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RELATIONSHIP BETWEEN INTEREST RATE AND SELECTED MACROECONOMIC VARIABLES IN NIGERIA

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Abstract

Understanding the factors that determine interest rate is important in signaling relevant policies that can influence interest rate in the economy. This study examine the impact of Budget Deficit (BD), Economic Growth (GRGDP), Inflation Rate (INF), Exchange Rate (EXCHR) and Private Investment (INV) on Interest Rate (INTR) in Nigeria. The results of the stationarity test indicates that only INF is stationary at level while other variables are only stationary at first difference. The results support the Keynesian proposition as budget deficit had no significant effect on interest rate at 5%. Only economic growth and inflation rate had statistically significant impact on interest rate at 5% significant level. The study recommends that exchange rate and investment level should not be used as policy variables to influence interest rate in Nigeria.

1. Introduction

Interest rate can be described as the cost of borrowing or the returns on savings. It serves as incentive that encourage consumers to forgo current consumption and accumulate saving for potential investors. It can also be used as hedging strategies against inflation (Semuel and Nurina, 2015; Ng'etich and Wanjau, 2011; Umaru & Zubairu, 2012; Ojima & Emerenini, 2015; Khumalo, Mutambara and Assensoh-Kodua, 2017; Hasan and Siddique, 2019). Many economic decisions that affect the performance of an economy relates directly or indirectly to interest rate level and volatility. Thus, understanding the factors that determine interest rate is also important in signaling relevant policies that can influence interest rate (Acha and Acha, 2011; Olubanjo, 2015; Alobari, Naenwi, Emah and Zukbee, 2021).

The trend of interest rate in Nigeria is shown in Figure 1. The Y-axis showed the value of interest rate in percentage and X-axis showed the years under study. From the figure, it showed that interest rate increased from 1981 to 1987. From 1988 it started fluctuating reaching its peak in 1993 and continued fluctuation till 2019.

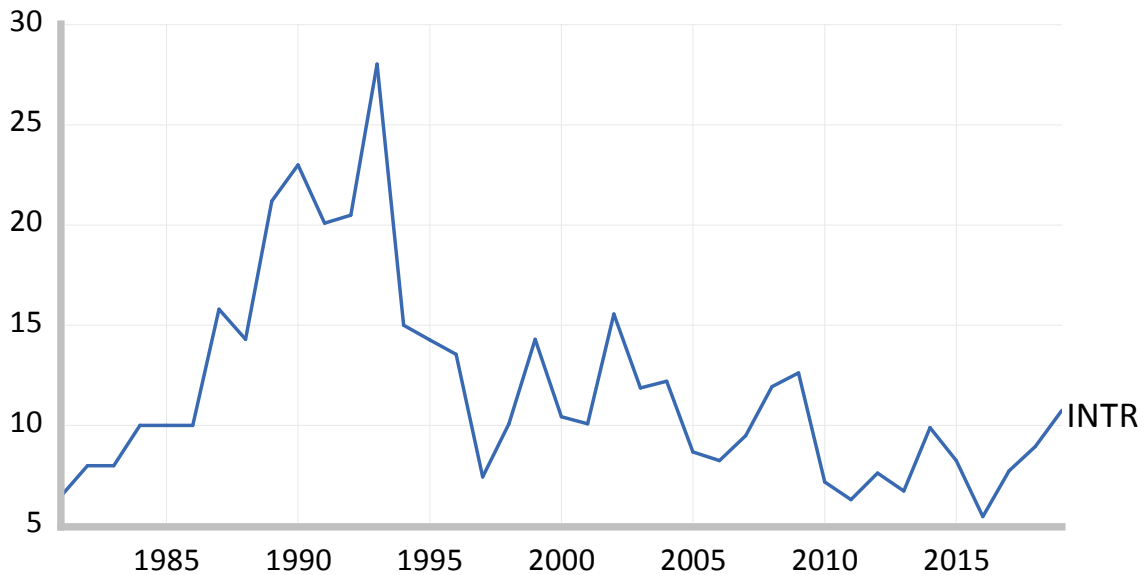


Figure1: Trend of Interest Rates in Nigeria from 1981 to 2019

The average interest rate in Nigeria over the period 1981-2019 was 11.799% with a standard deviation of 5.084. This study examine the impact of selected macroeconomic variables on interest rate. Variable of focus includes budget deficit, economic growth, inflation rate, exchange rate and private investment.

2. Literature Review

This section considers the established relationship between each of the selected macroeconomic variable and interest rate by previous researchers. Concerning the budget deficit, the Mundel-Flemming predicts that an increase in budget deficit causes an increase in interest rate (Odionye & Uma, 2013) while the Ricardian Equivalent Hypothesis predict budget deficit has no significant impact on interest rate (Odionye & Uma, 2013). Empirical results varies across literature. For example, Obi and Nurudeen (2009) obtained a positive relationship between budget deficit and interest rates in Nigeria. The results is in line with that of Ezeabasili and Mojekwu (2011) for Nigeria. Similarly, Saher and Herbert (2010) obtained a significant positive relationship between budget deficit and long run interest rate in Pakistan. On the other hand, Chen (2011) obtained a significant negative relationship between budget deficit (as a ratio of GDP) and long run interest rate in Japan. There are studies that find evidence of no relationship between budget deficit and interest rate. Example is Kelikume (2016) for Sub-Saharan Africa.

Concerning the relationship between economic growth and interest rate, most of the existing literature examine the impact of interest rate on economic growth rather than otherwise. **Jaymeh and Drabi (2010)** obtained significant relationship between economic growth and interest rate in Jordan. Maiga (2017) obtained a significant negative relationship for Nigeria. Harswari and Hamza (2017) obtained a similar results for 48 countries in Asia while Moyo and Pierre (2018) do so in SADC countries. However, Bosworth (2014) found evidence of no significant relationship between interest rate and economic growth in Kenya. Similarly, Njie and Badjie (2021) obtained evidence of no significant short-run relations between economic growth and interest rate in Gambia but a significant relationship in the long run.

For the relationship between inflation and interest rate, the main theoretical reference has been the Fisher hypothesis that predict a positive relationship (Ayub et al., 2014; Samuel & Nurina, 2015; Geetha et al. 2011). This relationship has been established by many well cited literature (Mundell, 1963; Tobin, 1965;

Feldstein, 1976; Mishkin, 1981; Lardic & Mignon, 2003). Surprisingly, literature that established no significant relationship between inflation and interest rate also abound (Huizinga & Mishkin, 1984; Barsky, 1987; Mishkin, 1992; Ghazali, 2003).

Considering the relationship between exchange rate and interest rate, basic macroeconomic theory suggest that high domestic interest rate is associated with appreciation of domestic currency. However, empirical evidences varies. For example, Hakkio (1996) obtained both positive and negative relationship between exchange rate and interest rate for Kansas City over different periods. Goldfajn and Baig (1998) and Goldfajn and Gupta (1999) found results in line with the a priori expectation while Furman and Stiglitz (1998) and Tafa (2015) found that higher interest rate was associated with depreciation of exchange rate.

And for the relationship between investment and interest rate, Mehrara and Karsalari (2011) obtained positive relationship between real interest rate and private investment when interest rate is within the 6% bound and negative relationship when interest rate is above 6%. Eregha (2010), Owumere, et al. (2012) and Alobari, et al (2021) all obtained negative relationship between interest rate and investment in Nigeria.

3. Methodology

The functional form of the model adopted for this study is expressed as:

$$INTR_t = f(BD_t, GRGDP_t, INF_t, EXCHR_t, INV_t) \dots\dots\dots (1)$$

Where: INTR is real interest rate, BD is budget deficit, GRGDP is growth rate of real gross domestic product (to proxy economic growth), INF is the inflation rate, EXCHR is exchange rate, INV is gross fixed capital formation (to proxy private investment), t = time (1981-2019). All data are obtained from the Central Bank of Nigeria Statistical Bulletin for various years.

Expressing equation (1) in its econometric linear form yields:

$$INTR_t = \beta_0 + \beta_1 BD_t + \beta_2 GRGDP_t + \beta_3 INF_t + \beta_4 EXCHR_t + \beta_5 INV_t + \varepsilon_t \dots\dots\dots (2)$$

Where: β_0 is the intercept parameters; $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the partial slope coefficients; ε_t is the error term. The a priori expected signs are: $\beta_0 > 0, \beta_1 < 0, \beta_2 > 0, \beta_3 > 0, \beta_4 < 0, \beta_5 < 0$.

The ARDL cointegration model is specified as follows:

$$\begin{aligned} \Delta INTR_t = & \alpha_0 + \alpha_1 INTR_{t-1} + \alpha_2 BD_{t-1} + \alpha_3 GRGDP_{t-1} + \alpha_4 INF_{t-1} + \alpha_5 EXCHR_{t-1} + \alpha_6 INV_{t-1} \\ & + \sum_{i=1}^p \phi_i \Delta INTR_{t-i} + \sum_{j=0}^{q1} \phi_j \Delta BD_{t-j} + \sum_{k=0}^{q2} \gamma_k \Delta GRGDP_{t-k} + \sum_{l=0}^{q3} \beta_l \Delta INF_{t-l} + \sum_{m=0}^{q4} \alpha_m \Delta EXCHR_{t-m} \\ & + \sum_{n=0}^{q5} \delta_n \Delta INV_{t-n} + \varepsilon_t \dots\dots\dots (3) \end{aligned}$$

4. Main Results

4.1 Stationarity Test

Table 1 revealed that only INF was stationary at level. It implied that the variable has no unit root. The result also implied that the variable was integrated of order zero.

Table 1. Unit Root Test

Variable	Level with Constant				First Difference with Constant				Order of Integration
	Lag	ADF Test	5% Critical Value	Decision	Lag	ADF Test	5% Critical Value	Decision	
INF	1	-4.34	-3.54	S					I(0)
GRGDP	1	-3.30	-3.53	NS	1	-7.55	-3.54	S	I(1)
BD	1	2.24	-3.53	NS	1	-4.31	-3.54	S	I(1)
INV	1	-1.53	-3.53	NS	1	-6.75	-3.54	S	I(1)
EXCHR	1	-2.08	-3.54	NS	1	-4.51	-3.54	S	I(1)
INTR	1	-3.03	-3.53	NS	1	-7.66	-3.54	S	I(1)
NS - nonsignificant at a 5% significance level; S is significant at a 5% significance level									

Author's computation (2021)

On the contrary, GRGDP, BD, INV, EXCHR and INTR were not stationary at level and it was concluded that the variables were stationary at first difference.

4.2 Cointegration Test

Since the result of the unit root test revealed different order of integration of the variables under study, the bounds test approach to cointegration was used (Pesaran et al., 2001; Ouattara, 2004). Table 2 revealed that the *F*-statistics of 1.81 is below the lower bounds critical values at both 5% and 10%, it implies there was no cointegration among the variables. Hence, the ARDL regression was presented and interpreted without separate regression for short-run and long-run.

Table 2: ARDL Cointegration Results

F- Value	K	Critical Values Bounds		
		Sig. Level	Upper	Lower
1.812	5	10%	3.700	2.508
		5%	4.399	2.980

Source: Authors' computation (2021)

4.3 ARDL Regression Results

Table 3 showed that the constant term has positive value of 6.018. It met our a priori expectation. This indicated that the value was statistically significant and positive with p-value of 0.006, which was less than 5%. Therefore, it showed that regardless of change in the explanatory variables, the interest rate would maintain an average value of 6.02%. The lagged value of interest rate has a statistically significant impact on current interest rate suggesting that interest rate is autoregressive.

The short-run coefficient of BD was -0.002, which was statistically insignificant at 5% critical level. The coefficient conformed to a priori expectation.

Table 3: ARDL Regression Results

Independent Variables	Coefficient	Std. Error	<i>t</i> -statistics	<i>p</i> -value
INTR(-1)	0.488	0.144	3.397	0.002
BD	-0.002	0.001	-1.801	0.081
GRGDP	0.267	0.578	2.165	0.036
INF	0.043	0.085	1.982	0.048
EXCHR	-0.026	0.016	-1.680	0.103
INV	-0.0003	0.0002	-1.153	0.258
Constant	6.018	2.041	2.949	0.006
R-squared = 0.820 Adjusted R-squared = 0.747 F-statistics = 8.438 Prob (F-statistics) = 0.001				
Normality = 3.829[0.147] Heteroscedasticity = 10.648[0.001] Durbin-Watson = 2.019				
Dependent Variable-INTR Model Structure: ARDL (1, 0, 0, 0, 0, 0)				

Source: Authors' computation (2021)

The result implied that a one billion Naira increase in BD would decrease INTR by about 0.002% when all other variables are held constant. While the impact is statistically significant, it has small magnitude.

The coefficient of GRGDP was 0.267, which was statistically insignificant at 5% critical level. The coefficient conformed to a priori expectation. The result implied that 1% increase in economic growth rate would increase INTR by about 0.27% when all other variables are held constant.

The coefficient of INF was 0.043, which was statistically insignificant at 5% critical level. The result implied that a one percent increase in INF would increase INTR by about 0.04% when all other variables are held constant.

The coefficient of EXCHR was -0.026, which was statistically insignificant at 5% critical level. The coefficient conformed to a priori expectation. The result implied that a unit increase in ₦/\$ exchange rate would decrease INTR by about 0.03% when all other variables are held constant.

The coefficient of INV was 0.0003, which was statistically insignificant at 5% critical level. The coefficient does not conform to a priori expectation. The result implied that a billion Naira increase in INV would increase INTR by about 0.0003% when all other variables are held constant.

The R-squared value was 0.620, which explained that, holding other variables constant, the regressors accounted for 62% of the variability in inflation rate. It showed that, other variables which were not considered in this study would account for 38% of the variability in interest rate.

The *F*-statistic was 8.438 with a *p*-value of 0.001. Since the *F*-statistic was less than the required 5% critical level, the study rejects the null hypothesis and conclude that the explanatory variables were significant in explaining changes in the outcome variable.

The normality test revealed that the test statistics value was 3.824 with a probability value of 0.147, which was not significant at a 5% significance level. Therefore, the null hypothesis was accepted, and it was concluded that the residual of the model was normally distributed.

Heteroscedasticity test revealed that the test statistics value was 10.648 with a probability value of 0.001, which is significant at a 5% significance level. Therefore, the null hypothesis was rejected, and it was concluded that the residual was heteroscedastic. The Durbin-Watson statistics was 2.019 which indicated that there was no serial correlation in the model.

5. Conclusion

The result showed that budget deficit had a statistically insignificant effect on interest rate lending credence to the conventional Keynesian proposition. The finding implied that an increase in the government budget deficit spending does not affected the interest rate in Nigeria. Furthermore, the result indicated that interest rate was affected by other factors like demand and supply of loanable funds, inflation, monetary policies, exchange rate, among others. The finding supported that of Obi and Nurudeen (2009), Ezeabasili and Mojekwu (2011), Odionye and Uma (2013). On the contrary, the result was inconsistent with the findings of Kormendi and Protopapadakis (2004) and Dvorny (2006). The study recommends that exchange rate and investment level should not be used as policy variables to influence interest rate in Nigeria.

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SIGNIFICANCE OF TECHNOLOGIES AND INNOVATIVE METHODS

Dr. Radhika Kapur

Abstract

In order to put into practice various job duties in a well-ordered and satisfactory manner, communicate effectively with others, enhance one's career prospects and bring about improvements in one's overall quality of lives, they need to be well-equipped with the utilization of technologies and innovative methods. In other words, the individuals need to pay attention towards the up-gradation of technical skills. In some cases, the utilization of technologies is not manageable and the individuals do not feel comfortable. But getting engaged in regular practice will enable them to hone their technical skills and be well-aware in terms of utilization of various forms of technologies. In educational institutions, organizations and agencies, the utilization of various forms of technologies will contribute in putting into practice various job duties in a well-organized and suitable manner and in generating the desired outcomes. Furthermore, when the individuals are making use of technologies and innovative methods, they need to implement the traits of morality and ethics. Therefore, it is of utmost significance for the individuals to recognize the significance of technologies and innovative methods and make use of them satisfactorily. The main areas that are taken into account in this research paper are, areas in which technologies and innovative methods are utilized, benefits of technologies and innovative methods, understanding significance of technologies in the field of education and problems in making use of technologies and innovative methods.

Keywords: Education, Employment Settings, Individuals, Innovative Methods, Job Duties, Technical Skills, Technologies

In the present existence, in all areas and fields, technologies and innovative methods are being made use of by the individuals on a large scale (Sharma, 2021). When the individuals are making use of them in a well-ordered and effective manner, they are able to benefit in number of ways. One of the major benefits is, the tasks and functions are put into practice in a less time consuming and efficient manner. In some cases, the individuals do not feel comfortable with the utilization of technologies. But getting engaged in regular practice will help them to augment their technical skills and overcome apprehensiveness. From the stage of early childhood throughout the lives of the individuals, they are imparted with knowledge and understanding in terms of utilization of various forms of technologies. When they make use of them in a meaningful manner, they realise that they have proven to be beneficial to them. In this manner, they are able to recognise their significance. Therefore, the individuals, belonging to all communities, age groups, occupations, categories and backgrounds are making use of technologies.

The individuals are enhancing their career prospects and bringing about improvements in their

overall quality of lives through two ways, i.e. acquisition of education and getting engaged in employment opportunities. Within the course of acquisition of education at all levels of educational institutions, the students need to make use of technologies and innovative methods (Emerging Technology, 2021). When they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and put into practice other academic activities, they make use of technologies and innovative methods. In higher educational institutions, when the students are pursuing doctoral programs, they are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. In order to conduct an analysis of the data collected, Statistical Package for Social Sciences (SPSS) is made use of. Therefore, one is able to understand on a comprehensive basis that at all levels of education, it is of utmost significance to be well-equipped in terms of utilization of various forms of technologies and innovative methods.

The individuals are engaged in various types of employment settings. The types of jobs, which they would select are based upon their educational qualifications, skills, abilities, personality traits and socio-economic background. In various types of organizations, agencies, educational institutions at all levels and non-government organizations, the individuals are making use of technologies and innovative methods in putting into practice various job duties, tasks and functions. When the individuals get recruited in various types of organizations, they are required to go through training and development programs. In these programs, they are imparted with information in terms of utilization of these methods in the implementation of job duties and functions and achievement of organizational goals. In the employment settings, the individuals make use of technologies for communicating, preparing assignments, reports and projects, and putting into practice other activities. The various types of technologies are, computers, lap-tops, I pads, mobile phones, audio-visual aids, projectors, printers, scanners, photo-copiers and so forth. Whereas, different types of innovative methods are, charts, graphs, structures, designs, images, pictures, models, maps and so forth. Therefore, when the individuals will make use of these technologies in a regimented manner, they will contribute efficaciously in achieving personal and professional goals and bringing about improvements in their overall quality of lives.

Areas in which Technologies and Innovative Methods are utilized

With advancements taking place and with the advent of modernization and globalization, the individuals, belonging to all communities, age groups, occupations, categories and backgrounds are augmenting their knowledge and understanding in terms of various types of technologies and innovative methods (Technology and Innovation, n.d.). In urban and in rural communities, there have been establishment of training centres, which are offering programs. These programs are short-term as well as long-term. When the individuals aspire to hone their technical skills, they get enrolled in these programs. In leading to up-gradation of technical skills and making use of them in an effectual and worthwhile manner, the individuals need to inculcate the traits of morality, ethics, diligence and conscientiousness. There are numerous areas in which technologies and innovative methods are utilized. These are stated as follows:

Implementing Effective Communication Processes – When the individuals are located at a distance, the communication processes are facilitated through the utilization of technologies. Through technologies, the individuals communicate with each other by sending emails and messages. Through emails and

messages, the individuals are not exchanging ideas, viewpoints and perspectives, but they are able to send videos, pictures, images and so forth. One of the major benefits of implementing effective communication processes through the utilization of technologies is, the messages are in a written form. In a written form, the information is usually clear and understandable. In educational institutions at all levels and in employment settings, when the communication processes are facilitated through the utilization of technologies, the individuals are able to do well in their job duties, and achieve personal and professional goals. Therefore, it can be stated, implementing effective communication processes is an area in which technologies and innovative methods are utilized on a large scale.

