

The ISCLO Conference 2014

Guiding for Organizational Intelligence Research

M. I.C. Rachmatullah^a

^a*Jurusan Manajemen Informatika, Politeknik Pos Indonesia
Jl. Sariasih 54, Bandung 40151, Indonesia*

Abstracts

The Organizational intelligence is “an organization's capability to process, interpret, encode, manipulate, and access information in a purposeful, goal-directed manner, so it can increase its adaptive potential in the environment in which it operates. The discussions about organizational intelligence has been carried out in very diverse meanings, although all of them refer to the term “ability” or “capability”. The diverse meanings and understandings give an opportunity for researchers to investigate them more deeply and comprehensively in order to get better and more complete understanding. Organizational intelligence has become a popular topic recently in business and academia and has attracted many researchers and practitioners from different fields. However, many studies in such different disciplines and perspectives cause diverse interpretation to organizational intelligence. As a result, it presents a discrepancy resulting in disorder in the organizational intelligence literature. Since there is still no solid theoretical guidance (it is possible to result either new theory or enlivening theory), the complexity of the nature of organizational intelligence, the importance role of the participants, and the social process of organizational intelligence justify and lead the use of grounded theory as an appropriate method. Therefore, to investigate organizational intelligence it is argued that the adequacy of theoretical guidance cannot be expected to come from the extant theories, because there is still no solid theory discussing about organizational intelligence deeply and comprehensively.

© 2014 M. I.C. Rachmatullah. Published by Telkom Pub. Ltd.

Selection and peer-review under responsibility of The ISCLO, Department of Communication, University of Telkom, 20342 Bandung, Indonesia.

Keywords: organizational intelligence research, lack of solid theory, grounded theory.

1. Introduction

Nowadays, the external environment of the organization is undoubtedly more dynamic and unpredictable, making it very difficult for companies to avoid turbulences hindering their activities. Unavoidably, contemporary organizations must face the rapidly changeable events in economic, technological, social, cultural, and political environments. Their survival definitely will depend on their ability to adapt to the changing environment. At the interface between the internal field and the external field forces, the companies should maintain a dynamic equilibrium. Organizations that successfully react to a dynamic and usually an inimical trade ambiance depend on their ability to provide relevant information and to find adequate solutions to the problems they face. As a result, they must be able to develop new *capabilities* and to build flexible structures, thus winning core competences (Pralhad and Hamel, 1990; Vasilache, 2007). The terms “ability” and “capability” are related to “intelligence”, in the sense that organizations should have appropriate intelligence to face changes and complexity in the environment. This intelligence is called “organizational intelligence” (Akgun, 2007; Bratianu, 2006; Cakir, 2008; De Angelis, 2013; Glynn, 1996; Saeed et.al., 2014; Simic, 2005; Vasilache, 2007), that is one of the new and powerful competitive capabilities (Vasilache, 2007). One of the definitions of organizational intelligence (OI) is “an organization's capability to process, interpret, encode, manipulate, and access information in a purposeful, goal-directed manner, so it can increase its adaptive potential in the environment in which it operates (Glynn, 1996).”

The importance of organizational intelligence as a source of competitive advantages is more obvious in the first decade of the twenty-first century. For instance, it can be viewed in the following citation:

“Knowledge has values, but intelligence has power. This is a key lesson as we move from New Economy to Next

Economy. The New Economy concerned itself with managing the enterprise, the firm's knowledge assets, and competitive knowledge. The Next Economy demands that all this be merged into a capability fostering the creation of actionable intelligence. At minimum, better managing all aspects of an organization's knowledge base can fortify strategic decision-making. At maximum, it can generate defensible competitive advantage through intelligence, a sustainable source of above-average return (Rothberg and Erickson, 2005)."

