maintained truthfulness” of individual facts, processes or evaluations, which area is variable and may be affected by subsequent discoveries, interpretations and discussions (Wrzosek 2010, p. 33). Therefore, it does not suffice to “listen to” history. It is necessary to incessantly *discuss* metaphorically with history, or literally with researchers, “story tellers” as well as “users” of history. The manager’s intellectual activity viewed as such, making use of organizational historiography, becomes a natural exercise in communication that directs towards transversal communication as a crucial intercultural competence in the world of globalization (cf. e.g. Kasper 2015, cf. Magala 2011).

### **3. CASE STUDY: RECALLING AN INTERRUPTED DISCUSSION ABOUT SUSTAINABLE ENTREPRENEURSHIP IN POLAND IN THE FIRST YEARS AFTER WORLD WAR II. THE PROBLEM OF THE “NEW CULTURE OF WORK”**

The “New Culture of Work” was a set of entrepreneurial ideas that appeared in post-war Poland on the pages of the *Tygodnik Warszawski* (Warsaw Weekly) magazine from 1945 till 1948. There was a supplement titled *Culture and Work* (edited by Jerzy Braun and Tadeusz Kudliński), which was added to the magazine and dealt with business issues. The group that promoted the “New Culture of Work” tried to test these ideas in business practice. Some of them were implemented in the Polish SME consulting company, “Source” Cooperative, led by Stanisław Wiktor Bukowski, head of sales of the pre-war Polish division of Philips and former co-worker of Karol Adamiecki (“Polish Taylor”). In my opinion, it is worthy of note and emphasis that the people associated with *Tygodnik Warszawski* not only did not wring their hands over the country’s devastation after World War II, but they saw the situation as a good opportunity to create something from scratch, something valuable and precious. Looking at the

current “heritage” of the 2007 subprime crisis, it is noteworthy that we may, to some extent, be dealing with similar conditions.

The original discussion about the “New Culture of Work” was dramatically discontinued for historical reasons. The “iron curtain” hermetically separated Central Europe from the West. And in 1948, the Stalinist authorities in Poland destroyed both *Tygodnik Warszawski* and the “Source” company by bringing rigged charges, making arrests and sentencing members of the group to years of imprisonment.

### **3.1. The “New Culture of Work” in the perspective of organizational historiography**

My studies on the “New Culture of Work” fall within organizational historiography in a dual sense. Firstly, they concern the concept of applying past work-related ideas, dating back especially from the era of Polish romanticism, to business. The creators of the “New Culture of Work” directly referred to the works of Juliusz Słowacki, Kamil Cyprian Norwid and to the philosophy of Józef Hoene-Wroński as the source of their inspiration. Secondly, my colleagues and I have been critically reconstructing these ideas since 2005 for the purposes of contemporary entrepreneurial practices – in a dialogue with business practitioners and with reference to current management problems. The details and methodologies of this pending project are outlined in: Ochinowski 2013.

At the current stage of analyses, I am systematizing the selected issues pertaining to entrepreneurship championed by *Tygodnik Warszawski* publicists, all while reinterpreting them by proposing to assign them to the categories of **”subjectivity – relationality – rootedness”**. These categories have been extracted from the works of the axiological stream of discussion about the 2007 subprime crisis (Stiglitz 2010, Dembiński 2011 et al.). Due to the limited capacity of this project, I will expand only these foundations of the “New Culture of Work” that are particularly relevant to the topic of this paper.

Here are the basic principles advocated by the “New Culture of Work”:

**Subjectivity:** (1) **The man at the heart of work; work as a creative act.** The most important idea of the aforementioned concept is that the man is at the heart of work, which should be treated as an act of creation (this applies to any type of work) – similar to an artistic activity. Thus, the group postulated cooperation between entrepreneurs and those linked to culture as well as the culture itself. On the other hand, it was encouraged that as many people possible should be able to participate in culture. These views were inspired particularly by the philosophy of Hoene-Wroński that perceived work as an act of participation in the creative activity of God. It should be emphasized that this ideology is almost identical to the so-called Protestant work ethos, which, according to M. Weber, is the ideological foundation of the entrepreneurship development in Western countries// (2) **Optimization of profit instead of its maximization.** The “New Culture of Work” postulates that the man should work mainly for his own development, not for the profit; that the discussed maximal profit should be substituted by the optimal profit. Therefore, what is the mentioned optimal profit? To find this value, the surplus profit in relation to real costs must be determined, where the real costs are understood as those that need to be incurred to “exist privately” – as an individual or a family. The said surplus is determined by taking into account the values above the intersection point of the increasing function of profit and the monthly expenses. The optimal profit is a point placed slightly higher than the mentioned break-even point. It meets two main objectives: it covers the costs of daily life and everyday activities, and, what is extremely important, it provides resources for sustainable development (this element should be covered by the surplus above the break-even point).