Augmenting Knowledge in terms of various Areas – The internet is being made use of to augment knowledge in terms of various areas. Through internet, the individuals are able to augment knowledge and understanding not only in terms of utilization of various forms of technologies but other factors as well. When the individuals need to prepare an assignment or work on the project or pay online bills or prepare a chart or graph, they make use of technologies and internet. When they make use of them in a meaningful manner, they realise that they have proven to be beneficial to them. In this manner, they are able to recognise their meaning and significance. Therefore, one can understand on a comprehensive basis that augmenting knowledge in terms of various areas is an aspect in which technologies and innovative methods are utilized, irrespective of their job duties, occupations, personality traits, categories and backgrounds.

Putting into Practice Teaching and Learning Methods – Within the course of acquisition of education at all levels of educational institutions, the instructors make use of technologies and innovative methods. When they need to impart information in terms of academic subjects and lesson plans and lead to up-gradation of the overall system of education, they make use of technologies. On the other hand, students need to make use of technologies and innovative methods. When they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and put into practice other academic activities, they make use of technologies and innovative methods. In preparing oneself, giving presentations and in other academic activities, technologies are made use of on a large scale. Therefore, one can understand on a comprehensive basis that in putting into practice teaching and learning methods, is an area in which technologies and innovative methods are utilized in educational institutions at all levels.

Putting into Practice various Tasks and Activities – When the individuals need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and put into practice other academic activities, they make use of technologies and innovative methods. In higher educational institutions, when the students are pursuing doctoral programs, they are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. On the other hand, within employment settings, the individuals make use of technologies for communicating, preparing assignments, reports and projects, and putting into practice other tasks and activities. The tasks are carried out in a less time consuming manner through the utilization of technologies. Therefore, it can be stated, putting into practice various tasks and activities is an area in which technologies and innovative methods are utilized in personal as well as professional lives of the individuals.

Conducting Analysis of the Data – In higher educational institutions, when the students are pursuing doctoral programs, they are required to work on research projects. When they are working on thesis or research projects, they need to collect data and conduct an analysis of the data collected. The students and researchers are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. In order to conduct an analysis of the data collected, Statistical Package for Social Sciences (SPSS) is made use of. Hence, technologies are made use to conduct an analysis of the data collected. In order to put into practice this task, the individuals need to be well-equipped with the usage of technologies and SPSS. Therefore, it can be acknowledged well that when technologies are being made use of for this purpose, the job duties can be carried out in a less time consuming and efficient manner.

Enhancing Office Productivity – In various types of organizations, agencies, educational institutions at all levels and non-government organizations, the individuals are making use of technologies and innovative methods in putting into practice various job duties, and functions. These render a significant contribution in leading to an increase in productivity and profitability and achieving organizational goals. Within the employment settings, the individuals make use of technologies for communicating, preparing assignments, reports, projects, presentations, worksheets, spreadsheets and putting into practice other activities. When technologies and innovations are made use of to enhance office productivity, the individuals are able to put into practice their job duties in a less time consuming and efficient manner, achieve organizational goals and up-grade the overall structure of the organizations (Gerber, 2018). Therefore, one is able to understand well that technologies are made use of for enhancing productivity within the employment settings, putting into practice the job duties in an efficient manner and meeting the expectations of their employers.

Record Keeping and Retrieval – In educational institutions at all levels and in various types of organizations, the technologies are made use of for preparing assignments, reports, projects, presentations, worksheets, spreadsheets and so forth. When these are prepared, they need to be saved. Hence, technologies are made use of for record keeping and retrieval. When new assignments, reports, projects, presentations, worksheets, and spreadsheets are prepared, the individuals need to refer to previous ones as well. These are saved as hard copies as well as soft copies. Technologies are made use of for record keeping and retrieval of information as soft copies. One of the major benefits of this aspect is, the individuals are able to find out, how they are progressing and identify the areas, which need to be improved. Therefore, one is able to acknowledge that record keeping and retrieval is an area in which technologies and innovative methods are utilized.

Decentralized Work and Cloud Computing – In order to carry out these tasks in a well-organized and efficient manner, the individuals need to understand these concepts well and augment their technical skills. A decentralized cloud is the system that runs on block-chain, making security of the network stronger as compared to what the current infrastructure offers. The reason being, it makes provision of security via compartmentalization. Furthermore, the information is shared and put away. The individuals work as a group and distant applications are made use of to communicate with the couple of instances (10 Uses of Technology in 21st Century Jobs, 2021). One of the major benefits of this aspect is, the individuals are able to store data and applications. Therefore, one is able to acknowledge that decentralized work and

cloud computing is an area in which technologies and innovative methods are utilized, when the individuals are putting into practice their tasks and job duties in personal as well as professional lives.

Carrying out Online Transactions – In the present existence, the technologies and innovative methods are made use of to carry out various transactions. These are an integral part of the implementation of household responsibilities. These include, paying of various types of bills, i.e. electricity, water, television, gas, etc. buying and selling of goods, transferring money, paying insurance, recharging phone, recharging internet and so forth. When the individuals are well-equipped with the usage of technologies, they are able to carry out these tasks from the comfort of their homes. The internet is made use of to augment their knowledge in terms of various areas. Therefore, one is able to acknowledge on a comprehensive basis that carrying out online transactions is an area in which technologies and innovative methods are utilized, when the individuals are putting into practice their tasks and job duties in daily lives. Putting into practice this task has been beneficial and worthwhile to the individuals in their personal as well as professional lives.

Leisure and Recreation Purposes – The individuals are making use of technologies and innovative methods for leisure and recreation purposes. The individuals put into practice various tasks and activities through technologies and innovative methods that are considered as leisure and recreational activities. Some of these include, playing games, watching movies and television shows, learning various things through watching you tube, exchanging messages, pictures, images and videos through Whatsapp and so forth. When the individuals need to communicate with their friends, or relatives, they normally make use of the technique of video calling. Communicating through video calling is regarded as the source of pleasure and satisfaction on a large scale. Hence, technologies and innovative methods are made use of for leisure and recreation purposes on a comprehensive basis by all individuals, irrespective of their communities, occupations, categories, and backgrounds. Therefore, it can be stated, leisure and recreation purposes is an area in which technologies and innovative methods are utilized by the individuals on a comprehensive basis.

Benefits of Technologies and Innovative Methods

The benefits of technologies and innovative methods are identified as generating awareness in terms of various areas, enhancing career prospects, putting into operation job duties in a well-ordered and satisfactory manner and implementing household responsibilities in an efficient manner. The internet is being made use of to augment knowledge in terms of various areas. Through internet, the individuals are able to acquire knowledge and understanding not only in terms of utilization of various forms of technologies but other aspects as well. When the individuals need to prepare an assignment or work on the project or carry out online transactions or prepare a map, chart or graph, they make use of technologies and internet. When they make use of them in a significant manner, they realise that they have proven to be advantageous to them. In this manner, they are able to recognise their meaning and significance. Hence, one can understand on a comprehensive basis that augmenting knowledge in terms of various factors is an area in which technologies and innovative methods are utilized, irrespective of their job duties, occupations, personality traits, categories and backgrounds. Therefore, generating awareness in terms of various factors is a vital benefit of technologies and innovative methods.

Within the course of acquisition of education at all levels of educational institutions, the students

make use of technologies and innovative methods. When they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and so forth, they make use of technologies and innovative methods. In higher educational institutions, when the students are pursuing doctoral programs, they are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. In order to conduct an analysis of the data collected, Statistical Package for Social Sciences (SPSS) is utilized. Within employment settings, the individuals make use of technologies for communicating, preparing assignments, reports and projects, enhancing office productivity, record keeping and retrieval, decentralized work and cloud computing, and in putting into practice other tasks and activities. In educational institutions and employment settings, when technologies and innovative methods are implemented well, the individuals are able enhance their career prospects. Therefore, enhancing career prospects is an important benefit of technologies and innovative methods.

In educational institutions at all levels and in various types of organizations, the technologies are made use of for preparing assignments, reports, projects, presentations, worksheets, spreadsheets and so forth. When technologies and innovations are made use of to enhance office productivity, the individuals are able to put into practice their job duties in a less time consuming and efficient manner, achieve the desired goals and objectives and up-grade the overall structure of the organizations. The instructors make use of technologies and innovative methods, when they need to impart information in terms of academic subjects and lesson plans and lead to up-gradation of the overall system of education. On the other hand, students need to make use of technologies and innovative methods, when they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and so forth. Therefore, putting into operation job duties in a well-ordered and satisfactory manner is a benefit of technologies and innovative methods, which is acknowledged on a large scale.

In the implementation of household responsibilities, the technologies and innovative methods are made use of for putting into practice various tasks and activities. These are, paying of various types of bills, i.e. electricity, water, television, gas, etc. buying and selling of products and services, carrying out monetary transactions, paying insurance, recharging phone, recharging internet connection and so forth. Furthermore, when the individuals need to communicate with their friends, or relatives or even community members, they normally make use of the technique of video calling. Communicating through video calling is regarded as the source of pleasure and satisfaction on a large scale. Hence, technologies and innovative methods are made use of for leisure and recreation purposes on a comprehensive basis by all individuals, irrespective of their communities, occupations, categories, and backgrounds. Therefore, it can be stated, implementing household responsibilities in an efficient manner is a benefit of technologies and innovative methods, which is recognized by the individuals, irrespective of communities, categories and backgrounds.

Understanding Significance of Technologies in the Field of Education

At all levels of education from nursery schools till the universities, the members, including principals, heads, directors, instructors, staff members and students need to possess adequate knowledge in terms of utilization of various forms of technologies. In the implementation of various tasks and activities in the field of education, the individuals make use of technologies. The individuals in leadership

positions such as, principals, heads, and directors carry out their job duties through the utilization of technologies. The staff members are engaged in various job duties, i.e. managerial, administrative, technical, financial, clerical and marketing make use of various forms of technologies in putting into practice their job duties. The students make use of technologies and innovative methods, when they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, or put into practice other academic activities. In higher educational institutions, when the students are pursuing doctoral programs, they are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. Therefore, one is able to understand on a comprehensive basis that at all levels of education, it is of utmost significance to be well-equipped in terms of utilization of various forms of technologies and innovative methods.

Within the classroom settings, when the instructors are imparting information to the students in terms of academic subjects and lesson plans, they make use of technologies. In most cases, Power Point presentations are made use of. After the students have acquired an understanding of the academic subjects and lesson plans, they are encouraged to give presentations as a part of assessment strategies. Hence, they make use of technologies to prepare presentations. Getting engaged in regular practice will enable the students as well as other members to be well-equipped in terms of utilization of various forms of technologies. One of the major benefits of technologies is, the individuals are able to augment their knowledge and understanding in terms of subjects and concepts. The instructors make use of technologies and internet to prepare themselves well. Therefore, it can be stated, significance of technologies in the field of education is recognized, as it facilitates achievement of academic goals and leading to up-gradation of the overall system of education.

Problems in making use of Technologies and Innovative Methods

The major problems experienced in making use of technologies and innovative methods are, unawareness and lack of resources. It is of utmost significance for the individuals to be well-equipped with technologies. In other words, they should be informative in terms of methods and procedures. The individuals work diligently and conscientiously to augment their technical skills. When they are unaware and do not possess sufficient knowledge, this is apparent that they will experience problems in making use of technologies and innovative methods. In order to acquire knowledge and up-grade their technical skills, they either pursue training programs or they communicate with other individuals and learn from them. Getting engaged in regular practice is regarded as one of the worthwhile and effective strategies, which would facilitate in honing technical skills and overcoming all types of problems. Therefore, one is able to understand on a comprehensive basis that unawareness is one of the critical problems experienced in terms of making use of technologies and innovative methods.

In order to make provision of technologies, it is necessary to possess sufficient resources. Financial resources are regarded to be of utmost significance. These are the monetary resources, which are made use of to purchase as well as repair technologies. When any forms of technologies are not functioning in an appropriate manner, and need to be repaired, in such cases, the experts are called, who put into practice their job duties. The research studies have indicated that individuals, belonging to deprived, marginalized and socio-economically backward sections do not possess sufficient financial resources. Due to lack of these resources, they experience problems in making purchases of technologies.

When the individuals are pursuing educational programs, they make visits to the library or computer centres, when they are required to make use of technologies. Hence, lack of resources is one of the crucial problems, which need to be solved. In order to provide solutions to this problem, the individuals look for ways to generate a source of income. Therefore, it is well-understood, it is necessary to possess sufficient resources, which are necessary to possess technologies.

Conclusion

In all areas and fields, the individuals are making use of technologies and innovative methods to a major extent. When the individuals are making use of them in a well-ordered and effective manner, they are able to do well in their jobs and generate the desired outcomes. Areas in which technologies and innovative methods are utilized are implementing effective communication processes, augmenting knowledge in terms of various areas, putting into practice teaching and learning methods, putting into practice various tasks and activities, conducting analysis of the data, enhancing office productivity, record keeping and retrieval, decentralized work and cloud computing, carrying out online transactions and leisure and recreation purposes.

The benefits of technologies and innovative methods are identified on a comprehensive basis by all individuals, irrespective of their communities, categories and backgrounds. These are recognized in terms of generating awareness in terms of various areas, enhancing career prospects, putting into operation job duties in a well-ordered and satisfactory manner and implementing household responsibilities in an efficient manner. Significance of technologies in the field of education is recognized on a large scale. The major problems experienced in making use of technologies and innovative methods are, unawareness and lack of resources. Finally, it can be stated, when the individuals are well-equipped with the utilization of various types of technologies and innovative methods, they will contribute efficaciously towards putting into practice their job duties, achieving personal and professional goals and bringing about improvements in their overall quality of lives.

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SOCIAL MEDIA USAGE AND CUSTOMER LOYALTY: PREDICTING RETURNING CUSTOMERS USING ARTIFICIAL NEURAL NETWORK

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Abstractb

Customer loyalty has been an all-time pursuit of American companies. This project contributes to the understanding of social media's role in establishing customer loyalty. The authors acquired a consumer purchase dataset and fit 2 models including an artificial neural network algorithm. The results show that the logistic model and the neural network model has similar performance in predicting the purchase and repurchase. However, the neural network model performance much better in the purchase class. The neural network model turns out a better choice for unbalanced data.

1. Introduction

US companies have a tradition of investing in customer loyalty programs (Watson et al. 2015). It is well acknowledged that customer loyalty leads to customers commitment, trust and satisfaction (Kandampully et al. 2015). When it comes to digital era, social media and other IT enabled communication tools make it much easier than before to reach customers (De Vries, Gensler, & Leeftang, 2012) and influence customers in large scale (Uncles et al. 2003). But at same time, it is harder to gain customer loyalty because the reduced switching cost on customers. Because of the value and the new challenges, customer loyalty management recaptures its position on business strategy dashboard in last decade (Watson et al. 2015). This paper examines the impact of customers' social media usage on customer loyalty to a brand. Social media as a new marketing channel is widely adopted by companies to reach customers for advertising (Alalwan 2018), building relationship, and directly selling products/services (Malthouse et al. 2013). It is reported that social media plays a role in enhancing brand equity (Michaelidou et al., 2011) (Colliander & Dahlen, 2011), increasing sales (Tsimonis and Dimitriadis, 2014) and improving customer service quality (Culnan et al. 2010). As a result, increase organizations adopt social media as an essential marketing tool (Mangold & Faulds, 2009). However, the relationship between customer social media usage and customer loyalty has not been thoroughly understood.

We argue that customers' social media usage plays a role in retaining customers and fostering customer loyalty. As indicated by Foux (2006), consumers tend to trust the information from social media because the information comes from social parties, other consumers or simply a third party. And consumers

increasingly turn to social media to get information about products and services. Comparing with traditional communication channels such as TV, radio and news in which information flow is unidirectional, social media brings in all-dimension voices such as from customers, reviewers, and competitors. Feeling exposed to more perspectives and evaluations on a brand, consumers are more engaged in the systematic evaluation (Petty and Cacioppo 2012). Customers consulted with social media are more likely feeling confident for the quality of products/services they are looking at, and thus are more likely to engage an attitude change. As explained by Turri, Smith and Kemp (2013), social media usage can foster the affective commitment.

Research in this area has been accumulating (Hsu and Tsou 2011) (Laroche, Habibi and Richard 2013). Erdoğmuş and Cicek (2012) surveys social media users in Turkey and reports several factors that bound to brand loyalty. Laroche et al., (2013) also survey social media users for brand community participation and brand loyalty. They did not report consumers purchase and repurchase intention and decision making. We notice that many studies in this area use survey methods to investigate customer loyalty (Kandampully, Zhang, & Bilgihan, 2015) and there lack studies that measures consumers' direct purchase behavior. It is important to survey customers for their thoughts but also important to study consumers' actual behaviors that ties to loyalty. This paper adds to literature by using a secondary dataset which records consumers' actual purchase and repurchase behavior. Literature has documented attitudinal and behavioral types of customer loyalty (Keller 1993). Both lead to repetitive purchase behavior. The re-purchase behavior is an objective measure of customer loyalty.

One of the authors obtained the dataset from a nation-wide chain store brand which sells and install floors. Ten years of consumers purchase history are recorded. More importantly, consumers reported the information source that leads to store visit. Social media is one of the information sources. The authors use the data to fit 2 models, a logistic regression model (base model) and an artificial neural network algorithm. The latter is from the Neural Network Simultaneous Optimization Algorithm (NNSOA) (Sexton, Dorsey, & Sikander, 2004). Logistic regression model is familiar to business researchers. The NNSOA is featured by identifying a parsimonious network structure, and the importance of social media information source among others for its influence on purchase and repurchase behavior.

This research shed lights on importance of the social media information source in consumers' purchase and re-purchase decision, i.e., brand loyalty. This research also compares the base model and NN model for their performance in fitting data of unbalanced samples, which is very common in business purchase data.

Results of both the show that customers' social media usage is an influential factor in predicting purchase and repurchase behavior. In addition, the results shows that shows that NN model has a better performance on unbalanced data.

2. Literature

Research in the relationship between social media and customer loyalty is limited. Existing studies address it from three perspectives, i.e., analyzing social media impacts on attitudinal and behavioral loyalty, studying social media as an information platform for impacts on customer loyalty, and investigating special product segments for which social media has larger impacts.

Hawkins and Vel (2013) analyze the attitudinal and behavioral type of customer loyalty and suggest that social media mainly impact customers' attitudinal loyalty. Attitudinal loyalty ties to customers' positive word of mouth (Zeithaml, 2000), while behavioral loyalty is measured by customers' repetitive purchases. Some scholars argue that either attitudinal or behavioral loyalty leads to repetitive purchases (Ailawadi et al. 2008). Hawkins and Vel (2013) provide thorough discussions on the two types. This paper however focuses on customers actual repurchase behavior because it is more observable and directly links to firms' bottom line.