The study about organizational intelligence concerning the complex organization was initiated by Wilensky in his book in 1967 "Organizational Intelligence: Knowledge and Policy in Government and Industry" which mainly dealt with the mentality and its machinations that distort and omit data necessary for decisions. His examples were drawn from the failures of military intelligence; the Central Intelligence Agency (CIA) and the Federal Bureau of Investigation (FBI); the administration of justice; industrial management; social welfare decisions; and even the "intelligence" required for sanity hearings. From the time Wilensky has published his book until now, the discussion about organizational intelligence has been carried out in very diverse meanings, although all of them refer to the term "ability" or "capability". These differences, for example can be viewed from what they emphasize in organizational intelligence: information processing to get appropriate decision making (Wilensky, 1967), competitive intelligence (Rothberg and Erickson, 2005), business intelligence (Silber and Kearny, 2009), artificial intelligence (Kim, 1995; Unland, 1994; White, 2008), and so forth. That the discussions of organizational intelligence remained very diverse meanings and understandings give an opportunity for researchers to investigate them more deeply and comprehensively in order to get better and more complete understanding. Furthermore, the importance of organizational intelligence also stimulates researchers to explore it. This can be evaluated by analyzing the relationship between organizational intelligence, learning, knowledge, and innovation as summarized in table 1 below:

Table 1. The importance of OI

Authors	Explanation
(Cook and Yanow, 1993; Bonthous, 1996; Glynn, 1996) in Kalkan 2005	OI is required for organizational learning to occur and organizational innovation to be generated
(Nevis et al., 1995; Glynn, 1996; Halal, 1997; Schwaninger, 2001; Akgün et al., 2003) in Kalkan 2005	OI refers to the capacity of a corporation as a whole to gather information, to generate knowledge, and to act effectively based on the knowledge it has generated in order to adapt to the environment surrounding the organization
Kalkan 2005	OI is a key enabling force underlying many vital activities and processes dominating organizational life, the processes of knowledge acquisition, new organizational knowledge creation, and knowledge utilization all of which require OI
Simic, 2005	OI comprises combination of knowledge, experience, consciousness and understanding in organizational problem
Halal, 1997	OI is the capacity of an organization to create knowledge and use it to strategically adapt to its environment or marketplace
Bencsik, 2009	The tools of information technology supporting acquisition, storage and use of information and organizational learning as well as knowledge come into being as a result of it, fixing and storing of knowledge in the memory of a company play an important role in the intelligence of organizations and competitiveness of a company
Maranon, 2000	Intelligence could be labeled natural or potential. Furthermore, we should include another type of intelligence, that which we identify by means of IQ tests, a combination of the potentiality and the knowledge acquired in the first years of life and early education
Senge, 1990; Walsh&Ungson, 1991; Weick, 1990 in Glynn, 1996	Implicitness in theories of organizational cognition, such as organizational learning, memory, and sense making, is intelligence, for without it an entity cannot learn, remember, or process information effectively.
Senge (1990) in Glynn, 1996	Intelligence is implicitly at the core of the learning organization; it is what enables a firm to learn from its own experience and the experience of other firms.

From table 1 above, it can be seen the importance of organizational intelligence in the life span of organizations. In the early stage, organizational intelligence can be assumed as a natural or a potential feature that exists when the organization is founded. With the initial intelligence, the organization can learn or generate innovation in order to adapt to the environment and to solve the problem. Without intelligence, the organization cannot learn, remember, or process information effectively. By learning, the organization can get and develop new knowledge. Moreover, by learning and using current knowledge and experience, the organization can improve the intelligence. In other words, intelligence, learning, and knowledge cannot be separated each other in the life span of the organization because intelligence is their core. They form a continuous cycle to increase the organization's performance. Organizational intelligence is one of the important concepts determining the existence of organizational learning process and knowledge in its early stage. Thus the relevance to investigate the organizational intelligence has been established, but do we know what it is? To understand it, therefore, we need to know how we are going to answer this question.