**Relationality:** (1) **Private property and activities in favor of the business environment.** Of course, the “New Culture of Work” postulated the existence of the private property institution, but perceived as a source of prosperity not only for the possessor; it was expected that the

property owner would use it in a way to contribute to improving the situation of the society. Possession of goods is not an achievement solely and exclusively of their holder but results also from the holder's use of resources belonging to the entire society, e.g. natural resources. This requirement is linked to postulating a reasonable use of natural resources so that they become a source of income, which in return should contribute to an increase in the wealth of the local community; (2) **Work-life balance (meaning of the family and family wage).** The “New Culture of Work” concept strongly stresses the role of the family as the basic unit of society. It postulates, among others, the introduction of a family wage as a way to link the amount of remuneration to the family status of the employee; (3) **The “New Culture of Work” and economic education.** One of the practical postulates of the discussed business concept was to instill certain values and principles already at the primary school level. To achieve this, the creators of the “New Culture of Work” appealed to teachers to allow young people to make important decisions about their own fate and the fate of school. For this purpose, educational institutions should be characterized by a high degree of autonomy.

**Rootedness:** (1) **Preferred organizational-legal forms.** According to the authors of this concept, entrepreneurial activities in the country should be based on two main pillars – small and medium enterprises and cooperatives. These forms, as opposed to "big capital", are firmly rooted in the community, and thus also inextricably linked to society as a whole; (2) **The “New Culture of Work” and National Income.** According to the above quotation, in the “New Culture of Work” national income is treated as profit generated by the whole society. The achievement of this profit can be guaranteed by a certain set of tools, which combines the methods of natural resources exploitation and human skills, to increase the efficiency of the latter. This approach to the process of generating national income becomes a way of saving time, which should be used for further creative activity, not necessarily at work, but for example to relax. To conclude this section, I want to emphasize that the “New Culture of Work” did not completely reject the principles of market economy; some of them were considered legitimate, however, the “New Culture of Work” prioritized the individual. The contemporary reader of texts published in *Tygodnik Warszawski* (1945–1948) encounters both the consequences of historical conditions (which is obvious)<sup>4</sup> and theses that do not seem to lose any of their relevance, also for the contemporary entrepreneur. Both these features are embedded for example in the flagship practical postulates put forth by the authors associated with *Culture and Work*, namely replacing profit maximization with profit optimization and the introduction of a family wage. Each of these concepts induces further discussions.

The comparative analysis of semantic fields of basic contents of the “New Culture of Work” and the “Good Work” – one of the current American projects of sustainable management, which was initiated seventeen years ago by Howard Gardner, Mihaly Csikszentmihalyi and William Damon (Gardner 2010) – allows accepting the hypothesis of the fundamental axiological similarity of these concepts, although they originated in different times and under different cultural and economic conditions<sup>5</sup>. The analysis suggests the similarity between the concepts of the “Good Work” and the “New Culture of Work” at the level of basic human values (sense of purpose, honesty, etc.), which both theories connect with work and business. Also, the two concepts tightly link work ethics with work effectiveness. They both consider the harmony between these two elements the primary determinant of the “Good Business” practice. The

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<sup>4</sup> For example, the attachment of this community to family businesses and handicraft workshops resulted not only from the traditionally Catholic view. Simply, such was then the work structure on our continent. As Hartmut Kaelble remarks (2010: 53): “Moreover, family work was also quite common in the 1950s – particularly on farms, in handicraft workshops, and in the retail and hauling industries.”

<sup>5</sup> The analysis carried out in 2012 for the three key words “work”, “business” and “manager” and their derivatives according to the classical method developed by R. Robin the Laboratory of Political Lexicology in Saint-Cloud near Paris (see Ochinowski 2013).

“Good Work” concept seems to be more optimistic and individualistic than the “New Culture of Work”. The latter, in turn, more than the “Good Work”, emphasizes the value of work as the basis of entrepreneurial activity or even the construction of the economic system. Despite these differences – in terms of sustainable business – and bearing in mind the distinct historical contexts in which these concepts originated, it can be concluded that the “New Culture of Work” was a content antecedent and a cultural alternative to such contemporary global projects as the “Good Work” program for example.