Social media marketing campaign and purchase intention has been studied by existing literature (Alalwan 2018). However, not many studies focus on individual consumers' social media usage. Laroche et al. (2013) examine online brand community for impacts on customer-brand relationship. They found that the being a social media community user is positively related to product/company trust and brand loyalty. Brand community can be a good source of information to customers. However, many social media sites open the information to public and non-community users can also access the information. Many consumers do not stick to single information source but instead use search engine to find and use multiple information sources for better knowledge of a product or brand. To understand impacts of social media on customer loyalty in general, social media usage sources should not be limits on specific type. This paper includes customers self-reported social media sources and does not exclude any specific source. As long as the media site provides opportunities for social activities, using the site will be counted as social media usage regardless of reading a plain message or being active in sharing opinions.

Some studies focus on specific market segments such as travel industry (Asperen, Rooij, and Dijkmans 2017) and luxury brands (Stoking and Ozuem 2018). Asperen et al., (2017) shows that users who are more engaged in company's social media site have higher degree of loyalty. Stoking and Ozuem (2018) provides analytical insights about how luxury cosmetic companies can utilize social media usage to increase market share and retain customers. The focus on this paper is on the customer side. Customers' usage of social media can impact their perceptions on brand general quality. In a "competing for attention" (Bordalo, Gennaioli and Shleifer 2015) era, informational influence on consumers' perceived brand quality can be critical to companies' market share and bottom line.

This paper has 2 major contributions to social media and customer loyalty research. First, consumers purchase behavior is directly measured. Second, this paper examines social media as an information source comparing with other types of information source to understand the impact on consumer purchase decision making.

3. Method

3.1 Data

The dataset is provided by a national chain store which sells and installs floors for residential and commercial buildings among 50 states in US. The dataset contains floor order and installation information from 2008 to 2018. A purchase is recorded when a customer decides to hire the company and book a date to start the project. A repurchase is recorded when a same customer makes a second purchase.

Social media usage was reported by customers when they contact the company for a project estimation. Customers are then asked about the information source from which they get to know and contact the

company. Totally 57 sources are recorded including Angie's List, FaceBook, Home Show, TV and so on. The author classifies them into 13 categories including social media. Social media source includes those online information sources that have social components. Examples include Facebook and Twitter. Table 1 shows the categories and number of observations.

Table 1 – Information Source and total counts

ID	Information Source	Record Count
1	Advertising - Mass Media	1248
2	Advertising - Signage	4846
3	Marketing - Direct	4072
4	Marketing - Home Show	12624
5	Marketing - internet	4626
6	Marketing - Promotion	264
7	Online - Company Website	22173
8	Online - Contractor Services Directory	21335
9	Online - Social Media	801
10	Referral - Other Customers	19156
11	Referral - Professional	75025
12	Referral - Repeat Customer	22527
13	Other	15372
Total		210369

Other than the 13 types of information source, we also include the project type variable. The project type can be commercial or residential project. Table 2 summarizes the variables used in the dataset.

Table 2 – Variables

Variable	Description
com-res-1 to -3	Three indicator variables representing Commercial, Residential and unspecified
jobS-1 to 13	13 categories of information source as shown in Table 1

A major issue with the dataset is the small samples of social media records. In order to verify the impact of social media usage on purchase and repurchase behavior, we take the stratified sampling approach and resample the dataset. We keep the 801 social media records and randomly samples another 801 records from the rest. The dataset has the ratio of social media to non-social media data samples as 1:1 and the total 1602 (801 + 801) observations.

From the total 1602 records, we make 10 datasets by randomly picking 10% as the test set and the rest 90% as training set for 10 times. This allows a ten-fold cross validation and to add rigor to the analysis. The 10 training/test datasets are used to fit the following 2 models. The same datasets are used to train the

linear model and the neural network model. Then the test datasets are used to evaluate the prediction performance of the 2 models.

3.2 Logistic Regression Model

This analysis uses a general logistic mode as shown below. The result of this model is compared with that from the neural network approach (explained in 3.3).

$$\text{Logit (Purchase [0,1])} = b_0 + b_1*v_1 + b_2*v_2 + \dots + b_{16}*v_{16} + e$$

The v_1, v_2, \dots to v_{16} are the independent variables, e is the error item.

3.3 Neural Network Simultaneous Optimization Algorithm (NNSOA)

Artificial Neural networks (ANN) are useful prediction tool in many fields such as business, technology, medicine, agriculture, engineering, and education (Sexton , McMurtrey, Michalopoulos, & Smith, 2005). There are advantages of ANN over traditional statistical tools especially for analyzing large dataset (Yang and Sudharshan 2019). This study adopts the NNSOA algorithm (Sexton et al., 2004) to help understand how social media usage play a role in customer's decision making in purchase and repurchase of a service. The NNSOA algorithm can individually isolate the effect of each input, and is often superior to traditional gradient search algorithm such as backpropagation (Sexton et al., 2004). To isolate the relevant inputs, the function will add hard zeros to the irrelevant inputs, experimentally removing them from the solution without ever actually getting rid of a potential input (Sexton et al., 2005).

The NNSOA uses a Genetic Algorithm (GA) to search for the optimal neural network solution (Sexton et al., 2004). The GA searches from multiple starting positions, which enhances the ability to find global versus local solutions when compared to traditional processes, such as standard hill climbing algorithms, trial-and-error and back propagation (Sexton et al., 2005). Below is the NNSOA algorithm outline:

Neural Network Simultaneous Optimization Algorithm Outline

1. *Evaluation: Each member of the current population is evaluated by a fitness function based on the sum-of-squared error (SSE) value in order to assign each solution a probability of being redrawn in the next generation. Better solutions will have a greater chance of being drawn while poorer solutions will die out. Survival of the fittest.*
2. *Reproduction: A mating pool of 12 solutions is created by selecting solutions from the current population based on their assigned probability. This is done by selecting a random number in the range of 0 and the sum of all probabilities (or 1) and comparing it to the cumulative probability of the current string. When it is found that the random value is less than the current string's cumulative probability, the current string is drawn for the next generation. This is repeated until the entire new generation is drawn.*
3. *Crossover. The solution in the mating pool are than randomly paired constructing 6 sets of parent solutions. A point is randomly selected for each pair in which the parent solutions will switch the weights that are above that point, generating 12 new solutions or the next generation.*

4. *Mutation: For each weight in a generation, a random number is drawn, if the random value is less than 0.05, the weight will be replaced by a randomly drawn value in the entire weight space. By doing this, the entire weight space is globally searched enhancing the algorithm's ability to find the global solution.*
5. *Mutation2: For each weight in a generation, a random number is drawn, if the random value is less than 0.05, the weight will be replaced by a hard. By doing this, unneeded weights in the solution and possible inputs will be eliminated that are not contributing to accurately predicting the outputs.*
6. *Convergence: Once 70% of the maximum set of generations has been reached, the best solution replaces all the strings in the current population. The weights of these 12 identical solutions are then modified by adding small random value to the current weight. These random values decrease to an arbitrarily small number as the number of generations increase to its set maximum amount.*
7. *Termination: The algorithm will terminate on a user-specified number of generations.*

4. Results and Discussion

The logistic regression model and NNSOA are trained on the ten training datasets per the approach described in preceding sections. Forecasts are then produced on the ten test datasets correspondingly. Table 3 and Table 4 shows results of the purchase predictions. Table 5 and Table 6 shows results of the re-purchase predictions, i.e., the loyalty measure.

The measures used in the prediction are adopted from the book Business Analytics chapter 9 (Camm, Cochran, Fry & Ohlmann, 2020). The overall error rate is the ratio of correctly predicted cases in all test cases. As shown in Table 3 and 4, the logistic model has an average 0.346 error rate, and the Neural Network model has 0.354 error rate for the first dependent variable, the first-time purchase. The 2 models have similar performance by overall error rate.

It is typical to measure error rate by Class 1 and Class 0 respectively, i.e., the false positive (non-purchase but predicted purchase), and false negative (purchase but predicted non-purchase). These measures are also reported in our results. Table 3 shows that the logistic mode has purchase prediction error rate 0.796 and non-purchase prediction error rate 0.074. The error rate is much lower for Class 0 than for Class 1. Similar pattern appears in the NN model results, 0.796 vs. 0.105 as the Class 1 and 0 error rate, as shown in Table 4. This result reveals a fact that both the logistic model and NN model has a tendency to sacrifice the Class 1 prediction accuracy to compensate the Class 0 accuracy.

Table 5 and 6 shows results of the second dependent variable, the re-purchase. For the re-purchase prediction, the logistic model has an average 0.071 error rate, and the Neural Network model has 0.183 error rate. Even though Neural Network model underperforms in overall prediction, but when we look at Class 1 and 0 respectively, the NN model has a much lower error rate in Class 1 prediction, 0.231 vs. 0.796. It appears that the base model has used the same route used in the purchase data and gain overall

accuracy by leaning on the Class 0 accuracy which is the dominantly class. But the NN algorithm has found a differently way which has tremendously improved the Class 1 prediction accuracy but maintained the overall low error rate. This is a very interesting finding in applying NN model in classification problems of unbalanced data.

Table 3 – Logistic regression model testing results - DV1

Dataset	Overall error rate	Purchase		Non-purchase	
		error rate	Sensitivity (hit rate)	error rate	Specificity (hit rate)
DS01	0.363	0.897	0.103	0.059	0.941
DS02	0.331	0.769	0.231	0.120	0.880
DS03	0.281	0.796	0.204	0.019	0.981
DS04	0.363	0.765	0.235	0.065	0.935
DS05	0.363	0.875	0.125	0.087	0.913
DS06	0.344	0.797	0.203	0.079	0.921
DS07	0.356	0.887	0.113	0.093	0.907
DS08	0.344	0.790	0.210	0.061	0.939
DS09	0.331	0.811	0.189	0.093	0.907
DS10	0.384	0.902	0.098	0.061	0.939
Average	0.346	0.829	0.171	0.074	0.926
SD	0.028	0.055	0.055	0.027	0.027

Table 4 – Neural Network model testing results – DV1

Dataset	Overall error rate	Purchase		Non-purchase	
		error rate	Sensitivity (hit rate)	error rate	Specificity (hit rate)
DS01	0.344	0.828	0.172	0.069	0.931
DS02	0.338	0.769	0.231	0.130	0.870
DS03	0.369	0.759	0.241	0.170	0.830
DS04	0.363	0.735	0.265	0.087	0.913
DS05	0.356	0.875	0.125	0.077	0.923
DS06	0.350	0.847	0.153	0.059	0.941
DS07	0.338	0.736	0.264	0.140	0.860
DS08	0.363	0.790	0.210	0.092	0.908
DS09	0.325	0.717	0.283	0.131	0.869
DS10	0.400	0.902	0.098	0.091	0.909

Average	0.354	0.796	0.204	0.105	0.895
SD	0.021	0.064	0.064	0.036	0.036

Table 5 – Logistic regression model testing results – DV2

Dataset	Overall error rate	Class 1		Class 0	
		error rate	Sensitivity (hit rate)	error rate	Specificity (hit rate)
DS01	0.056	0.900	0.100	0.000	1.000
DS02	0.075	0.625	0.375	0.014	0.986
DS03	0.044	0.714	0.286	0.013	0.987
DS04	0.113	0.900	0.100	0.000	1.000
DS05	0.081	0.786	0.214	0.014	0.986
DS06	0.088	0.909	0.091	0.027	0.973
DS07	0.094	0.889	0.111	0.046	0.954
DS08	0.063	0.600	0.400	0.027	0.973
DS09	0.063	0.778	0.222	0.020	0.980
DS10	0.038	0.600	0.400	0.000	1.000
Average	0.071	0.770	0.230	0.016	0.984
SD	0.023	0.129	0.129	0.015	0.015

Table 6 – Neural Network model testing results – DV2

Dataset	Overall error rate	Class 1		Class 0	
		error rate	Sensitivity (hit rate)	error rate	Specificity (hit rate)
DS01	0.138	0.200	0.800	0.133	0.867
DS02	0.188	0.125	0.875	0.194	0.806
DS03	0.169	0.143	0.857	0.170	0.830
DS04	0.219	0.150	0.850	0.229	0.771
DS05	0.163	0.357	0.643	0.144	0.856
DS06	0.181	0.273	0.727	0.174	0.826
DS07	0.231	0.444	0.556	0.219	0.781
DS08	0.163	0.100	0.900	0.167	0.833
DS09	0.219	0.222	0.778	0.219	0.781
DS10	0.163	0.300	0.700	0.153	0.847
Average	0.183	0.231	0.769	0.180	0.820

SD	0.031	0.111	0.111	0.033	0.033
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5. Conclusion

Logistic model is a commonly used in classification problems. It is in essence a linear model with a transformed dependent variable. Compared with the NN algorithm, the logistic model is simple but native in calculating model fit errors.

In this project, the results did not show superior prediction accuracy in the NN algorithm. The logistic model and NN model has similar level of prediction accuracy.

Both the base model and neural network model has the overall error rate around 3.5 on test data. For the overall prediction performance, neural network model does not outperform. If the base model plays a role of setting the baseline, the neural network model barely meets the standard. Because business purchase data is well-known to have overwhelmingly more “0” cases than “1” cases, i.e., lots of not-purchase than purchase, it needs model customizations to accommodate this feature. Neural network model algorithms typically apply the so called over-fit control mechanisms, which in general prevent the model behavior of using the dominant value (like “0”) for all cases. As illustrated in (), business purchase data requires special model tuning for its typically unbalanced cases of purchase vs. not purchase. For this purpose, the neural network model is a better choice because of its built-in control mechanism.

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DIGITAL TECHNOLOGIES: INDISPENSABLE IN LEADING TO ENRICHMENT OF THE LIVING CONDITIONS OF THE INDIVIDUALS

Dr. Radhika Kapur

Abstract

The main objective of this research paper is to understand the meaning and significance of digital technologies. These are regarded as indispensable in leading to enrichment of the living conditions of the individuals. In the personal as well as professional lives of the individuals, the digital technologies are utilized for number of purposes. These are, implementing communication processes in an effective manner, improving knowledge and understanding in terms of various subjects, concepts and areas, putting into operation teaching and learning methods in educational institutions at all levels and in various types of organizations, putting into operation various tasks, activities, job duties and functions, conducting analysis of the data that is collected, particularly in the implementation of research projects, augmenting office productivity, record keeping and recovery, decentralized work and cloud computing, putting into operation online transactions, and leisure and recreation purposes. Therefore, to make use of digital technologies in an effective manner, the individuals need to focus upon the up-gradation of technical skills. The individuals belonging to all communities, categories and backgrounds are making use of digital technologies. The main areas that are taken into account in this research paper are, factors highlighting the meaning and significance of digital technologies, areas in which digital technologies are utilized and the essential digital skills.

Keywords: Advancements, Communication, Digital technology, Effectiveness, Information, Job Duties, Personal and Professional Goals

Digital technology includes computing, communication and content. Any information that has been used on the computer or disseminated on the computer is known as digital technology. The utilization of digital technology can enhance the level of creativity and distribution of information. The word “digital” comes from the word digitus. Finger refers to one of the oldest tools of counting. When information is stored, transmitted or forwarded in the digital format, it is converted into numbers, at the most basic machine-level as zeroes and ones. The term represents technology and relies on the use of the micro-processors. Hence, the computers and the applications that are dependent on internet as well as other devices such as, video cameras and mobile devices, such as, phones and personal digital assistants (PDA). The utilization of internet is regarded to play an important part in augmenting their knowledge and understanding in terms of various subjects, concepts and aspects. The utilization of digital technology entails the use of devices that enable the access to cyberspace, the use of digital audio/video and information communication technology (ICT). The provision and the use of electronic technologies are

required to install, integrate, STEM and other technology systems (What is Digital Technology? 2021).

The provision and the use of electronic technologies has made the lives of the individuals smooth and comfortable. The individuals are making use of digital technologies on a comprehensive basis. These technologies also involves working principles, processes and standards, which apply to the technology industry. Digital technology includes all types of electronic applications and equipment that make use of relevant and pertinent information in the numeric code. The given information is usually in the form of binary codes, which are the characters representing zero and one. The devices that are made use of to process and utilize digital information include, calculators, personal computers, traffic light controllers, automobiles, cellular telephones and so forth. Digital technology is known to comprise of working developments, ideologies and principles applying to the technology standards. Digital technology is known to enhance the overall creativity level, along with the process of information distribution (What are some everyday examples of digital technology? 2020). When the individuals are making use of digital technology, they are required to be well-aware in terms of measures and approaches. In other words, there are techniques of making use of technologies, in terms of which the individuals need to be informative.

The term digital technology is the comprehensive term, which needs to be understood by the individuals in order to enrich their lives. In the present existence, in order to live efficacious lives, the individuals need to be well-equipped in terms of measures and strategies. The individuals belonging to all age groups, genders, communities, categories and backgrounds need to be well-versed with the utilization of various types of digital technologies. In cases of individuals, when they are not aware in terms of technologies, they need to obtain help and assistance from others (Digital Technology is everywhere, n.d.). Getting engaged in regular practice will help them to augment their technical skills and overcome apprehensiveness. From the stage of early childhood throughout the lives of the individuals, they are imparted with knowledge and understanding in terms of utilization of various forms of technologies. When they make use of them in a meaningful manner, they realise that they have proven to be beneficial to them. In this manner, they are able to recognise their significance. The utilization of digital technologies has rendered an important contribution in achieving personal and professional goals and bringing about improvements in one's overall quality of lives. Therefore, the individuals, belonging to all communities, age groups, occupations, categories and backgrounds are making use of technologies.

Factors highlighting the Meaning and Significance of Digital Technologies

The factors highlighting the meaning and significance of digital technologies are, it promotes social connectivity, it leads to an increase in the communication processes, it initiates learning opportunities, and information storage. Digital technology makes it easy to stay in touch with friends, family and workplace. Even when the individuals are located at a distance from each other, they are able to communicate with each other through words, video, audio, media, websites, apps and software. These have rendered an important contribution in facilitating the socialization process among the users of digital technology. It is apparently understood that one cannot carry out their tasks and functions in seclusion and need to communicate and socialize with each other. Within the course of implementation of tasks and functions, there are occurrence of number of problems and challenges. In order to make provision of solutions to these problems, one has to communicate with others and exchange ideas and viewpoints. Therefore, it can be stated, through the utilization of digital technologies, one is able to promote social connectivity within

When the individuals are located at a distance, the communication processes are facilitated through the utilization of digital technologies. Through the utilization of digital technologies, the individuals communicate with each other by sending emails and messages. Through emails and messages, the individuals are not only exchanging notions, standpoints and perspectives, but they are able to send videos, pictures, images and so forth. One of the major benefits of implementing communication processes in an efficacious manner through the utilization of technologies is, the messages are in a written form. The individuals ensure that there is an increase in speed of the internet to facilitate the communication processes in an effective manner. Furthermore to carry out the job duties in an appropriate manner. When the individuals are well-versed with the methods and strategies of utilizing digital technologies, they are able to do well in their job duties, achieve personal and professional goals and bring about improvements in their overall quality of lives. Therefore, one is able to understand in a well-ordered manner that there is an increase in the communication processes through the utilization of digital technologies.

Learning is the lifelong activity. The individuals, belonging to all communities, categories and backgrounds need to learn throughout their lives. The internet is regarded to render an indispensable contribution in facilitating learning. When the individuals have access to the internet, they are able to benefit in number of ways. Through the utilization of internet, the individuals are able to augment their information and understanding not only in terms of utilization of various forms of digital technologies but other factors as well. When the individuals need to prepare an assignment or work on the project or pay online bills or prepare a chart or graph, they make use of digital technologies and internet. When they make use of them in a worthwhile manner, they realise that they have proven to be advantageous to them. Apart from these activities, the individuals are able to augment their knowledge and understanding in terms of aspects that are necessary in the implementation of household responsibilities. Therefore, it can be stated, learning opportunities are initiated through the utilization of digital technologies.