2. A Framework to Understanding Organizational Intelligence

At the initial step in exploring and investigating organizational intelligence, we use metaphor by relating organizational intelligence with human intelligence. Intelligence comes from the Latin verb *intellegerere*, which means "to understand". There are many definitions of intelligence, e.g.: ability to adapt effectively to the environment, either by making a change in oneself or by changing the environment or finding a new one (Encyclopedia Britannica, 2006); the ability to acquire and apply knowledge and skills (Compact Oxford English Dictionary, 2006). From psychologists' view, intelligence can be defined as the followings: the ability to solve problems, or to create products that are valued within one or more cultural settings (Gardner, 1993); the global capacity to profit from experience and to go beyond given information about the environment (American Psychological Association).

For such a long time, many researchers emphasize on the rational intelligence/RI (Spearman, 1904, Cattell 1943, etc.). This attitude is a legacy of the early 20th century when psychologists designed tests whose primary objective was to measure intellectual or rational intelligence (used to solve logical problems). In the mid-1990s, Daniel Goleman revealed findings in neuroscience and psychology focusing on the importance of Emotional Intelligence/EI (Mayer et.al., 2000; Goleman, 1995). This intelligence triggers empathy, motivation, compassion and ability to respond skillfully to pleasure and pain. Goleman argues that EI is a basic requirement for the use of RI. By the end of 1990s and early 2000s, Zohar and Marshall (2000) introduce a new dimension to human intelligence, namely spiritual intelligence which they claim as the ultimate one (Zohar & Marshall, 2000). Spiritual intelligence is an ability to access higher meanings, values, abiding purposes, and unconscious aspects of the self and to embed these meanings, values, and purposes in living richer and more creative lives. The transformative power of SI distinguishes it from RI and EI. RI primarily solves logical problems whereas EI allows people to judge the situation and behave appropriately. Additionally, SI enables people to ask themselves how they will react in the first place when they are in a particular situation.

As individuals have three types of intelligence (RI, EI, SI), the next question to pose in is whether or not organizations exhibit the same character as human being in terms of intelligence. Before answering this, it is wise to concern about the following statement: "organizations have multiple dimensions of competence" (Albrecht, 2003; Stalinski, 2004). Competence is related to the ability or the capability which both are related to the intelligence. Organizational intelligence should be regarded as a construction composed of different components. For example, perception, cognition, memory, learning, communication, reasoning, culture, information processing, and behavior flexibility are proposed as organizational intelligence components in the literature (Kalkan, 2005). Although all of these authors agree that organizational intelligence consists of many components, but each author conveys these components in a very diverse meaning which undoubtedly confuses their readers. In order to avoid these confusions, a framework is significantly needed to integrally and comprehensively discuss organizational intelligence.

One of the frameworks that is worth applying to analyze organizational intelligence is the General System Theory (GST) framework introduced by Bertalanffy in 1930s. According to Bertalanffy, all scientific phenomena in both natural and social science form a hierarchy: societies (organizations) contain groups, groups contain individuals, individuals comprise of organs, and so on. Each hierarchy has its own unique characteristic and is also incorporated with all the characteristic of lower level. For instance, Gant and Agazarian (2004), by using GST as the basis of their study, develop System-Centered Theory (SCT). It defines a theory of human living systems that provide foundation for understanding the dynamic system which is isomorphic to individuals, groups or organizations, and *all* forms of living human systems. The two major basis in SCT are hierarchy and isomorphy. SCT defines hierarchy as every system in a specified hierarchy that exists in the context of the system above it and is the context for the system below it; whereas isomorphy is defined as similarity in structure and function. In addition, Glynn (1996) and Akgun (2007) posit a framework to analyze organizational intelligence based on GST by stating that intelligence can be considered as multiple levels of analysis: individual, group, or organization. Glynn adopts the multilevel framework outlined by Glynn et.al. (1994) to examine intelligence at both the individual and the systemic levels and to observe the interrelationship of these levels. All in all, according to Akgun (2007), Gant & Agazarian (2004) and Glynn (1996), organizational intelligence can be analyzed based on individual intelligence.