### **3.2. Attempts to apply selected aspects of the “New Culture of Work” today**

Since 2006, a reflective Polish manager Piotr Gołaszewski has been, under my supervision, applying selected elements of the “New Culture of Work” in the entrepreneurial practice. P. Gołaszewski based the business philosophy of a network of “Biedroneczka” kindergartens, an SME sector company he owns, on the “New Culture of Work” ideology. Formerly, the company suffered from an explicit lack of such a philosophy. The inspiration by the “family wage” idea is exemplified by the endeavors of kindergarten managers to gain insight into personal situation of employees and, where necessary, relatively adapt the manner of performing work to their needs. Consequently, employee rotation in the company practically equals zero. In 2015, Gołaszewski gained his initial experience in implementing the elements of the “New Culture of Work” during the commercialization process of a major Warsaw-based hospital (Mazowiecki Szpital Bródnowski, over 2000 employees). To quote another instance of inspiration by the idea of “family wage”: Gołaszewski differentiated staff bonuses depending on the personal/family situation of recipients. On the other hand, engaging employees (also of the lowest level) in the modernization of their unit (e.g. ward) was intended to enhance “rootedness”. This process involved joint decisions concerning the aesthetics, processes, etc. made during partner meetings. However, a deeper introduction of “rootedness”-related solutions met with a strong resistance of the authorities. Of concern was a proposal to establish relatively permanent, frequently interdisciplinary teams, taking into account the will of team members (not only of the head of the ward), that would work shifts together. Numerous wards welcomed the offer with great enthusiasm. The authorities of the hospital, a company that belongs to the local government, were initially willing to co-finance the integration and joint development of the teams. A few teams were set up but failed to obtain co-financing from the Management Board, because the vision changed. The teams broke up fast because schedules required for commercial functioning (working simultaneously in different places) won with the option of being in a permanent team. At the same time, this situation demonstrated that it is the “rootedness” that seems to be a basic condition for sustainable medical- and on only medical-entrepreneurship.

## **4. CONCLUSION**

As you can see the “New Culture of Work” revealed its new potential as an intellectual tool of the critical trend in the management practice. I am currently preparing, together with P. Gołaszewski, a detailed analysis of experience gained in applying the “New Culture of Work” today and I hope to find similar historical inspirations in other cultures so as to enhance the diversity of global models of sustainable entrepreneurship.

## **LITERATURE:**

1. Bauman , Z., Bauman , I., Kociatkiewicz, J. and Kostera, M. (2015). *Management in a Liquid Modern World*. Hoboken: Wiley.
2. Booth, Ch. and Rowlinson, M. (2006). Management and Organizational History: Prospects. In *Management & Organizational History*, no1, pp. 5- 30.

3. Bugajewski, M (2010). Świadectwo historiografii. In Kolbuszewska, J. and Stobiecki, R. (ed.). *Historyk wobec źródeł. Historiografia klasyczna i nowe propozycje metodologiczne* (p. 107- 114) Łódź: Ibidem.
4. Ciuk, S. and Kostera, M. (2010). Drinking from the waters of Lethe: A tale of organizational oblivion. In *Management Learning*, no 41, p.187- 204.
5. Down, S. (2012) A historiographical account of workplace and organizational ethnography. In *Journal of Organizational Ethnography*, no 1, p. 72 – 82.
6. Gardner, H. (ed.). (2010). *Good Work: Theory and Practice. The Good Work Project*. Retrieved 30. 01. 2012 from <http://www.goodworkproject.org/>
7. Grabski, A. F. (1990). Problemy syntezy w historii historiografii. In *Historyka*, no XX, p.3-9.
8. *Tygodnik Warszawski*. 1945- 1948.
9. Jacques, R. S. (2006). History, historiography and organization studies: The challenge and the potential. In *Management & Organizational History*, no 1, p. 31–49.
10. Kaelble, H. (2007). *Sozialgeschichte Europas. 1945 bis zur Gegenwart*. Munchen: Verlag C. H. Beck [Polish edition: Warszawa 2010, PWN].
11. Kasper, W. (2015). *Papst Franziskus- Revolution der Zartlichkeit und der Liebe*. Stuttgart: Vrelag Katolisches Bibelwer GmbH [Polish edition: Warszawa 2015, Więź].
12. Kostera, M. (2012) *Organizations and archetypes*. Cheltenham: Edward Elgar.
13. Magala, S. (2005). *Cross Cultural Competence*. London: Routledge.
14. Mayo, A. J and Nohria, N. (2005). *In their Time: The Greatest Business Leaders of the Twentieth Century*. Brighton: HBS Publishing Corporation. [Polish edition: Gliwice 2007, Helion].
15. Ochinowski, T. (2013). *Tradycje przedsiębiorczości w Polsce jako źródło kapitału kulturowego organizacji*. Warszawa: WN WZ UW.
16. Rowlinson, M. , Ch. Booth, P. Clark, A. Delahaye i S. Procter (2010). *Organization Studies” Social Remembering and Organizational Memory*. In: *Organization Studies*, no 31, p. 69–87.
17. Wrzosek, W. (2010). Źródło historyczne jako alibi realistyczne historyka In Kolbuszewska and Stobiecki (ed.) *Historyk wobec źródeł. Historiografia klasyczna i nowe propozycje metodologiczne* (p. 23- 38). Łódź: Ibidem.