Digital technologies enable the storage of large amounts of information in relatively small spaces. Large amounts of media, such as, photos, music, videos, contact information and other documents can be carried around on small devices such as mobile phones. In the physical locations, data can also be stored online, enabling it to be accessed from any device, which has an internet connection. When the individuals are preparing an assignment or working on the project, they need to save it. In most cases, they cannot be prepared in one day and are prepared in number of days, hence, they need to be saved. When technologies are made use of for information storage, the individuals are able to generate the feeling of satisfaction. Within the course of pursuance of an educational program or when one is engaged in employment opportunities, one is required to work on assignments, which they need to save. This is necessary to achieve academic goals and carry out the job duties in accordance to the expectations of their employers. Therefore, it is comprehensively understood, information storage is an important factor that highlights the meaning and significance of digital technologies.

Areas in which Digital Technologies are utilized

With advancements taking place and with the advent of modernization and globalization, the individuals, belonging to all communities, age groups, occupations, categories and backgrounds are

augmenting their knowledge and understanding in terms of various types of digital technologies (The Impact of Digital Technologies, n.d.). The research studies conducted on digital technologies have indicated that it is of utmost significance for the individuals to make use of them. They are able to benefit in achieving personal and professional goals and in bringing about improvements in their lives. In urban as well as in rural communities, there have been establishment of training centres, which are offering programs. These programs are short-term as well as long-term. When the individuals aspire to up-grade their technical skills, they get enrolled in these programs. In leading to enhancement of technical skills and making use of them in an efficient and meaningful manner, the individuals need to inculcate the traits of morality, ethics, diligence and conscientiousness. There are numerous areas in which digital technologies are utilized. These are stated as follows:

Implementing Communication Processes in an Effective Manner – When the individuals are located at a distance, the communication processes are facilitated through the utilization of digital technologies. Through technologies, the individuals communicate with each other by sending emails and messages. Through emails and messages, the individuals are not exchanging ideas, viewpoints and perspectives, but they are able to send videos, pictures, images and so forth. One of the major benefits of implementing effective communication processes through the utilization of technologies is, the messages are in a written form. In a written form, the information is usually understandable in a manageable way. In educational institutions at all levels and in employment settings, when the communication processes are facilitated through the utilization of technologies, the individuals are able to do well in their job duties, and achieve personal and professional goals. Therefore, it can be stated, implementing communication processes in an effective manner is an area in which digital technologies are utilized to a major extent.

Enhancing Knowledge in terms of various Areas – In achieving personal and professional goals and in bringing about improvements in their lives, it is of utmost significance to enhance knowledge in terms of various areas. The internet is being made use of on a comprehensive basis to augment knowledge in terms of various areas (5 Ways to Keep Your Knowledge and Skills Current, 2018). Through the utilization of internet, the individuals are able to enhance their information and understanding not only in terms of utilization of various forms of digital technologies but other factors as well. When the individuals need to prepare an assignment or work on the project or pay online bills or prepare a chart or graph, they make use of digital technologies and internet. When they make use of them in a worthwhile manner, they realise that they have proven to be advantageous to them. In this manner, they are able to recognise their meaning and significance. Therefore, one can understand on a comprehensive basis that enhancing knowledge in terms of various areas is an aspect in which digital technologies are utilized, irrespective of their job duties, occupations, personality traits, categories and backgrounds.

Putting into Operation Teaching and Learning Methods – Within the course of acquisition of education at all levels of educational institutions, the instructors make use of digital technologies and innovative methods. When they need to impart information in terms of academic subjects and lesson plans and lead to up-gradation of the overall system of education, they make use of technologies. On the other hand, students need to make use of digital technologies to achieve academic goals. When they need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and put into practice other academic activities, they make use of digital technologies.

In preparing oneself, giving presentations and in other academic activities, technologies are made use of on a large scale. Therefore, one can understand on a comprehensive basis that in putting into operation teaching and learning methods is an area in which digital technologies are utilized in educational institutions at all levels.

Putting into Operation various Job Duties and Functions – When the individuals need to acquire an efficient understanding of the academic subjects and lesson plans or prepare assignments, reports and projects, and put into practice other academic activities, they make use of digital technologies. In higher educational institutions, when the students are pursuing doctoral programs, they are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of digital technologies. On the other hand, within employment settings, the individuals make use of digital technologies for communicating, preparing assignments, reports and projects, and putting into practice other tasks and activities. The tasks are carried out in a less time consuming manner through the utilization of digital technologies. Therefore, it can be stated, putting into practice various job duties and functions is an area in which digital technologies are utilized in personal as well as professional lives of the individuals, irrespective of their communities, categories and backgrounds.

Conducting Analysis of the Data – In higher educational institutions, when the students are pursuing doctoral programs, they are required to work on research projects. When they are working on thesis or research projects, they need to collect data and conduct an analysis of the data collected. The students and researchers are able to do well in their studies and generate the desired outcomes, when they are well-equipped with the usage of technologies. In order to conduct an analysis of the data collected, Statistical Package for Social Sciences (SPSS) is made use of. Hence, technologies are made use of to conduct an analysis of the data collected. In order to put into practice this task, the individuals need to be well-equipped with the usage of technologies and SPSS. Therefore, it can be acknowledged well that when technologies are being made use of for this purpose, the job duties can be carried out in a less time consuming and efficacious manner.

Augmenting Office Productivity – In various types of organizations, agencies, educational institutions at all levels and non-government organizations, the individuals are making use of technologies and innovative methods in putting into practice various job duties, activities and functions. These render a significant contribution in leading to an increase in productivity and profitability and achieving organizational goals. Within the employment settings, the individuals make use of technologies for communicating, preparing assignments, reports, projects, presentations, worksheets, spreadsheets and putting into practice other activities. When technologies and innovations are made use of to enhance office productivity, the individuals are able to put into practice their job duties in a less time consuming and effective manner, achieve organizational goals and enhance the overall structure of the organizations. Therefore, one is able to understand well that technologies are made use of for augmenting productivity within the employment settings, putting into practice the job duties in a resourceful manner and meet the expectations of their employers.

Record Keeping and Recovery – In educational institutions at all levels and in various types of organizations, the digital technologies are made use of for preparing assignments, reports, projects, presentations, worksheets, spreadsheets and so forth. When these are prepared, they need to be saved.

Hence, technologies are made use of for record keeping and recovery. When new assignments, reports, projects, presentations, worksheets, and spreadsheets are prepared, the individuals need to refer to previous ones as well. These are saved as hard copies as well as soft copies. The utilization of digital technologies are made use of for record keeping and recovery of information as soft copies. One of the major benefits of this aspect is, the individuals are able to find out, how they are progressing and identify the areas, which need to be improved. Therefore, one is able to acknowledge that record keeping and recovery is an area in which digital technologies are utilized.

Decentralized Work and Cloud Computing – In order to carry out these tasks in a well-ordered and competent manner, the individuals need to understand these concepts well and augment their technical skills. A decentralized cloud is the system that runs on block-chain, making security of the network stronger as compared to what the current infrastructure offers. The reason being, it makes provision of security via compartmentalization. Furthermore, the information is shared and put away. The individuals work as a group and distant applications are made use of to communicate with the couple of instances. One of the major benefits of this aspect is, the individuals are able to store data and applications. Therefore, one is able to identify that decentralized work and cloud computing is an area in which digital technologies are utilized, when the individuals are putting into practice their tasks and job duties in personal as well as professional lives.

Putting into Practice Online Transactions – In the present existence, the technologies and innovative methods are made use of in putting into practice various transactions. These are an integral part of the implementation of household responsibilities. These include, paying of various types of bills, i.e. electricity, water, television, gas, etc. buying and selling of goods, transferring money, paying insurance, recharging phone, recharging internet and so forth. When the individuals are well-equipped with the usage of technologies, they are able to carry out these tasks from the comfort of their homes. The internet is made use of to augment their knowledge in terms of various areas. Therefore, one is able to acknowledge on a comprehensive basis that carrying out online transactions is an area in which digital technologies are put into operation, when the individuals are putting into practice their tasks and job duties in daily lives. Putting into practice this task has proven to be beneficial and worthwhile to the individuals in their personal as well as professional lives.

Leisure and Recreation Purposes – The individuals are making use of digital technologies for leisure and recreation purposes. The individuals put into practice various tasks and activities through the utilization of digital technologies that are considered as leisure and recreational activities. Some of these include, playing games, watching movies and television shows, learning various things through watching you tube, exchanging messages, pictures, images and videos through Whats app and so forth. When the individuals need to communicate with their friends, or relatives, they normally make use of the technique of video calling. Communicating through video calling is regarded as the source of pleasure and satisfaction on a large scale. Hence, the various types of digital technologies are made use of for leisure and recreation purposes on a comprehensive basis by all individuals, irrespective of their communities, occupations, categories, and backgrounds. Therefore, it can be stated, leisure and recreation purposes is an area in which digital technologies are utilized by the individuals on a comprehensive basis.

The Essential Digital Skills

The essential digital skills are, using devices and handling information, creating and editing, communicating, transacting and being safe and responsible online. When the individuals are making use of digital technologies, they are able to augment their skills and abilities to carry out their job duties in a well-ordered and satisfactory manner. Furthermore, they are utilized for storage of large amounts of information in relatively small spaces. Large amounts of information, such as, articles, reports, assignments, and projects can be stored. Furthermore, photos, music, videos, contact information and other documents can be carried around on small devices such as mobile phones. The physical locations, and data can also be stored online, enabling it to be accessed from any device, which has an internet connection. When the individuals are working on assignment, presentations, reports and projects, they need to facilitate creating and editing. In order to put into practice these tasks, the individuals need to possess adequate knowledge and understand the concepts in an efficient manner. When digital technologies are made use of, the individuals are able to make corrections and bring about changes in a manageable manner. Therefore, it can be stated, using devices and handling information, and creating and editing are regarded as essential digital skills.

When the individuals are located at a distance, the communication processes are facilitated through the utilization of digital technologies. The individuals can be within the same region, or in different regions, states and even countries. Through the utilization of digital technologies, the individuals communicate with each other by sending emails and messages. Through communicating through these aspects, the individuals are not exchanging ideas, viewpoints and perspectives, but they are able to send videos, pictures, images and so forth. One of the major benefits of implementing effective communication processes through the utilization of digital technologies is, the messages are in a written form. In a written form, the information is usually understandable and one can comprehend it in an appropriate manner. In educational institutions at all levels and in employment settings, when the communication processes are facilitated through the utilization of digital technologies, the individuals are able to do well in their job duties, and achievement of personal and professional goals. In other words, when the individuals are making use of digital technologies in communicating, they are able to contribute efficaciously in enriching the overall structure of the organizations. Therefore, it can be stated, implementing communication processes in an effective manner is an essential digital skill.

When the individuals are making use of digital technologies, they need to inculcate the traits of morality and ethics. When the individuals are focusing upon up-grading of technical skills, they need to implement the traits of morality and ethics. When the individuals inculcate these traits, they are able to not only do well in their job duties and achieve personal and professional goals, but are able to take into account other factors as well. The other factors are, differentiating between appropriate and inappropriate, imparting factual information to others, implementing the traits of honesty, truthfulness and righteousness, developing motivation and incurring the feelings of pleasure and contentment. In other words, when the individuals are making use of digital technologies, and inculcate the traits of morality and ethics, they are able to contribute efficaciously in generating the desired outcomes, achieving the desired goals and objectives and enriching the overall structure of the organizations. One of the major benefits of inculcating the traits of morality and ethics is, the individuals are able to put into practice their job duties and responsibilities in a satisfactory, ethical and safe manner. Therefore, it is well-understood, transacting

Conclusion

Digital technology is the technology that puts emphasis upon the tasks of computing, communication and content. Any information that has been used on the computer or disseminated on the computer is known as digital technology. The utilization of digital technology can augment the level of ingenuity and distribution of information. The factors highlighting the meaning and significance of digital technologies are, it promotes social connectivity, it leads to an increase in the communication processes, it initiates learning opportunities, and information storage. In other words, the utilization of digital technology can prove to be beneficial to the individuals in terms of number of factors. Areas in which digital technologies are utilized are, implementing communication processes in an effective manner, enhancing knowledge in terms of various areas, putting into operation teaching and learning methods, putting into operation various job duties and functions, conducting analysis of the data, augmenting office productivity, record keeping and recovery, decentralized work and cloud computing, putting into operation online transactions, and leisure and recreation purposes. The essential digital skills are, using devices and handling information, creating and editing, communicating, transacting and being safe and responsible online. Finally, it can be stated, when the individuals are well-equipped in terms of various types of digital technologies, they will be able to do well in their tasks and sustain their living conditions in an effective manner.

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REVIEW OF ONLINE TOOLS FOR INTERACTIVE AND ENGAGING CLASS WITH SWOT COMPARISON

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Abstract

Information technology while providing wealth of information instantly has also created a lot of distraction. It is a challenge for all instructors to keep students engaged and motivated with all the technology-driven distractions that surrounds students. This paper compares three online tools Connect, MindTap, and Square Cap through (a) the level of interactive activities offered, (b) various mechanisms offered for engaging students and retaining their attentiveness, and (c) competitive analysis through the SWOT concept. The review is supposed to facilitate a proper comparison for educators when selecting an online tool for teaching purposes.

Keywords: Connect, MindTap, Square Cap, SWOT, Class, Teaching

Introduction

Information technology while providing wealth of information instantly has also created a lot of distraction. It is often very hard for the new generation of students to sit straight anywhere from 50 minutes to 3-hour long classes and remain attentive all the time. It is also a challenge for all educators to keep students engaged and motivated with all the technology-driven distractions that surrounds students. The traditional teaching style of instructors giving lectures and writing on the board has been replaced by smartboard, projectors, and online tools.

Even though effective curriculum design may lead to higher level of intellectual engagement which in turn may result in higher attendance as measured by grades or graduation (Bonet & Walters, 2016), but still keeping students engaged is a challenge. While there are many ways to conduct learning like asynchronous online, in-person classroom, synchronous video in classroom or synchronous video from home, the existing research on relationship between grades and learning modes show that (a) learning mode is a factor in student performance, and (b) students that enrolled into online classes received higher grades than other types of teaching modes (Roberts et. al, 2019).

Now, since current students are active learners with technology, they like to interact with it more often instead of simply listening to lectures. Again, related research has suggested that hand-held devices that used Personal Response Systems wherein students were allowed to engage in real time using broader range of options had the potential to raise student's level of attention (Guthrie & Carlin, 2004). Even research that focused on the effect of clickers in classroom participation for collecting student's response

to questions in real time as a part of active learning approach found the mean score with clicker was higher (Martyn, 2007).

So, it is imperative to ensure that the lecture material is interactive as a way to create an active learning environment that stimulates students' interests (Brickner & Etter, 2008). Studies have shown that active learning can improve students comprehension and retention of material (Astrsha, 1998; McConnell, 1996). A successful interactive lecture should be able to initiate active participation among students (Mokhtar et.al, 2015). Teaching should not be just about grades, but rather students should enjoy the learning process too. There have been attempts toward student class engagement involving use of partial lecture notes for students to fill out during the lecture, or mini quizzes, or some outside assignments (Brickner and Etter). It is well known that the use of interactive lectures can promote active learning, heighten attention and motivation, give feedback to teachers and the student, and increase satisfaction for both (Khandve, 2016; Swan et.al, 2009; Tinto 1997). Just as in making presentation we consider our audience, in a similar way when delivering lectures, we need to think what style of delivery will be more effective for communication, and what will make it easier for students to understand, grasp, and remember the subject matter (Nilson, 2016).

Over the last few years, several online pedagogical tools have been introduced to challenge students mind and to keep them engaged. Even though teaching styles may vary among instructors still there is a greater need of assimilation of these tools to make teaching more effective across different delivery modes. This paper reviews three interactive pedagogical tools that are commonly used by many academic institutions that can be integrated in any course to improve student's attention and participation. The three online pedagogical tools are Connect, Square Cap and MindTap.

The paper compares the three online tools through (a) the level of interactive activities offered, (b) various mechanisms offered for engaging students and retaining their attentiveness, and (c) competitive analysis through the SWOT concept. SWOT is an acronym for strength, weaknesses, opportunities, and threats. It is a management concept to analyze an organization's strategic and competitive situations by looking at their strength, weaknesses, opportunities, and threats (<https://openstax.org/>). The paper assesses each online tool's SWOT characteristics as a way to provide a synopsis of their relative competitiveness for tool selection. These online tools can be used across all delivery modes. The paper now provides a review of the key features of the three online tools followed by their comparison and SWOT analysis.

Online Tools Interactivity and Engagement Features

This research will focus on Mc Graw-Hill's Connect, Cengage's MindTap, and Square Cap (<https://info.squarecap.com/>) online tools. These tools are introduced briefly followed by an outline of the level of interactive activities offered and their mechanisms to engage students to retain their attentiveness. These reviews are an objective comparison based on actual usage in a classroom setting.

Online Tools Introduction

Connect:

Connect is an online tool provided by McGraw-Hill (<https://www.mheducation.com/highered/connect.html>). It provides eBook and a variety of activities to

challenge students and help them in learning chapter material better with the purchase of just an access code. The system uses an adaptive technology, which enables students to retain the concepts they know and identify the concepts they do not know (McGraw Hill Connect Review, n.d.). Instructors can assign various activities that can be customized (McGraw-Hill Connect, n.d.). Students can really enjoy learning through interactive and multimedia elements (Noonoo, 2012).

MindTap:

Mind Tap is a digital learning tool provided by Cengage (<https://www.cengage.com/mindtap>). Cengage has all of its resources including eBooks on SAM digital platform. eBook can be read out loud and highlighted. There are built-in projects, trainings, and exams that can be password protected and assigned ahead of time. All the activities are task-based and cover the material well. Activities can be customized by individual instructors before they are deployed through MindTap. It is accessible with the purchase of an access code.

Square Cap:

Square Cap is an online tool that enables tracking of attendance, encourages class participation, and provides students with immediate feedback (<https://info.squarecap.com/>). The tool generates a unique code that is accessible to only instructors. This feature makes it easy to track attendance and assign in-class activities. The tool facilitates gauging of student comprehension in real time. Its grouping feature allows creation of groups based on different criteria, such as seating position or how students respond similarly etc.

Online Tools Interactivity Activity

In this age of social media, students focus better with more interactive activities where students get to participate and get engaged than just listening lectures.

Connect interactivity features include:

- a. Learn Smart Modules with fill-in the blanks, drag and drop matching columns, and multiple-choice questions.
- b. Test bank for quizzes and exams.
- c. Short-cases with multiple-choice questions.

Mind Tap interactivity features include:

- a. Projects and Exams that are task-based.
- b. Trainings that run on a simulated program that can be incorporated along with the lecture to offer students some hands-on approach.
- c. Projects that can be short or detailed with project reject feature to verify user's integrity.

Square Cap interactivity features include:

- a. Grouping feature that facilitates student led group creation and allows them to monitor their progress to keep them involved and engaged.
- b. Ask & vote and Word cloud features can be powerful tools for students to reach out to Professors in getting more help.

It seems from the listing of interactivity features above is that if the subject matter involves skills-based

learning which involves a more hands-on approach then MindTap offers good interactive activities compared to Connect and Square Cap. In such situations trainings that run on simulation can be assigned ahead of the chapter coverage so that the student can learn some information beforehand and can be better prepared to ask questions in the class thereby making the class challenging. MindTap offers multiple projects for instructors to pick with colorful text and the graphics for hands-on practices.

On the other hand, if the subject matter is theory based then Connect activities are more interactive which can help students with different learning styles. Now, Square Cap is a good platform to offer interactive activities in class in real time, but instructors will have to create the activities themselves which can be a drawback.