There are some basic assumptions in adapting individual intelligence to organization (Glynn, 1996; Akgun, 2007; Cakir, 2008):

- First assumption is the functional similarity between individual and organizational intelligence. Like individual intelligence, organizational intelligence can be defined as the capacity of processing information towards the goal, interpreting it, decoding it, and transforming it ;
- Second assumption states that "organizational intelligence is adaptive", thus organization can improve its adaptive potential in the environment;
- Third assumption postulates that organizational intelligence offers an explanation for an experiential learning process emphasizing on organizational success and failure

With these three basic assumptions, both individual and organizational intelligence have similarities; however they are not

proportionally equal:

- As a collective property, organizational intelligence is a result of social process (the result of interactions among individuals) (Glynn, 1996).
- Organizational intelligence does not represent the “intelligence” of managers, similar to managerial cognition, nor is it the sum of the individuals (Akgun, 2007; Simic, 2005).

Since organizational intelligence is not identical with, but related to the intelligence of its membership, mechanisms that relate individual and organizational intelligence; they are considered. Based on the examination of the link between micro level and macro level processes, Glynn (1996) identifies the following three types of mechanisms that facilitate the channeling process from individual to organizational intelligence: aggregation (e.g. individual members’ intelligence accumulates to become organizational intelligence), cross-level transference (e.g. individuals’ intelligence is transformed and codified as organizational intelligence), and distribution (e.g. organizational intelligence is embedded in the structured patterns of thought and action in which organizational members interact and engage). Each of these mechanisms is built on a different set of theoretical assumptions and has implications for the way in which organizational intelligence is measured. However, Akgun (2007) does not agree with the mechanism proposed by Glynn (1996). He is more inclined to the structuration theory suggested by Giddens (1984) to explain the mechanism of organizational intelligence. Organizational intelligence can be actualized by the reciprocal interactions between human agency (individuals) and the structure of social systems (organization).

Based on the explanation above, it can be concluded that understanding and assessing individual intelligence is important to understand organizational intelligence. Therefore, investigation on intelligence at organizational level can be done based on individual intelligence. Moreover, this matter is supported by mechanisms proposed by Glynn (1996) and Giddens’ structuration theory (Akgun, 2007). Nevertheless, we cannot adapt the individual intelligence to organization intelligence directly because organization is a collective entity (a result from interactions among its members).

To sum up, organizational intelligence has recently become popular topic in business and academia and has attracted many researchers from various fields of study. Because of such different disciplines and perspectives, the interpretation of organizational intelligence shows a discrepancy, resulting in disorder in the organizational intelligence literatures (Akgun, 2007; Bratianu, 2006; Dayan, 2006, Degraives and Marquina, 2012; White and Djebarni, 2008). Although there are any extensive individual intelligence literatures and can be made as foundations, they are still not enough to lead to organizational intelligence understanding. Nevertheless, the organizational intelligence literatures themselves also have been under investigation. Therefore, many studies in organizational intelligence remain unsolved matters that should be investigated in further studies in order to provide the scholars an opportunity to study more deeply and comprehensively, especially in the specific area.

In order to provide a guidance to investigate organizational intelligence, we proposed an integrated framework. This proposed framework is compiled in order to reduce misunderstanding about organizational intelligence, because prior researches remain as confusions and incompleteness. These confusion and incompleteness mainly relate with the mapping between the dimensions of individual intelligence and the dimensions of organizational intelligence. In addition, it also relates with the mechanism of how individual intelligence becomes clear organizational intelligence that maps each mechanism with each aspect of intelligence; whether each aspect refers to these mechanisms or each aspect refers to different mechanism or even the mixture of them. There are sequential steps to investigate organizational intelligence in an integrated framework:

1. Choose the organization for the object of research, whether a service organization or a manufacturing organization, whether public organization or private organization.
2. Investigate the dimension of individual intelligence in chosen organization
3. Investigate the dimension of organizational intelligence in chosen organization
4. Investigate the mechanism of how individual intelligence becomes organizational intelligence in chosen organization
5. Investigate the flow of organizational intelligence among subsystems in chosen organization.