Mechanisms for engaging students and retaining their attentiveness:

The biggest challenge for instructors is to keep students engaged and attentive in class. Activities that are assigned outside of the class can help them in learning material better with their interactivity but often times students may skip the lecture knowing that they can learn it without going to the class or they may not complete them in due time to get the added benefits. Quizzing them in real time in the class when the material is covered can compel students to be more attentive. They may see the benefit of learning the material beforehand and remain attentive to perform better and probably have thought provoking questions (Karma, 2011). In other words, if students know they will be quizzed at the end of the class or in between the lecture, they will be more attentive.

Connect engagement features include:

- a. Capability to create quizzes that can be accessible in class ahead of time.
- b. Quizzes can be easily made from a pool of questions.
- c. Assign variety of activities outside of the class to prepare students ahead of the lecture so students may be able to retain information better when the same information is covered in the class from instructor's perspective.

MindTap engagement features include:

- a. Creation of quizzes ahead of the time and they can be password protected to allow only in-class students to participate.
- b. Assign variety of activities outside of the class to prepare students ahead of the lecture so that the students are better able to understand and ask questions when the material is covered by the Professor in class.

Square Cap engagement features include:

- a. Create quizzes or any activity ahead of time and then assigned in class for quick responses, but there is no built-in pool of questions.
- b. Code protects pop-quizzes so that only the in-class students can participate when the instructor provides that code.
- c. Ask and vote feature that can be used in real-time to guide the discussions and encourages students' contribution. Students can see other responses and can post them anonymously. It also allows students to ask questions without the fear of getting embarrassed by their peers.

- d. Provides a grouping feature that forms groups quickly in class to encourage collaboration and helps in the pairing of struggling students with others who perform better.

It seems from the listing of engagement features above that all tools provide quiz features. But how these quizzes can be utilized during class for engagement and ensuring student attentiveness varies. Connect can be used for creating the quizzes beforehand and then make it available in real time. However, since it does not have any mechanism for password protection even students outside of the class can take the quiz. MindTap has an added feature of password protection for any of its activity but MindTap does not provide a pool of questions to create the quizzes. Square Cap has an advantage over Connect and Mind Tap as questions can be created on the spot or beforehand which will be accessible only with the instructor provides a code. Besides, Square Cap can help in group discussions and group collaboration with its grouping features.

Online Tools SWOT Comparison

The purpose of SWOT analysis is to provide additional information beyond each online tool's interactivity and engagement features to enable better tool selection. Each online tool's SWOT comparison is outlined in the Table-1 below.

Table-1 Online Tools SWOT comparison				
Online Tool	Strength	Weakness	Opportunity	Threat
Connect	<ul style="list-style-type: none"> • Uses an adaptive technology that keeps track of student's level of comprehension. • Learn Smart modules are engaging and interactive. • Offers proctoring capability. 	<ul style="list-style-type: none"> • Access code can be very expensive. • Guided practice shows answers, so students don't get to think and work it out themselves. 	<ul style="list-style-type: none"> • They have a good platform so they can add extra features such as autosave. • They should add more challenging and interactive activities for the advanced level and add some in-class activities. 	<ul style="list-style-type: none"> • Activities are weak in applying critical-thinking skills. They are not task based.
Mind Tap	<ul style="list-style-type: none"> • Project reject feature helps in enforcing integrity as it rejects the file if a student submits 	<ul style="list-style-type: none"> • Does not provide variety of activities to promote different 	<ul style="list-style-type: none"> • Tasks in the projects should be made a little more challenging to test advanced skills. • Cases can be added 	<ul style="list-style-type: none"> • Tasks are often broken down into simpler steps that may not force students to apply their

	someone else's file and sends report to the instructor. • Task-based projects.	learning styles.	to depict real world business examples which should evoke student's critical thinking skills.	critical-thinking skills. • They should add activities that are interactive for in-class activities.
Square Cap	• Grouping feature that can automatically group students either based on their seating or how they respond to questions similarly. • Ask & Vote feature allows students to ask questions anonymously. • Word Cloud feature allows students to list the topics that are not very clear, and the most popular responses will appear in large font that is helpful in addressing those topics.	• Does not come with an eBook or the supporting textbook. • Instructors have to create their own activities which can be time consuming. • Scores are not paired with the blackboard. • No preset activities outside of the class to prepare students ahead of the lecture.	• It has a well-built program; it should try to tie up its platform with some textbooks and coordinate activities accordingly. • It can add certain case studies and provide activities related to the case. • Right now, it is very cost efficient, but if it can add good business cases and provide challenging activities tied to the cases then it can be a wonderful tool to be used as supplemental.	• There are a lot of available programs that provide both a textbook or an eBook along with an online platform.

Conclusion

Students now-a-days are well versed in technology. In fact, technology has in a way become part and parcel of their personal life. Teaching to technology enthused students has become a challenge for instructors. In the same vein book publishers are adopting technology to explain book concepts and to ensure student learning. Often times students are so accustomed to clicks and instant responses from technology gadgets that it becomes difficult for them to be attentive for long periods in classrooms. Mere student presence in the classrooms does not provide sufficient engagement and learning as they are

constantly distracted with laptops, smartphones, tablets or some other technology in their hands.

Consequently, it is becoming increasingly challenging for instructors to not only make their lectures interesting but also incorporate interactive tools to involve students and transform it into active learning. In such an environment students' mind should be challenged with a mix of different activities both inside and outside of the class.

This research compares three different online tools that provide different techniques to facilitate interactive activities and help in keeping students engaged and attentive. The paper focus on interactivity and engagement features that are key to make students learn and stay involved in class. The paper reviews the three online tools with respect to the interactivity and engagement features, besides outlining what are each tools strength, weaknesses, opportunity, and threats (SWOT). The review is supposed to provide a proper comparison for educators when selecting an online tool for teaching purposes. Further research is ongoing to expand the review with more elaborate metrics.

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CONTRIBUTION OF TECHNOLOGIES AND INNOVATIVE METHODS IN LEADING TO ENRICHMENT OF OFFICE MANAGEMENT

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Abstract

The main objective of this research paper is to acquire an understanding of the contribution of technologies and innovative methods in leading to enrichment of office management. In educational institutions at all levels and in all types of organizations, whether they are service or manufacturing, agencies and non-government organizations, the individuals are making use of technologies and innovative methods. In putting into practice the task of office management, in the implementation of various types of job duties, tasks and activities, technologies and innovations are being made use of to a major extent. The internet is regarded as the prominent source, which is made use of to generate information in terms of various factors. Hence, when the individuals need to put into practice the job duties and responsibilities, generate information in terms of various aspects and lead to overall functioning of the organizations in an effectual manner, they make use of technologies and innovative methods. Therefore, it is of utmost significance for the individuals for the individuals to be well-equipped with various types of technologies, particularly in leading to enrichment of the task of office management. The main areas that are taken into account in this research paper are, understanding the meaning and significance of office management, areas in which technologies and innovative methods contribute in leading to enrichment of office management, and benefits of technologies and innovative methods in all types of organizations.

Keywords: Contribution, Enrichment, Innovative Methods, Knowledge, Office Management, Organizations, Technologies

When one is conducting research on technologies and innovative methods, the individuals are normally augmenting their knowledge and understanding in terms of how these are made use of in office management (Office Management, 2021). In educational institutions at all levels and in all types of organizations, whether they are service or manufacturing, agencies and non-government organizations, the individuals are making use of technologies and innovative methods. In putting into practice the task of office management, in the implementation of job duties, tasks and activities, technologies and innovations are being made use of on a large scale. When recruitment and selection of individuals takes place, they need to possess the essential educational qualifications, technical skills, abilities, job experience and personality traits. In the present existence, technical skills and information in terms of the utilization of innovative methods is regarded to be of utmost significance. The reason being, the utilization of

technologies and innovations would render a significant contribution in achievement of organizational goals and up-gradation of the overall structure of the organization. Therefore, it is necessary for the individuals to be well-equipped with utilization of various forms of technologies and innovative methods.

In offices, when the individuals are putting into practice their job duties, they make use of papers, reports, projects and other documents in the form of hard copies as well. But various types of technologies are made use on a comprehensive basis. These are, computers, lap-tops, I pads, mobile technologies, scanners, photo copiers, printers and so forth. Computers and lap-tops are being utilized on a comprehensive basis to prepare reports, projects and other documents. These are used to save files and other information. Apart from these, they are used for numerous other purposes. I pads and mobile technologies are made use of for communicating and internet facility is made use of for generating information in terms of various concepts and factors. Scanners are made use of for scanning documents. When the documents or images or any other information needs to be made use of as a soft copy to be put into the project or need to be communicated to someone in the form of email, then they are scanned. Photo-copiers are utilized to obtain the Xerox copy of the document. More than one copy can be obtained at a time. Printers are utilized to take out print-outs of articles, reports, projects, images, charts, graphs and so forth. The printers are coloured as well as black and white.

In all types of organizations, when these technologies are available, the individuals are able to benefit in numerous ways (Boyarsky, 2020). They are able to augment their knowledge and understanding in terms of various concepts and factors; implement communication process in an effective manner; provide solutions to various types of problems and challenges; the utilization of scanners, photo copiers, and printers facilitate the implementation of job duties in an efficient manner; the implementation of job duties and responsibilities is facilitated through the utilization of technologies and innovative methods; through internet, the individuals are able to augment their understanding in terms of innovative methods; the individuals are able to acknowledge the significance of morality and ethics within the course of putting into practice job duties and responsibilities; the subordinates are able to meet the expectations of their superiors; up-grade technical skills and enhance organizational culture and implement the task of office management in a well-organized and regimented manner. The employees attend training programs upon recruitment and within the course of implementation of job duties. Therefore, the employers make sure that all the employees are well-equipped with the utilization of all types of technologies throughout their job duties.

Understanding the Meaning and Significance of Office Management

The meaning and significance of office management can be understood through acknowledging the managerial functions of planning, organizing, directing, staffing, co-ordinating, controlling and leading. These are the managerial functions, hence, when the individuals are understanding the concept of office management, they need to acquire an efficient understanding of the managerial functions. Planning is the function, which involves bridging the gap from where one is in the present and where one aspires to be in future. When the individuals are carrying out the function of planning, they make use of technologies and

innovative methods. Furthermore, internet is made use of to augment knowledge in terms of various factors. Organizing is the function of management, which involves establishing, forming, shaping and unifying. Through the utilization of technologies and innovative methods, the individuals are able to generate awareness and augment their information in terms of various factors. Therefore, it can be stated, putting into practice the functions of planning, and organizing will contribute efficiently in understanding the meaning and significance of office management.

Directing is the function of office management, which is put into operation by the individuals in leadership positions. The individuals in leadership positions, i.e. heads, directors, principals, supervisors, instructors, and so forth have the primary job duty of imparting information to the individuals in such a manner that may lead them towards the right direction. The individuals need to pursue the right direction, which is necessary in putting into practice the job duties in an effectual manner, achievement of organizational goals and enhancing the overall structure of the organization. Technologies and innovative methods are being made use of to carry out this task. Staffing is the function of management which involves recruiting the right individuals in the right positions at the right time. Through the utilization of technologies and innovative methods, the individuals are able to generate information and augment their understanding in terms of various factors. Therefore, it can be stated, putting into practice the functions of directing and staffing will contribute in an efficacious manner in understanding the meaning and significance of office management.

Co-ordinating is the function of management, which is referred to guiding the individuals to put into practice their job duties in a well-ordered manner. It is the job duty of the superiors to ensure that the tasks and job duties are co-ordinated in a satisfactory and well-organized manner. Technologies and innovative methods are being made use of to generate awareness and augment knowledge and understanding. Controlling is the task of governing and monitoring the job duties. Within the course of putting into practice job duties and responsibilities, the individuals make use of financial, technical and material resources. Hence, when they are made use of, it needs to be ensured, they are utilized in an appropriate manner. Through the utilization of technologies and innovative methods, the individuals are able to generate information and augment their understanding in terms of various concepts and aspects. Therefore, it can be stated, putting into practice the functions of co-ordinating and controlling will contribute in a successful manner in understanding the meaning and significance of office management.

The individuals in leadership positions, i.e. heads, directors, principals, supervisors, instructors, and so forth have the primary job duty of imparting information to the individuals in such a manner that may lead them towards the right direction. Furthermore, there are number of job duties and responsibilities that the leaders are required to carry out. They make provision of resources and create an environment, which would enable the individuals to do well in their jobs. Within the course of implementation of job duties and responsibilities, there are number of problems and challenges that take place. The leaders listen to the problems experienced by their subordinates and make an attempt to provide solutions to them. The leaders impart information among their subordinates in terms of technologies and innovative methods. Through the utilization of technologies and innovative methods, the

individuals are able to generate information and augment their understanding in terms of various subjects, concepts and aspects. Therefore, it can be stated, putting into practice the function of leadership will contribute in a well-ordered and satisfactory manner in understanding the meaning and significance of office management.

Areas in which Technologies and Innovative Methods contribute in leading to enrichment of Office Management

The individuals are making use of technologies and innovative methods in putting into practice the task of office management, in the implementation of various types of job duties, tasks and activities (7 Major Functions of Office Management, 2020). When the employees are well-equipped with the utilization of all types of technologies innovative methods, they are being made use of on a comprehensive basis. In some cases, it is tedious for the individuals to make use of them, but getting engaged in regular practice will help them to augment their knowledge and understanding. When the individuals are informative, they are able to make use of them in a manageable manner. Hence, when they are employed in organizations, they need to pay attention towards up-gradation of technical skills throughout their jobs. The areas in which technologies and innovative methods contribute in leading to enrichment of office management are stated as follows:

Augment their Knowledge in terms of Different Factors - In putting into practice the task of office management, in the implementation of job duties, tasks and activities, technologies and innovations are being made use of on a large scale. When the individuals are preparing reports or working on projects or are carrying out various types of job duties, they need to augment their knowledge in terms of different factors. The internet is regarded as the prominent source that is rendering a significant contribution in facilitating understanding among individuals in terms of various factors. For example, when individuals are working on a project and need to acquire an understanding of the meaning of the concept, they make use of the internet. Therefore, it is comprehensively understood, through the utilization of technologies and internet, the individuals are able to augment their knowledge in terms of different factors. Furthermore, they are able to do well in their jobs and generate the desired outcomes.

Implement Communication Processes in an effective manner – Communication is an integral part of the implementation of job duties, achievement of organizational goals and enhancement of the overall structure of the organization. Through computers, lap-tops, I pads and mobile technologies, the members of the organizations, irrespective of their job positions in the hierarchy communicate with each other. The communication processes usually takes place in a written form. The individuals are able to communicate ideas, viewpoints, perspectives, images, pictures, articles, reports, projects, videos and so forth. When the individuals are able to implement communication processes in an effective manner, they are able to incur the feelings of pleasure and contentment. Furthermore, individuals are able to do well in their jobs, generate the desired outcomes and form cordial and amiable terms and relationships with each other. Therefore, it can be stated, implementing communication processes in an effective manner is regarded as a vital area in which technologies and innovative methods contribute in leading to enrichment of office

Provide Solutions to various types of Problems and Challenges – Within the course of implementation of job duties in a well-ordered manner, achieving organizational goals and enhancing the overall structure of the organizations, there are various types of problems and challenges that take place. Through the utilization of technologies and internet, the individuals are able to augment their knowledge in terms of different concepts and factors, facilitate the communication processes and when they experience difficulties, they are able to provide solutions. When the individuals are preparing articles or presentations, they are able to facilitate editing and make corrections in a manageable way. Furthermore, when the individuals are located at a distance and need to communicate with others, the communication takes place in a well-ordered and satisfactory manner. Therefore, it is apparently understood, providing solutions to various types of problems and challenges is an area, which is put into practice, when the individuals in all organizations are well-equipped with the utilization of technologies and innovative methods.

The Utilization of Scanners, Photo copiers, and Printers facilitate the Implementation of Job Duties in an efficient manner – The scanners are made use of for scanning documents. When the documents or images or any other information needs to be made use of as a soft copy to be put into the project or need to be communicated to someone in the form of email, then they are scanned. The photo-copiers are utilized to obtain the Xerox copy of the document. More than one copy can be obtained at a time. The printers are utilized to take out print-outs of articles, reports, projects, images, charts, graphs and so forth. The printers are coloured as well as black and white. When the individuals in all types of organizations are well-equipped with the utilization of various types of technologies, they are able to generate the desired outcomes. Therefore, it is comprehensively acknowledged, the utilization of scanners, photo copiers, and printers facilitate the implementation of job duties in an efficient manner is a crucial area in which technologies and innovative methods contribute in leading to enrichment of office management.

The Implementation of Job Duties and Responsibilities is facilitated through the Utilization of Technologies and Innovative Methods - In putting into practice the job duties, tasks and activities, technologies and innovations are being made use of to a major extent. The important job duties and responsibilities are, recruitment and selection of individuals, augmenting understanding in terms of innovative methods, forming cordial and amiable terms and relationships with each other, managing resources in a satisfactory manner, creating a pleasant working environment, implementing peaceful conflict resolution methods, the superiors need to listen to the problems of their subordinates and provide useful solutions, imparting clear and accurate information, achievement of organizational goals and up-gradation of the overall structure of the organization. Honing of technical skills and information in terms of the utilization of innovative methods is regarded to be of utmost significance. Therefore, the implementation of job duties and responsibilities is facilitated through the utilization of technologies and innovative methods is an area in which technologies and innovative methods contribute in leading to enrichment of office management on a large scale.

Through Internet, the Individuals are able to augment their Understanding in terms of Innovative methods - Through the utilization of internet, the individuals are able to augment their knowledge in terms of different subjects, concepts and factors. Furthermore, the individuals are able to augment their understanding in terms of innovative methods. The various types of innovative methods are, images, pictures, charts, graphs, models, maps, structures, designs and projects. In offices, when the individuals are putting into practice their job duties, they are required to prepare articles, research papers, reports, projects and other documents. For these purposes, the various types of technologies and internet are made use of on a comprehensive basis. The overall functioning of the organization is based on the utilization of technologies, internet and innovative methods. Therefore, one is able to identify that through internet, the individuals are able to augment their understanding in terms of innovative methods is a key area in which technologies and innovative methods contribute in leading to enrichment of office management and up-grading the overall structure of the organizations.

The Individuals recognize the Significance of Morality and Ethics – When the individuals are well-equipped with the utilization of technologies and innovative methods, they are able to recognize the significance of morality and ethics (Morality, 2021). The implementation of the traits of morality and ethics establish the foundation for leading to functioning of the overall structure of the organization in an efficient manner. It is apparently understood, that job duties cannot be put into practice in seclusion. The members of the organization need to work in collaboration and integration with each other. When they are working with each other, they need to treat each other with respect and courtesy and impart factual information. When they are making use of technologies, they need to ensure, they should avoid excessive usage. Therefore, one is able to acknowledge that the individuals recognize the significance of morality and ethics is an area in which technologies and innovative methods are made use of to lead to enrichment of office management, achieve organizational goals and up-grade the overall structure of the organizations.

The Subordinates carry out their Job Duties in accordance to the Expectations of their Superiors – The superiors expect their subordinates to put into operation various forms of job duties. Some of the important job duties are, preparation of articles, reports, projects and other documents, make presentations, carry out field work and so forth. Apart from these, the technologies and innovative methods are used for number of other purposes, such as, carrying out online transactions. I pads and mobile technologies are made use of for communicating and internet facility is made use of for generating information in terms of various concepts and factors. Hence, through the utilization of technologies and innovative methods, the subordinates are not only able to carry out their job duties in accordance to the expectations of their superiors, but they are able to render a significant contribution in achieving organizational goals and enhancing the overall structure of the organization. Therefore, it can be stated, the subordinates carry out their job duties in accordance to the expectations of their superiors is an area in which technologies and innovative methods are made use of to enrich office management and lead to overall functioning of the organization in an effective manner.