3. Methodology

Organizational intelligence has become popular topic recently in business and academia and has attracted many researchers and practitioners from different fields. However, many studies in such different disciplines and perspectives cause diverse interpretation of organizational intelligence. As a result, it presents a discrepancy resulting in disorder in the organizational intelligence literatures (Dayan, 2006). Therefore, to investigate organizational intelligence it is argued that the adequacy of theoretical guidance cannot be expected to come from the extant theories, because there is still no solid theory discussing about organizational intelligence deeply and comprehensively. Although there are many theories and frameworks from prior researches, it can be argued that setting them aside could be considered. Therefore, we do not use the

existing theory to guide us to perform this research. Related to the availability of a solid theory, the result of this research has possibility to produce a theory that is truly different. Besides being lack of solid theoretical guidance, the nature of organizational intelligence itself is very complex which then increases the complexity of the research in organizational intelligence. The complexity of organizational intelligence lies on the following aspects:

1. The future and the past are uncertain: The future is uncertain because different people in an organization often anticipate dramatically the different futures. The past is also uncertain, because it still remains to be realized but because it is dimly, inaccurately, or differently recalled.
2. The problem of conflict: Organizations seek intelligence in the name of multiple, nested actors over multiple, and nested time period. The preference or identities embraced by some participant are inconsistent preference or identities of other participant.
3. The problem of ambiguity in the evaluation underlying an action: The preferences to be pursued or the identities to be enacted are usually assumed to be clear, stable, and exogenous. In organizations, in fact, they are typically neither clear, nor stable, nor exogenous.

The absence of solid theoretical guidance, the complexity of organizational intelligence, and the need to understand organizational intelligence make researchers explore this topic from the main source, namely the employee of the organization (participant). The relevance of research is not only valued through the selection of topic but also depends on to which the perspective of organization employees are included in the process of the research. Intelligence is one of those concepts that everyone has in mind, so the information regarding organizational intelligence that is based on individual intelligence is inseparable from the experiences, perceptions, and perspectives of the participants. In order to integrate the individual intelligence and the organizational intelligence, a social process is needed as a result of interaction among all of members of the organizations.

Since there is still no solid theoretical guidance, the complexity of the nature of organizational intelligence, the importance role of the participants, and the social process of organizational intelligence justify and lead the use of grounded theory (GT) as an appropriate method (Glaser and Strauss, 1967; Glaser, 1978; Glaser, 1992; Glaser, 1998). Glaser does not provide systematically the reason why GT is appropriate as research methods for the development of process theories in a specific domain. Fortunately, many authors provide the reasons of using GT (Locke, 2001; Martin and Turner, 2006; Parry, 1998), they are:

1. Capturing complexity
GT is well to capture complexities of the context in which action unfolds, enabling researchers to better understand all that may be involved in particular substantive issue (Locke, 2001). Similarly, Martin and Turner (1986) argue that GT is suited to incorporate the complexities of organizational context-rather than ignore or simplify them-to produce accurate or useful result. This reason is in line with the argument that researchers who use GT want to discover what the problem is and what processes account for its solution, rather than assuming what should be going on, as required in preconceived types of the research (Glaser, 1978).
2. Linking well to practice
GT has proven to be especially useful to help organizational members gain a perspective on their own work situations (Locke, 2001). Turner (1983) has used GT to study organization for more than a decade because it has enabled him to “produce theoretical accounts which are understandable to those in the area studied and which are useful in giving them a superior understanding of the nature of the own situation”. The argument mentioned by Locke and Turner is closely related to the idea that, due to its distinguishing explanatory power, GT offers practitioners a new understanding and control over their actions (Glaser, 2001), as it puts a high premium on the relevancy of their experience (Glaser, 1998).
3. Supporting the theorizing of ‘new’ substantive area
According to Locke (2001), the use of GT is seen as supporting theorizing of ‘new’ substantive areas, because the naturalistically-oriented data collection methods in addition to the theory-building orientation permit the investigation and theoretical development of new substantive areas as they arrive on the organizational scene. It is in line with the direction provided by Glaser (1978), especially in chapter 10, “New Direction in Grounded Theory”.
4. The substantive area is a social process
Parry conveyed that GT is appropriate to study the social process. This argument is in line with Glaser, that the focus of grounded theory is the identification of the basic social process, the nature of which is the subject of the derived theory (Glaser, 1978, chapter 6). Glaser (1992) has observed that grounded theory, in particular, is useful to “researchers and practitioners in the fields that concern themselves with issues relating to human behavior in organizations, groups, and other social configurations.”

Based on the four reasons above, we consider GT is appropriate for investigating organizational intelligence framework.

4. Conclusion

This paper is a conceptual paper to give a guidance for investigating organizational intelligence in an integrated framework. But until now there are no authors that discuss organizational intelligence in integrated framework, at least to see the connection or relationship between individual intelligence and organizational intelligence. Therefore, we propose an integrated framework to investigate organizational intelligence in sequential steps: choose an appropriate organization, investigate the dimensions of individual intelligence, investigate the dimensions of organizational intelligence, investigate the mechanisms that connect individual and organizational intelligence, and the flow of organizational intelligence among subsystems in organization. Since there is still no solid theoretical guidance, the complexity of the nature of organizational intelligence, the importance role of the participants, and the social process of organizational intelligence justify and lead the use of grounded theory as an appropriate method in investigating this framework.