Lead to up-gradation of Organizational Culture – In order to lead to overall functioning of the

organization in an effective manner, achieve organizational goals and enhance the overall structure of the organization, it is indispensable to lead to up-gradation of organizational culture (Wong, 2020). When the individuals are making use of technologies and innovative methods, they are able to enhance organizational culture. In leading to up-gradation of organizational culture, the various factors, which need to be taken into account are, augmenting understanding in terms of technologies and innovative methods, being well-aware in terms of job duties and responsibilities, inculcating the traits of diligence, resourcefulness and conscientiousness, forming cordial and amiable terms and relationships with each other, managing resources in a satisfactory manner, creating a pleasant working environment, implementing peaceful conflict resolution methods, implementing grievance redresser procedures, imparting clear and accurate information, achieving organizational goals and up-gradating the overall structure of the organization. Therefore, leading to up-gradation of organizational culture is an area in which technologies and innovative methods are made use of to enrich office management and lead to overall functioning of the organization in a meaningful manner.

Implement the task of Office Management in a Well-organized manner – When the individuals are making use of technologies and innovative methods, they are able to put into practice various tasks and activities. Some of these are, preparing reports, projects and other documents, saving files and other information, communicating, generating information in terms of various concepts and factors, scanning documents, obtaining the Xerox copy of the documents, taking out print-outs of articles, reports, projects, images, charts, graphs and so forth, making presentations, worksheets and spreadsheets, facilitating the task of cloud computing and carrying out the managerial functions of planning, organizing, directing, staffing, leading, co-ordinating and controlling. When these tasks and functions will be carried out in an efficient and appropriate manner, the task of office management will be implemented in a well-organized manner. Therefore, implementing the task of office management in a well-organized manner is an area, in which it is of utmost significance to make use of technologies and innovative methods.

Benefits of Technologies and Innovative Methods in all Types of Organizations

The benefits of technologies and innovative methods in all types of organizations are acknowledged in terms of facilitating communication, developing motivation, generating information in terms of various factors and providing solutions to various types of problems. Communication is an integral part of the job duties and achievement of organizational goals. This is facilitated through computers, lap-tops, I pads and mobile technologies. The communication processes usually takes place in a written form. The individuals are able to communicate ideas, viewpoints, and other information in the form of images, pictures, articles, reports, projects, videos and so forth. When the individuals are able to put into practice the communication processes in an effective manner, they are able to incur the feelings of pleasure and contentment. Furthermore, individuals are able to do well in their jobs, generate the desired outcomes and form cordial and amiable terms and relationships with each other. Therefore, it can be stated, implementing communication processes in an effective manner is regarded as a crucial benefit of technologies and innovative methods in all types of organizations.

In educational institutions at all levels and in all types of organizations, whether they are service or manufacturing, agencies and non-government organizations, the individuals are making use of technologies and innovative methods. When the individuals are well-equipped with the utilization of technologies and innovative methods, they are able to carry out their job duties in a well-ordered manner, achieve organizational goals and up-grade the overall structure of the organizations. Through the utilization of technologies and innovative methods, the subordinates are able to carry out their job duties in accordance to the expectations of their superiors. Hence, when the superiors are satisfied with them, they are able to enhance their career prospects. In this manner, they are able to develop motivation and their mind-sets get stimulated towards the implementation of job duties. Therefore, developing motivation is a vital benefit of technologies and innovative methods in all types of organizations.

When the individuals are preparing reports, articles or working on projects or are carrying out various types of job duties, they need to augment their knowledge in terms of different concepts and factors. The internet is regarded as the renowned source that is rendering a significant contribution in facilitating understanding among individuals in terms of various factors. For example, when individuals are preparing a presentation or need to write an article and need to acquire an understanding of the meaning of the concept, they make use of the internet. Hence, it is comprehensively acknowledged, through the utilization of technologies and internet, the individuals are able to augment their knowledge in terms of different factors. Therefore, one is able to understand in a satisfactory manner that generating information in terms of various factors is a benefit of technologies and innovative methods in all types of organizations, which is recognized to a major extent.

Within the course of implementation of job duties in a well-ordered manner, achieving organizational goals and enhancing the overall structure of the organizations, there are occurrence of various types of problems and challenges. These take place in terms of management of resources, job duties, meeting the target date, lack of materials and sources and so forth. Through the utilization of technologies and internet, the individuals are able to augment their knowledge in terms of different concepts and factors, facilitate the communication processes and provide solutions through generating information. When the individuals are preparing articles or presentations, they are able to facilitate editing and make corrections in a manageable way. Furthermore, when the individuals are located at a distance, the communication processes can be implemented well. Therefore, providing solutions to various types of problems is an essential benefit of technologies and innovative methods in all types of organizations.

Conclusion

In educational institutions at all levels and in all types of organizations, whether they are service or manufacturing, agencies and non-government organizations, the individuals are making use of technologies and innovative methods. The areas in which technologies and innovative methods contribute in leading to enrichment of office management are, augment their knowledge in terms of different factors, implement communication processes in an effective manner, provide solutions to various types of problems and challenges, the utilization of scanners, photo copiers, and printers facilitate the

implementation of job duties in an efficient manner, the implementation of job duties and responsibilities is facilitated through the utilization of technologies and innovative methods, through internet, the individuals are able to augment their understanding in terms of innovative methods, the individuals recognize the significance of morality and ethics, the subordinates carry out their job duties in accordance to the expectations of their superiors and lead to up-gradation of organizational culture and implement the task of office management in a well-organized manner. The benefits of technologies and innovative methods in all types of organizations are acknowledged in terms of facilitating communication, developing motivation, generating information in terms of various factors and providing solutions to various types of problems. Finally, it can be stated, when technologies and innovative methods are utilized in office management, the individuals will be able to implement job duties in a well-ordered manner and enhance the overall structure of the organizations.

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THE IMPACT OF ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER RETENTION IN ZIMBABWE'S BANKING SECTOR

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Abstract

Due to the rise in the number of internet users in Zimbabwe, the banking sector has seen significant changes in terms of customer relationship management. Electronic customer relationship management (e-CRM) is a fairly novel technology that is still budding, with little proof of its effects on customer retention and company success. The drive for this research was looking into the effects of e-CRM in Zimbabwe's banking sector and how it affects customer retention. The study focuses on the advantages of

e-CRM, the problems banks experience in implementing it, the reasons for customer switching, and the influence of e-CRM on customer retention and firm performance. Quantitative research approaches were used in the investigation. Structured questionnaire was utilised to gather information from a group of 60 people, 30 of whom were relationship officers and 30 of whom were bank clients from five different financial institutions. SPSS software was used to analyze the data, which was then displayed in the form of graphs and tables. According to the findings, e-CRM have emerged a required means practically for banks due to the numerous benefits it provides. The value of e-CRM deployment in corporate operations was demonstrated in both theoretical and empirical literature studied. Based on the data, it can be concluded that e-CRM techniques are effective in terms of customer relationship management. Furthermore, the findings revealed that e-CRM have a favourable effect on customer retention as such also critical and effective in improving overall company performance and value. Banks were advised to allocate resources to adopting the modern e-CRM applications, benchmarking and implementing the best e-CRM techniques, and establishing e-CRM cultures.

Keywords: ICT in marketing, Banking sector, E-CRM, Customer retention, Technology.

1. Introduction

The introduction of a new generation of media into consumers' daily life characterizes the twenty-first century, providing new technology choices and communiqué opportunities (Al-Refaie, Tahat & Bata, 2014). Many firms' success may be credited entirely to the implementation and general reception of e-CRM, which have enabled them to gain and maintain a competitive advantage (Aydin & Ozer, 2005). Many organizations throughout the world have been at the forefront of e-CRM adoption and acceptance, particularly in the telecoms industry (Wilson et al., 2016). However, e-CRM is fast gaining traction around the world, affecting practically every business in the private and governmental sectors, including banks. Banks in Zimbabwe have been attempting to embrace e-CRM business strategies for several years, but their efforts have been hampered by their lack of technological capabilities in comparison to other industrialized countries. This creates a grey area as well as a research void, which this work aims to fill. That is, to look at processes, as well as the advantages that e-CRM may provide. It's worth noting that e-CRM is quite useful for managing close client ties. As a result, it remains critical for businesses to create effective marketing tactics (Kotler & Amstrong, 2008).

The concept of e-CRM is progressively gaining traction in the commercial world (Hamid & McGrath, 2005). Technology became a crucial corporate pillar at the turn of the millennium, signaling the start of a total transformation of the company operations landscape (Rigo et al., 2016). As a result, the evolution of CRM and electronic practices opens doors for organizations. Competition and technological advances have an impact on Zimbabwe's banking sector. Banks have considered adopting e-CRM to contact with consumers more frequently, albeit at a slower rate, in an effort to retain customers.

2. Review of the theoretical literature

2.1 Customer relationship management

Relationship marketing gave birth to CRM, which is essentially the practical implementation (Gummesson, 2004). Relationships, interaction, and networks are now used to carry out the entire marketing process (Gummesson, 2012). CRM practices are being adopted by many businesses since they help to create long-term client relationships. Various academics have varied viewpoints and meanings of CRM; hence the academic discussion has resulted in a variety of viewpoints on the subject. Some studies regard CRM as merely a software-based technology, stressing the procedure aspect; Some regard CRM as a way of life aimed at converting client understanding into revenue (Singh & Jain, 2017). Adikram (2016), Oluseye et al. (2014) and Wahab et al. (2011) define customer relationship management as "A comprehensive strategy and process that enables an organization to find, acquire, retain, and nurture profitable customers by creating and maintaining long-term relationships with them". Furthermore, Singh and Jain (2017) define customer relationship management as "an information system that allows organizations to track customers' interactions with their firms and allows employees to extract customer-based information such as sales history, unresolved problems, payment records, and service records".

2.2 E-CRM

Aydin and Ozer (2005) posit that CRM have evolved into e-CRM, due to introduction of information technology, internet technology, and mobile technology, that have altered rivalry among firms from pricing and service to value. Corporate world is moving away from offline CRM towards e-CRM. Particularly, as e-commerce becomes more widely adopted and implemented around the globe, firms, particularly banks, are under increasing burden to adopt it. E-CRM as a newest buzzword in the industry, is thought as the utmost successful instruments for managing long-term and profitable client relationships (Al-Refaie, Tahat & Bata, 2014). Electronic customer relationship management, according to prior studies, is the enhancement of traditional customer relationship management by the use new technology (Navimipour & Soltani, 2016).

2.3 Reasons for customer switching

Any unfavorable customer experience with the service causes customers to switch. Customer happiness is the most important indicator of client retention (Chuah et al., 2017). Staff and product failures are the two categories of service failures. Staff failures, according to Gerrad and Cunningham (2000), include inefficiency, an immoral arrogance, not well acquainted on offers, rigidity, impoliteness, and frostiness of employees, employees providing misleading venture guidance, offering unpleasant face to face encounter. Offering subpar services, failing to become accustomed to new systems and being unable to properly move transfer monies. All of these service failures result in poor service quality, which, to some extent, contributes to client switching behavior in the banking sector. Furthermore, high transaction costs encourage customers to transfer banks in quest of lower transaction costs. Customer switching can also occur as a result of dissatisfaction with services. According to Yu et al. (2015), customer discontent is a forecaster that have an undesirable effect on client switch intentions.

2.4 Effect of e-CRM on retention

Many businesses, according to Christopher, Payne and Ballantyne (2002), place a higher priority on acquiring new consumers than on developing existing customers. However, as compared to the substantial capital expenditure in customer acquisition, it is suggested that more attention be paid to customer retention since it lowers costs profit development (Manoj & Sahadev, 2011). A 5% increase in customer retention may result in a 25 percent to 85 percent boost in profitability (Reichheld & Saser, 1990). Customers that choose to stay with the company are happier because they are familiar with the procedure, require fewer awareness activities, and place orders consistently, regular clients are less expensive to service and maintain.

2.5 Benefits of e-CRM

Enhanced client service, greater client loyalty, product customisation, lower costs, sales creation and improved cost-effectiveness are just a few of the potential merits of e-CRM (Harrigan et al., 2012). The necessity of e-CRM leads to the advantages of e-CRM for businesses. Organizations are now looking for additional and successful interactions or generate greater relationship advantages (Safari and Safahani, 2016).

2.6 E-CRM practices

2.6.1 Customer-facing applications

All places where a client relates with a corporation are considered customer-facing applications, such as call centers, help counters; sales force computerization and field service computerization.

2.6.2 Customer-Touching Applications

Are those apps which permit clients to interact with communicating self-service technology instead of directly communicating with humans. Personalized web sites, web self-service, online networking, and other apps are examples of common customer-touching applications.

2.7 The impact of e-CRM on company performance

The cost of obtaining clients is substantially higher than the cost of keeping them, according to most marketing theories. Maintaining and keeping consumers lowers a company's overall costs, enhancing profitability. Customers, not things, drive revenues (Peck et al., 2013).

2.8 Challenges of implementing e-CRM

Despite the expediency that e-CRM provides, businesses continue to struggle to create an effective e-CRM. The challenges include: failure to define objectives, poor designs, lack of know-how, challenges in aligning culture with new methods of working when implementing customer-centric behaviors, a lack of implementation time and cost (Sharp, 2003).

3. Research methods

The quantitative research approaches were used in this article. The data was obtained and described using descriptive statistics by tabulating, illustrating and describing of the data gathered. According to Saunders et al. (2009), a respectable design minimizes unfairness whereas maximizing the trustworthiness of the

information gathered and analyzed, as well as permitting examination of a wide range of issues. This paper chose a viable design from three generic designs, exploratory, descriptive, and explanatory (Kothari, 2004), based on its aims, nature of the problem, cost, and the researcher's abilities and expertise. As a result, the paper is both descriptive and exploratory. The descriptive design was primarily focused with describing and learning about E-CRM as a platform for achieving organizational goals. Because there are few previous studies to refer to, an exploratory design was used to address a research challenge. This research looked at all middle-level bank workers (relationship managers) as well as all clients (corporate and individual). A total of 60 people were given structured questionnaires to fill out in order to collect data. All five financial institutions were represented by 30 relationship officers and 30 banking clients (both individual and corporate) among the 60 attendees. The data was analyzed with SPSS and then displayed as figures and tables.

4. Analysis and Findings

4.1 Customer switching: causes and consequences

The goal of the research is to figure out what motivates customers to transfer banks. The chart below depicts replies to questions about the reasons for customer switching.

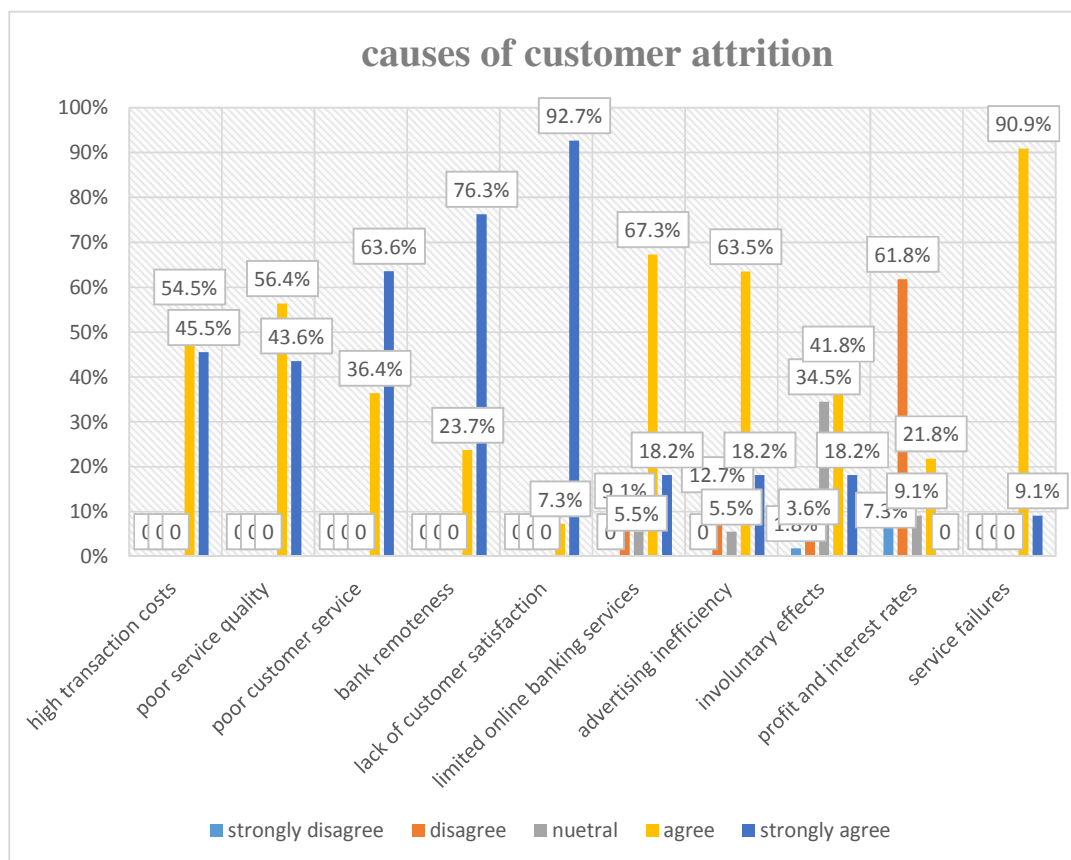


Figure 1: Causes of customer switching. Source: primary data

High transacting charges, meagre service, bank inaccessibility, customer dissatisfaction, inadequate online

banking facilities, promotion inadequacy and service disappointments are the leading reasons of client shift. Lack of customer satisfaction and service failures are the substantial drivers of customer switching. Customers switching from one bank to another is also triggered by profit and interest rates.

In a study conducted by Petzer and Steyn (2006), it was discovered that service disappointment resulted in a bad client involvement, which leads to a negative consumer perception of the business, leading in customer switching, which is consistent with this study's findings. Furthermore, Gerrard and Cunningham (2004) identified high transaction costs as a compelling reason for client switching. Customer switching is aided to a lesser extent by unintentional things, promotional inadequacy and restricted online banking facilities. Customer switching is aided to a lesser extent by involuntary effects, promotional inefficiency and restricted online banking facilities. Furthermore, the study found that profit and interest rates have little bearing on customer switching.

4.2 E-CRM effect on retention

The findings reveal that the majority of the respondents acknowledged the positive impact of e-CRM on customer retention. This suggests that most respondents believe that e-CRM has a strong impact on client retention. These findings are also supported by Ab Hamid et al. (2011). The results support Romano and Fjermestad (2003)'s theory that effective e-CRM fascinates and retains economically valued consumers whereas rejecting and deleting economically unworthwhile clients.

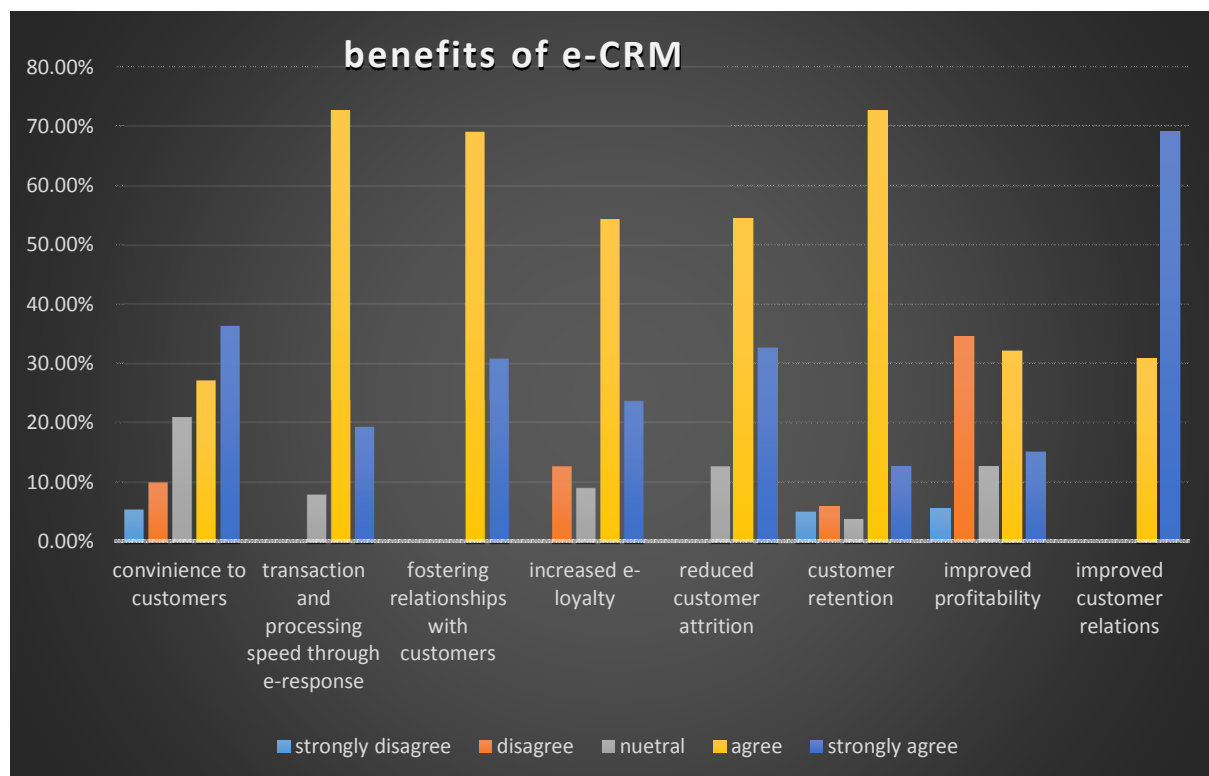


Figure 2: Benefits of e-CRM [Source: Primary data]

Figure 3 shows e-CRM benefits. Therefore, e-CRM strengthens customer relationships, provides easy of banking and enhances loyalty. As a result, the study came to the conclusion that e-main CRM's benefits are improved customer connections and the nurturing of client relationships.

Patton (2001) in Gartner Group's analysis posit that more than fifty percent of e-CRM programs may not yield the expected result. According to a Forrester Research, 57 percent of businesses surveyed couldn't justify investing in CRM initiatives because of difficulties of determining their profitability. The benefits of e-CRM demonstrated in this study were consistent with those benefits suggested in Harrigan et al. (2012)'s empirical data. Furthermore, Goldenberg (2002) noted that one advantage of e-CRM is increased interactions inside the organization, which is consistent with the current research findings.

4.3 Commonly used e-CRM applications

Table 1: E-CRM applications

	N	Minimum	Mean	Std. Deviation
Emails	55	4.00	4.5818	.49781
Personalized web pages	55	1.00	2.9091	1.29490
Online networking	55	2.00	4.0364	.94209
Web self-service	55	4.00	4.5636	.50050
Valid N (listwise)	55			

Source: computation from SPSSZ

According to Table 1, the most participants agree using emails (4.581), internet banking (4.563), online networking (4.036) and personalised web pages (2.909). Personalized web pages, on the other hand, had the fewest responders when compared to other applications, with a mean of 2.909 agreeing that it is a widely used application in the banking industry. This means banks are now regularly employing email and other e-CRM apps. This is widely supported by Nyangosi et al. (2009) and Bennett (2013) who posits that banks are now capitalising on technology aided banking.

4.4 The impact of electronic customer relationship management

Table 2: The impact of e-CRM on business performance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Advertising	32	58.2	58.2	58.2
Business processes	5	9.1	9.1	67.3
Business transactions	18	32.7	32.7	100.0
Total	55	100.0	100.0	

Source: Computation from SPSS

According to the results of the study, 58.2 percent of participants believe that e-CRM has a favorable impact on advertising, and 32.7 percent believe it has a beneficial effect on corporate dealings. However, just 9.1% of respondents thought e-CRM had a favorable impact on firm operations. According to the findings, e-CRM has a significant favorable impact on advertising and commercial transactions.

4.5 Obstacles to E-CRM

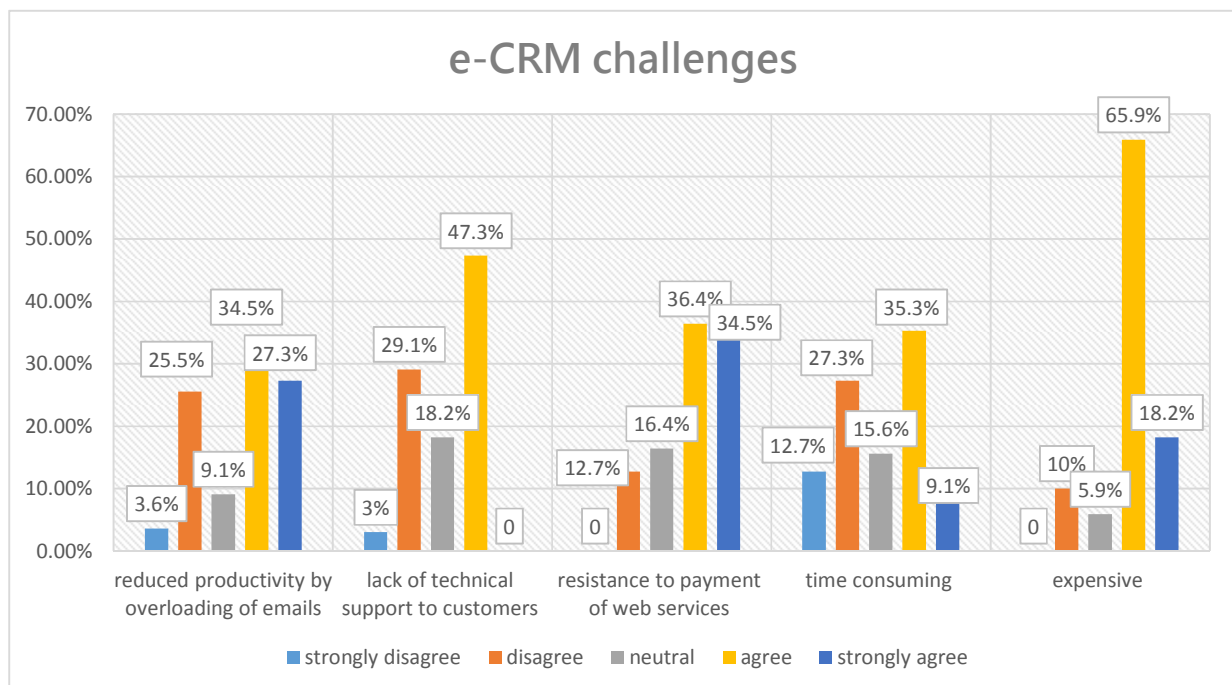


Figure 4: e-CRM challenges [Source: Primary data]

It was also attempted to identify the obstacles that banks experience. The findings revealed that e-CRM installation reduces efficiency due to email overload, reluctance to pay for web services, and cost. The majority of employees agreed that these issues were challenges of e-CRM deployment. Only two

potential difficulties were regarded as not being e-CRM challenges: absence of technical help for clients and time overwhelming. As a result, the study came to the conclusion that the primary problems of e-CRM are lower productivity, resistance to web service payment, and excessive expenses. Sharp (2003) described the limitations of e-CRM as opposition to web-based payment systems, high installation costs, decreased productivity, and email overloading.

5. Conclusions

Clientele in the banking business are being prompted to switch banks for a variety of reasons, according to research. E-CRM was created with the goal of improving client retention in Zimbabwe's banking system. On the advantages of e-CRM adoption, it was discovered that firms gain the power to keep clients, improve relationships and improve quality of service and customer service. However, this research indicates that e-CRM deployment has several problems, such as opposition to web-based payment systems, a lack of technical assistance for customers, and a long implementation period. As a result, the research found that in the banking industry, e-CRM methods and technologies are used in managing client interactions and expanding customer base. E-CRM is found to be weak in terms of improving overall company value and performance, but it does have a favorable impact on advertising and commercial communications.

6. Recommendations

The following suggestions are given in light of the research findings:

6.1.1 Management commitment

The researcher suggests that the banking sector increase its usage of e-CRM, citing the study's findings that demonstrate significant benefits from e-CRM deployment. Management in the banking business must urge their workers to give e-CRM their full attention and knowledge. Good management support will be a positive driver of e-CRM. Banks can persuade and attract customers with an effective approach, and boost the utility of e-CRM.

6.1.2 Education and training

To reduce client switching, banks must train and educate their workers on competence on a continuous and efficient basis. Some employees' comments indicated that they do not have a complete understanding of what e-CRM is and how to use it, therefore training will be beneficial

6.1.3 Service restoration

Customers' complaints should be encouraged and welcomed by banks accordance with consumer expectations and identify areas where they are not doing things correctly so that remedial action can be taken.

6.1.4 Internal marketing

Internal marketing should be considered and used by banks in order to encourage their staff and guarantee client satisfaction and retention, hence aid in the improvement of client interactions.

6.1.5 e-CRM apps and strategies

Banks could benchmark with the most effective e-CRM methods, and implementing just the most effective and chosen by customers. The most effective and commonly used apps should be successfully

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integrated.

6.1.6 Advertising

To reap the benefits of e-CRM, the banking industry should make good use of advertising and it should be taken into consideration.

6.1.7 Resource deployment

Banks should deploy resources to embrace the most up-to-date e-CRM systems. For e-CRM adoption and implementation, financial budgets should be set.

6.1.8 Recognize the culture

Banks should think about developing an e-CRM culture. The structure, ethos, and nature of the organization must all be examined. This establishes a solid foundation for matching and foster an acceptable e-CRM culture to ensure the company get the most out of its e-CRM investments.

6.2 Future work suggestions

Future study should look into whether banks are truly extracting worth from e-CRM for long-term competitive lead, given the advent of information technology in customer relationship management.

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RIGHTS AND OBLIGATIONS OF EMPLOYEES IN THE WORLD, IN THE N.MACEDONIA AND DURING THE COVID-19 CRISIS

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ABSTRACT

A contract of employment is an agreement between an employer and an employee which sets out their employment rights, responsibilities and duties. These are called the 'terms' of the contract. This paper examines the impact of Covid-19 crisis on employees and their rights and obligations contained in the employment contract and during Covid-19 crisis.

Key words: Covid-19, employees, employers, employment, contracts.

I. INTRODUCTION AND LITERATURE REVIEW

The English common law, as formulated by *Blackstone*, viewed employment as a contractual relationship that bound the parties to a continuing relationship. Blackstone stated the rule of presumed duration in simple terms: "If the hiring be general, without any particular time limited, the law construes it to be a hiring for a year. (*W. Blackstone, Commentaries* *425) The individual contract of employment provides a central legal concept for analyzing the rights and duties arising out of the employment relation, both when that relation is governed by collective bargaining and when it is defined by individual bargaining. This discussion has focused on the increased emphasis and protection it gives to the rights of individual employees. *Bendix (2001: 3)* describes the labour relationship as "the relationships between people who work and those for whom they work". According to *Nel et al, (1998: 4)* three parties are involved in the employment relationship, directly the employee and the employer and, indirectly, the State. According to these authors, the State is both master and servant of the other two participants. On the one hand, the State holds legislative power and, on the other, it is expected to give assistance to both the other participants in satisfying their respective needs.

II. RIGHTS OF EMPLOYEES

Statutory rights are the result of specific laws or statutes passed by federal, state, or local governments.

Various federal, state, and local laws have granted employees certain rights at work, such as equal employment opportunity, collective bargaining, and workplace safety. These laws and their interpretations also have been the subjects of a considerable number of court cases because employers also have rights. Rights are offset by responsibilities, which are obligations to perform certain tasks and duties. Employment is a reciprocal relationship in that both the employer and the employee have rights and obligations. For example, if an employee has the right to a safe working environment, then the employer must have an obligation to provide a safe workplace. If the employer has a right to expect uninterrupted, high-quality work from the employee, then the worker has the responsibility to be on the job and to meet job performance standards. The reciprocal nature of rights and responsibilities suggests that both parties to an employment relationship should regard the other as having rights and should treat the other with respect.

Contractual Rights. When individuals become employees, they are likely to encounter both employment rights and responsibilities. Those items can be spelled out formally in written employment contracts or in employer handbooks and policies disseminated to employees. Contracts formalize the employment relationship. For instance, when hiring an independent contractor or a consultant, an employer should use a contract to spell out the work to be performed, expected time- lines, parameters, and costs and fees to be incurred. An employee's contractual rights are based on a specific contract with an employer.

III. EMPLOYMENT CONTRACTS

An employment contract is a formal agreement that outlines the details of employment. The contract also identifies employers' actions and restrictions. *Formal agreement* that outlines the details of employment, represented by the union have with the employer. Depending on the organization and individuals involved, employment agreements may contain a number of provisions. Typically, an *identification section* lists the parties to the contract and the general nature of the employee's job duties. The level of compensation and types of benefits are often addressed, including any special compensation, benefits, incentives, or perquisites to be provided by the employer. The employment contract also may note whether the employment relationship is to be for an indeterminate time, or whether it can be renewed automatically after a specified period of time. Finally, the contract may spell out a severance agreement, continuation of benefits, and other factors related to the employee's leaving the employer.

Noncompete agreements. Agreements that prohibit individuals who leave an organization from working with an employer in the same line of business for a specified period of time. These agreements can be enforced less often in states such as California than in others. (Joan S. Lublin, 2007) To create an employment contract with a noncompete agreement that is likely to be enforced in most states, it is recommended that the contract have geographical and time limitations. Also, it is recommended that the noncompete agreement be limited to similar jobs and require customer confidentiality. (Lawrence P. Postol, 2007, p.65-73) Such contracts may contain nonpiracy agreements, which bar former employees from soliciting business from former customers and clients for a specified period of time. Other clauses requiring nonsolicitation of current employees can be incorporated into the employment agreement. These clauses

are written to prevent a former employee from contacting or encouraging coworkers at the former firm to join a different company, often a competitor. (Emily B. York, 2009, www.workforce.com.)

Intellectual Property. An additional area covered in employment contracts is protection of intellectual property and trade secrets. Employer rights in this area include the following: The right to keep trade secrets confidential; The right to have employees bring business opportunities to the employer first before pursuing them elsewhere; A common-law copyright for works and other documents prepared by employees for their employers.

Implied Contracts. The idea that a contract (even an implied or unwritten one) exists between individuals and their employers affects the employment relationship. The rights and responsibilities of the employee may be spelled out in a job description, in an employment contract, in HR policies, or in a handbook, but often they are not. The rights and responsibilities of the employee may exist only as unwritten employer expectations about what is acceptable behavior or performance on the part of the employee.

Employment Practices Liability Insurance. Workplace litigation has reached epidemic proportions as employees have sued their employers because they believed that their rights were violated. A significant number of employers have purchased employment practices liability insurance (EPLI) to cover their risks from lawsuits. This insurance covers employer costs for legal fees, settlements, and judgments associated with employment actions when individuals file suits alleging wrongful discharge or discrimination, and for other reasons. (For details on EPLI policies, go to www.epli.com.) To determine the level of risk and premiums to be charged to employers wanting EPLI, most insurance carriers review the employers' HR policies and practices. The review may include a detailed look at an employer's HR policy manuals, employee handbooks, employment forms, and other items. It also may involve an examination of the employer's history of employment-related charges and complaints during the past three to five years. In a sense, such a review can be viewed as an audit of the organizational policies and practices regarding employee rights. ("Evaluating Employment Practices Liability Insurance," Baird-Holm Labor & Employment Law Update, October 2007, 3; Eric Krell, 2006, www.shrm.org)

Employment-at-will (EAW) - Common-law doctrine stating that employers have the right to hire, fire, demote, or promote whomever they choose, unless there is a law or contract to the contrary. Conversely, employees can quit whenever they want and go to another job under the same terms. National restrictions on EAW include prohibitions against the use of race, age, sex, national origin, religion, and disabilities as bases for termination. Numerous states allow employees to file breach-of-contract lawsuits because of some provisions in employee handbooks. (www.hrcompliance.ceridian.com) Over the past several decades many state courts have redefined the employment-at-will and contractual components. Some courts have placed limits on those areas, including when employers exhibit extremely abusive actions. Also, as the nature of workers in their jobs has changed, varying employment contract interpretations have been adapted. (Katherine V.W. Stone, 2007, p.84-101)

Wrongful Discharge. Employers who run afoul of EAW restrictions may be guilty of wrongful discharge, which is the termination of an individual's employment for reasons that are illegal or improper. Employers should take several precautions to reduce wrongful-discharge liabilities. Having a well-written employee handbook, training managers, and maintaining adequate documentation are key. A landmark court case in wrongful discharge was *Fortune v. National Cash Register Company*. The case involved the firing of a salesperson (Mr. Fortune) who had been with National Cash Register (NCR) for 25 years. (*Fortune v. National Cash Register Co.*, 373 Mass. 96, 36 N.E.2d 1251, 1977)

Constructive Discharge. Closely related to wrongful discharge is constructive discharge, which is deliberately making conditions intolerable to get an employee to quit. Under normal circumstances, an employee who resigns rather than being dismissed cannot later collect damages for violation of legal rights. An exception to this rule occurs when the courts find that the working conditions were made so intolerable as to force a reasonable employee to resign. Then, the resignation is considered a discharge.

Just-cause is reasonable justification for taking employment-related action. The need for a "good reason" for disciplinary actions such as dismissal usually can be found in union contracts, but not in at-will situations.

Due process, like just cause, is about fairness. Due process is the requirement that the employer use a fair process to determine if there has been employee wrongdoing and that the employee have an opportunity to explain and defend his or her actions. Organizational justice is a key part of due process.

Organizational Justice. Most people have a need to feel the organization is treating employees justly. A wide range of HR activities can affect that perception of justice, including selection processes, job performance activities and evaluations, and disciplinary actions. Whether employees perceive fairness or justice in their treatment depends on at least three factors that are more psychological than legal in nature. (*Russell Cropanzano*, p.34-48) First, people obviously prefer favorable outcomes for themselves. They decide the favorability of their outcomes by comparing them with the outcomes of others, given their relative situation?" *Fairness* would not include disciplinary action based on favoritism when some are punished and others are not. Fairness is often dependent on employee perceptions, and is ultimately a subjective determination. The second factor, *procedural justice*, focuses on whether the procedures that led to an action were appropriate, clearly understood, and provided an opportunity for employee input?" Due process is a key part of procedural justice when making promotion, pay, discipline, and other HR decisions. If organizations provide procedural justice, employees tend to respond with positive behaviors that benefit the organization in return. Interactional justice is based on perceived fairness about how a person interacts with others.