References

1. Akgun, A. E., J. Byrne, et al. (2007). "Organizational intelligence: a structuration view." *Journal of Organizational Change Management* 20(3): 18.
2. Albrecht, K. (2003). *The Power of Mind at Work: Organizational Intelligence in Actual*. New York, Amazon.
3. Bencsik, A., V. Lire, et al. (2009). "From Individual Memory to Organizational Memory (Intelligence of Organizations)." *World Academy of Science, Engineering and Technology* 56.
4. Bratianu, C., I. Jianu, et al. (2007). Integrators for organizational intellectual capital. *IC-Congress 2007, INHOLLAND University of professional education*. Haarlem, The Netherlands.
5. Cakir, R. and S. Ada (2008). "Can the Organizational Intelligence Be Developed in School Inservice Training?" *World Applied Science Journal* 4(1): 7.
6. Cattell, R. B. (1943). "The measurement of adult intelligence." *Psychological Bulletin* 40: 41.
7. Dayan, M. (2006). The Moderating Effect of Market Turbulence on Organizational Intelligence. *IEEE International Conference on Management of Innovation and Technology*, IEEE
8. De Angelis, C. T. (2013). "Models Of Governance And The Importance Of KM For Public Administration." *Journal of Knowledge Management Practice*, Vol. 14, No. 2, June 2013 14(2).
9. Degraives, A. A. G. and K. D. V. G. Marquina (2012). "MEASUREMENT OF THE ORGANIZATIONAL INTELLIGENCE." *Scientific e-journal of Management Sciences*
10. Gantt, S. P. and Y. M. Agazarian (2004). "SYSTEMS-CENTERED EMOTIONAL INTELLIGENCE: BEYOND INDIVIDUAL SYSTEMS TO ORGANIZATIONAL SYSTEMS." *Organizational Analysis* 12(2).
11. Gardner, H. (1993). *Frames of mind*. New York, NY: Basic Books
12. Giddens, A. (1984), *The Constitution of Society: Outline of the Theory of Structuration*, University of California Press, Berkeley, CA.
13. Glaser, B. G. (1978). *Theoretical Sensitivity*. Mill Valley, CA, Sociology Press.
14. Glaser, B. G. (1992). *Emergence V Forcing Basics of Grounded Theory of Analysis*. Mill Valley, CA, Sociology Press.
15. Glaser, B. G. (1998). *Doing Grounded Theory: Issues and Discussion*
16. Mill Valley, CA, Sociology Press.
17. Glaser, B. G. and A. L. Strauss (1967). *The Discovery of Grounded Theory : Strategies for Qualitative Research*. New York, Aldine Pub. Co.
18. Glynn, M. A., Lant, T. K., & Milliken, F. J. (1994). Mapping learning processes in organizations: A multi-level framework linking learning and organizing.
19. Glynn, M. A. (1996). "Innovative Genius: A Framework for Relating Individual and Organizational Intelligences to Innovation." *The Academy of Management Review* 21(4): 31.
20. Halal, W. E. (1998). "Organizational Intelligence." *Knowledge Management Review*.
21. Kalkan, V. D. (2005). "Organizational Intelligence: Antecedents And Consequences." *Journal of Business & Economics Research* 3(10).
22. Kim, S. (1995). *Organisational Intelligence and Distributed AI*, University of Münster, Institute of Business Informatics.
23. Locke, K. D. (2001). *Grounded theory in management research*. London ; Thousand Oaks, Calif., Sage Publications.
24. Marañón, R.C., Pueyo, A.A. (2000). The study of human intelligence: a review at the turn of the millennium, *Psychology in Spain*.
25. Martin, P. Y. and B. A. Turner (1986). "Grounded Theory and Organizational Research." *The Journal of Applied Behavioral Science* 22(2): 17.
26. Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 24, 267-298.
27. Parry, K. W. (1998). "Grounded theory and social process: A new direction for leadership research." *The Leadership Quarterly* 9(1).
28. Prahalad, C. K. and G. Hamel (1990). "The core competence of the corporation." *Harvard Business Review* 68(3): 14.
29. Rothberg, H.N. and Erickson, G.S. (2005) *From Knowledge to Intelligence: Creating Competitive Advantage in the Next Economy*, Elsevier Butterworth-Heinemann, Woburn, MA.
30. Saeed, K. M., T. S. Saeed, et al. (2014). "Efficacy of Organizational Intelligence on Hospitals' Performance Indicators." *World Applied Sciences Journal* 31(6)
31. Silber, K.H. and L. Kearny (2009). *Organizational Intelligence: A Guide to Understanding the Business of Your Organization for HR, Training, and Performance Consulting*. John Wiley & Sons.
32. Simic, I. (2005). "ORGANIZATIONAL LEARNING AS A COMPONENT OF ORGANIZATIONAL INTELLIGENCE." *Information and Marketing Aspects of the economically Development of the Balkan Countries*: 7.
33. Spearman, C., C. (1904). "General intelligence; objectively determined and measured." *American Journal of Psychology* 15(2): 93.
34. Stalinski, S. (2003). "Organizational Intelligence: A Systems Perspective."
35. Turner, B.A. (1983). The use of grounded theory for the qualitative analysis of organizational behaviour. *Journal of Management Studies*
36. Unland, R. (1994). *Organizational Intelligence and Negotiation Based DAI Systems - Theoretical Foundations and Experimental Results*, University of Münster, Institute of Business Informatics.
37. Vasilache, S. and M. C. Prejmerian (2007). "LEADERSHIP IN INTELLIGENT ORGANIZATIONS."

38. White, G. R. T. and R. Djebarni (2008). "Turing Test for Organizational Intelligence." Ibscientific Journal of Science 3(1): 3.
39. Wilensky, H. L. (1967). Organizational Intelligence :Knowledge and Policy in Government and Industry
40. Zohar, D. and I. Marshall (2000). "SQ: Spiritual Intelligence, the Ultimate Intelligence". Great Britain, Bloomsbury.