Complaint Procedures and Due Process Complaint procedures are provided by employers to resolve employee complaints or grievances. In most cases, the complaint procedures used to provide due process for unionized employees differ from those for nonunion employees. For unionized employees, due process

usually refers to the right to use the formal grievance procedure specified in the union contract. Due process may involve including specific steps in the grievance process, imposing time limits, following arbitration procedures, and providing knowledge of disciplinary penalties. Due process procedures for at-will employees are more varied than for union workers and may address a broader range of issues. Many organizations have a variety of means for addressing workplace disputes. (*Margaret R. Bryant, 2009, www.shrm.org/research*) Numerous employers, especially smaller ones, use an “open-door” policy, which means that anyone with a complaint can talk with a manager, an HR representative, or an executive. However, often the door is not really open, especially if criticisms or conflicts are part of the complaint. For example, despite such a policy, an employee won a judgment against Wal-Mart because of threats from a coworker that were not responded to sufficiently by management. (*White v. Wal-Mart, Ohio Ct. App. 11th Dist., May 2, 2008*)

Arbitration Disagreements between employers and employees often can result in lawsuits and large legal bills for settlement. Most employees who believe they have experienced unfair discrimination do not get legal counsel, but their discontent and complaints are likely to continue. Consequently, to settle disputes, a number of employers are using arbitration in nonunion situations. Arbitration is a process that uses a neutral third party to make a decision, thereby eliminating the necessity of using the court system. Arbitration has been a common feature in union contracts. However, it must be set up carefully if employers want to use it in nonunion situations. Because employers often select the arbitrators, and because arbitrators may not be required to issue written decisions and opinions, many see the use of arbitration in employment-related situations as unfair.

Ombuds. Some organizations ensure process fairness through ombuds— individuals outside the normal chain of command who act as independent problem solvers for both management and employees. At a number of large and medium-sized firms, ombuds have effectively addressed complaints about unfair treatment, employee/supervisor conflicts, and other workplace behavior issues. Ombuds address employees’ complaints and operate with a high degree of confidentiality. Any follow-up to resolve problems is often handled informally, except when situations include unusual or significant illegal actions.

IV. INDIVIDUAL EMPLOYEE AND EMPLOYER RIGHTS ISSUES

Employees who join organizations bring with them certain rights, including freedom of speech, due process, and protection against unreasonable search and seizure. Globally, laws and policies vary, which means more issues for employers with expatriates and local workers in different countries. For example, an employee who voices threats against other employees may face disciplinary action by the employer without the employee’s freedom of speech being violated. Employers have legitimate rights and needs to ensure that employees are doing their jobs and working in a secure environment, while employees expect their rights, both at work and away from work, to be protected.

Right to privacy. An individual's freedom from unauthorized and unreasonable intrusion into personal affairs. The dramatic increase in Internet communications, twitters, specialized computers, and telecommunications systems is transforming many work-places. That is why having an HR culture that

incorporates privacy as a key component is important. (*Rita Zeidner, 2008, p.37-41*)

Employee Medical Records. Recordkeeping and retention practices have been affected by the following provision in the Americans with Disabilities Act (ADA): Information from all medical examinations and inquiries must be kept apart from general personnel files as a separate confidential medical record available only under limited conditions specified in the ADA. As interpreted by attorneys and HR practitioners, this provision requires that all medical-related information be maintained separately from all other.

Security of Employee Records. It is important that specific access restrictions and security procedures for employee records be established. These restrictions and procedures are designed to protect the privacy of employees and to protect employers from potential liability for improper disclosure of personal information. For instance, security breaches can occur through employer records regarding an employee's Social Security data, home address, and family details, especially by electronic means. (*Jared Shelly, 2009, p.34-36.*) A legal regulation called the Data Protection Act requires employers to keep personnel records up-to-date and to keep only the details that are needed.

Employees' Free Speech Rights. The right of individuals to freedom of speech is protected by the U.S. Constitution. However, that freedom is not an unrestricted one in the work- place. Areas in which employees' freedom of speech has collided with employers' restrictions are controversial views and whistle blowing.

Employee Advocacy of Controversial Views. Questions of free speech arise over the right of employees to advocate controversial viewpoints at work.

Whistle Blowing and Sarbanes-Oxley. Individuals who report real or perceived wrongs committed by their employers are called whistle blowers. The reasons why people report actions that they question vary and often are individual in nature. (*Marcia P. Miceli, et al., 2009, p.379-397.*) Whistle blowing can appear to show a lack of loyalty on the part of an employee, although that may not be a correct interpretation. The Sarbanes-Oxley Act is intended to remedy company ethical breaches. It adds protection for whistle blowers. But an antiretaliation provision covers only complaints made to certain entities, such as a manager/executive and federal regulatory or law enforcement agencies. (*Catherine Rampell, 2009, p.4.*)

Balancing employer security and employee rights. Balancing employer and employee rights is becoming more difficult. On one side, employers have a legitimate need to ensure that employees are performing their jobs properly in a secure environment. On the other side, employees expect the rights that they have both at work and away from work to be protected. The commonplace monitoring of e-mail and voicemail is only one way employers watch the workplace. Technology gives employees who leave an employer the opportunity to take a great deal of valuable company secrets or data with them. For this reason (and others as well), workplace monitoring has increased.

V. EMPLOYEE DISCIPLINE

Discipline is a form of training that enforces organizational rules. Those most often affected by the discipline systems are problem employees. Fortunately, problem employees comprise a small number of employees. If employers fail to deal with problem employees, negative effects for other employees and

groups often result. Common disciplinary issues caused by problem employees include absenteeism, tardiness, productivity deficiencies, alcoholism, and insubordination. Often, discipline occurrences are seen differently by managers and employees. Whereas managers may see discipline as part of changing workers' behaviors, employees often see discipline as unfair because it can affect their jobs and careers.

VI. OBLIGATIONS OF EMPLOYEES

Employees have responsibilities towards their employers, even if they work part time or don't have a written contract with their employers. These are the main responsibilities of employees: to personally do the work they were hired to do, to do their work carefully and seriously (In some cases, they could be fired or disciplined if they're often late for work, or if they're absent too often or for no good reason) to avoid putting themselves or others in danger, to follow their employer's instructions (For example, if an employer asks an employee to do something dangerous or illegal, the employee doesn't have to follow these instructions), to be loyal.

(<https://educaloi.qc.ca/en/capsules/rights-and-responsibilities-of-employers-and-employees/>)

VII. RIGHTS AND OBLIGATIONS OF EMPLOYEES AND EMPLOYERS DURING THE COVID-19 CRISIS

Employers right and obligations: Employers are obliged to ensure a safe and healthy work environment for their employees, temporary workers, trainees, volunteers and specific self employed persons. If an employer violates this obligation, he is liable for non-compliance damages. To ensure a safe and healthy working environment, employers should do "everything reasonably possible" to prevent ill employees. Employers may consider the following actions: Follow the guidelines and reasonably instruct employees to wash their hands regularly, sneeze and cough inside elbow and use paper tissues; Regularly check official sources to be fully and accurately informed about the outbreak and the advised official measures; Team up closely with the company doctor on inter alia specifically advised measures; Provide specific protective equipment, such as disinfecting hand gels; Inform employees unambiguously about steps, including measures (to be) taken; Limit close physical contact as much as possible and organize calls instead of meetings; Postpone assignments or re-assign expats; Postpone or cancel events, trainings, receptions, trips and/or similar; Intensify cleaning services; Don't work at different offices/locations, if not necessary; Promote working from home; Under GDPR (General Data Protection Regulation) employers are allowed to ask employees, if they visited so-called risk area's determined by the RIVM. Employers should assess whether this entails a risk for any employee; Install a Corona 'prevention' team, also to centralize communications. If an employer shares an office building with other companies, it is advised to install a cross-company prevention team; Check existing health and safety policies, and update these if required; Diligently document actions performed.

(<https://www.hvglaw.nl/wp-content/uploads/Law-alert-Corona-EN.pdf>) Besides the obligation to ensure a safe and healthy working environment, the employer may also take certain actions to ensure smooth continuation of daily business; The employer may instruct employees to follow certain hygiene guidelines and sanction employees for non-compliance; The employer may, in principle, oblige an employee to perform work remotely or to go on a business trip. In view of the obligation to ensure a safe working

environment, it is essential to make a careful assessment in this respect; The employer is in principle not permitted to medically test an employee on suspicion of a coronavirus infection. An employer should refer the employee concerned to a general practitioner or the company doctor; Employers may request the relevant authorities for a temporary work time reduction permit, if the work capacity is minimally 20% decreased.

Employee rights and obligations: Surely, employees may have a variety of questions and uncertainties. In this respect employees have the following rights and obligations: The employee is in principle not entitled to stay home out of fear for infection. The employee may be entitled to a specific leave for e.g. an ill child or due to a suddenly closed school. Emergency leave: e.g. if the school is suddenly closed and the employee has to find a babysitter. If the employee cannot find a babysitter, the employee should consult with the employer and holiday leave should be taken. Short-term care leave: e.g. the employee has to take care of an ill child. It can be argued that employees, as good employees, should inform the employer of such information to enable him to ensure a safe and healthy working environment. In principle, quarantined employees, who are unable to work due to the coronavirus, are entitled to wage continuation and cannot be requested to take up holidays. Private trips cannot be prohibited, at best discouraged. However, if an employee travels to a designated risk area, employees should consult with the employer not to jeopardize the right to wage continuation in the event of illness due to the coronavirus. (<https://www.hvglaw.nl/wp-content/uploads/Law-alert-Corona-EN.pdf>)

VIII. THE IMPACT OF COVID-19 CRISIS ON BUSINESSES AND LABOR MARKETS IN THE WORLD

Globally

The COVID-19 pandemic has triggered one of the worst jobs crises since the Great Depression. There is a real danger that the crisis will increase poverty and widen inequalities, with the impact felt for years to come. Countries now need to do everything they can to stop this jobs crisis from turning into a social crisis. Reconstructing a better and more resilient labour market is an essential investment in the future and in future generations. (<https://www.oecd.org/employment/covid-19.htm>) This jobs crisis risks turning into a social crisis. In the sectors most affected, up to half of all workers have part-time or temporary contracts or are self-employed. Many lack job security and have limited access to unemployment benefits. Countries have provided extraordinary levels of support and should do all they can to maintain it for the most vulnerable, while working to build more inclusive and resilient labour markets. (<https://www.oecd.org/employment-outlook/2020/>)

Such dramatic economic downturns have had profound effects on the global labour market. As of January 2021, more than 90 percent of the world's workforce lived in countries where business closures were still in place for at least some economy sectors. Unemployment has also increased in many countries affected by the COVID-19 crisis, though unemployment figures alone do not capture the full extent of the labour market impact for two primary reasons. First, many workers who have suffered job losses during the COVID-19 pandemic are not actively looking to find new jobs, and are therefore classified as "inactive" or "out of the labour force" in official statistics. Increases in inactivity have, in fact, outpaced increases in

unemployment in a majority of countries (Figure 1) (International Labour Organization, 2021).

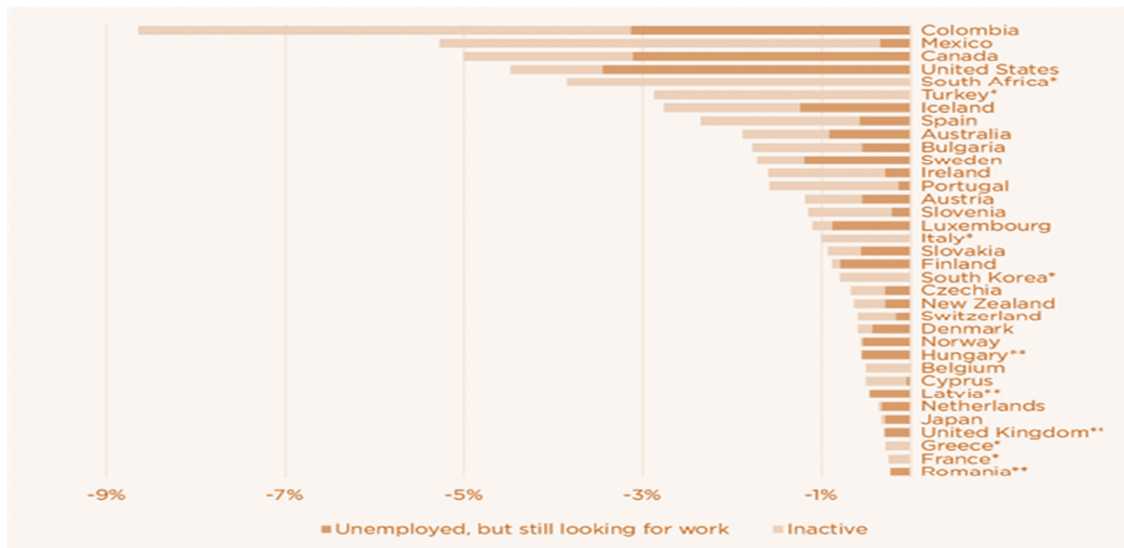


Figure 1: Change in employment from 2019 to 2020 in the World

For workers who have recently lost their jobs, finding a new one amid a recession can be exceedingly difficult. Second, even while still in paid work, many workers have had to reduce their working hours as a result of the pandemic. Therefore, looking at declines in total hours worked offers a complete picture of the labour market impact of the crisis. According to the International Labour Organization (ILO), global working hours declined by 17.3 percent in the second quarter of 2020. (*International Labour Organization (2020)*) This is equivalent to 495 million full-time jobs lost. By the end of the year, total working hour losses were roughly four times greater than during the Great Recession in 2009. (*International Labour Organization, 2021*) These dramatic reductions in working hours have been accompanied by equally dramatic reductions in income. Global labour income declined by 8.3 percent in 2020, amounting to a loss of USD 3.7 trillion, or 4.4 percent of global GDP. (*International Labour Organization, 2021*)

While most governments have adopted measures to protect workers from labour market shocks related to COVID-19, there has been a large degree of variation in the responses and policy packages implemented by different countries. The landscape of work has changed dramatically as a result of COVID-19. Many workers have begun working from home, while others have had to reduce their working hours. At the same time, employees in key professions may have seen their workload increase dramatically while being exposed to additional workplace stressors and health risks. Changes to workplace conditions and cultures brought on by the crisis are likely to have long-lasting impacts.

Four key pillars to fight COVID-19 based on International Labour Standards

Pillar 1: Stimulating the economy and employment - active fiscal policy, accommodative monetary policy, lending and financial support to specific sectors, including the health sector.

Pillar 2: Supporting enterprises, jobs and incomes – extend social protection for all, implement employment retention measures, provide financial/tax and other relief for enterprises.

Pillar 3: Protecting workers in the workplace – strengthen OSH measures, adapt work arrangements, prevent discrimination and exclusion, provide health access for all, expand access to paid leave.

Pillar 4: Relying on social dialogue for solutions – Strengthen the capacity and resilience of employers' and workers' organizations, strengthen the capacity of governments, strengthen social dialogue, collective bargaining and labour relations institutions and processes. (ILO MONITOR: Covid-19 and the world of the work, 2nd edition, 7 April, 2020).

North Macedonia

Since the beginning of the COVID-19 crisis in the Republic of North Macedonia, the future is still uncertain. The Republic of North Macedonia has made some progress and is at a good stage of preparation in developing a functioning market economy. But, the COVID-19 crisis hit the economy after years of unprecedented export growth, worsening expectations that both net exports and FDI would continue to make a positive and increasing contribution to economic growth in the short to long term. Early indications point to a significant disruption in global trade as a result of the COVID-19 pandemic. The negative impact is spreading from one country to another and from one sector to another through supply chain networks as government action to contain the spread of COVID -19 intensifies. The extent to which firms are interconnected magnifies the importance of indirect shocks relative to direct losses from the pandemic. Hit hard by the pandemic, the economy slipped into recession in 2020, with gradual recovery in 2021.

The pandemic has had a negative impact on overall economic activity in North Macedonia. A GDP growth in 2021 is forecasted to 3.5%, compared to GDP 2020 decline by -4.5%. Exports of goods and services fell by 10.9% in nominal terms, while imports declined by 10.5%. Household final consumption decreased by an estimated 5.6% in 2020. The unemployment rate declined throughout 2020, reaching 15.9% in the second quarter of 2021. The government implemented a strong fiscal response to mitigate the crisis impact on households and firms. The fiscal deficit rose to 8.2 % of GDP in 2020 while the public debt level rose sharply to 60.2 % of GDP. Capital expenditure was cut in a budget revision to create space for crisis-related transfer payments. The authorities took some additional measures to improve fiscal transparency, although a fully operational state aid registry is yet to be developed. (<https://www.fairwear.org/covid-19-dossier/worker-engagement-and-monitoring/country-specific-guidance/covid19-north-macedonia/>)

To prevent the spread of COVID-19, the Government of North Macedonia adopted various economic measures aimed at job and income protection. Despite this, data from the Employment Agency for the period March 2020 to February 2021 show an increase of almost 50% in the number of registered unemployed (from 107,732 to 159,608). In comparison, during the same period one year before (March 2019 to February 2020) this number had remained practically unchanged. According to the information from the Employment agency, 17,026 persons lost their job during the COVID-19 crisis (in the period of 11 March to 31 December 2020), i.e. 10.8% of all persons registered as unemployed on 31 December 2020. (Gerovska, M.M., 2020/21)

As a response to the crisis, the government devised measures to alleviate socio-economic consequences of the pandemic in six subsequent economic packages. The sets relating to workers and labor market could be roughly classified as those aimed to save jobs through subsidizing wages and supporting companies' liquidity; and those aimed to prevent and/ or compensate income loss among citizens. The protocol for preventive measures for all jobs, arising from the Plan to reduce restrictive measures to prevent the spread of coronavirus, defines activities to be undertaken in working environments: Hand hygiene; Respiratory hygiene; Physical distancing (1,5-2 m in working locations); Reduce and organize work-related trips; Regular cleaning and disinfection of the working environment; Communication, training and risk education; Managing people with COVID-19 or their contacts. The implementation of the government's previous packages of measures to support businesses and workers was not consistently implemented by the beneficiaries. Macedonian Occupational Health and Safety organization (MOSHA) is actively working on raising awareness on extended measures for workers safety. Many of the activities include translating fighting COVID-19 guidance, or how to act in the situation of contracting COVID-19 and have COVID – 19 manifestation.

IX. CONCLUSION

The employment relationship is reciprocal, in which both employers and employees have legal and contractual rights as well as responsibilities. The employee has an obligation to conscientiously and with quality perform the work for which he has concluded an agreement with the employer and to respect the requirements, instructions and regulations imposed on him, and in return must receive adequate compensation for the work performed, safe working conditions and right to privacy. Employers, employees and their organizations should work with health authorities to prevent and control Covid-19 virus. International labor standards for the rights and responsibilities of employees and employers for safety and health at work must be respected. Employers should plan and implement measures to prevent and mitigate COVID-19 in the workplace and provide personal protective equipment. Employees have a responsibility to take reasonable care of themselves and the health and safety of others and have an obligation to cooperate with their employers in implementing preventive and control measures, as well as to participate in training provided by the employer.

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UTILIZATION OF TECHNOLOGIES AND INNOVATIVE METHODS IN THE DECISION MAKING PROCESSES

Dr. Radhika Kapur

Abstract

The individuals belonging to all age groups, gender, professions, groups and backgrounds are required to make decisions in their personal as well as professional lives. In the implementation of the decision making processes, the individuals need to conduct an analysis of the alternatives. After the analysis has been conducted, they need to identify, which alternatives would be regarded as most appropriate, advantageous, and meaningful. The alternatives which would be valuable to the individuals, others, their jobs and other related factors are selected. Technologies and innovative methods are made use of in generating information in terms of various areas, concepts and aspects, so the decisions can be made in a satisfactory manner. There are number of areas in terms of which decisions are made. Hence, technologies, internet and innovative methods render an important contribution in the making use of wise and productive decisions. Therefore, in all areas, one is able to understand that technologies and innovative methods are contributing effectively in the decision making processes. The main areas that are taken into account in this research paper are, areas in which technologies and innovative methods are utilized in the decision making processes, factors highlighting the uses of technologies and innovative methods in decision making processes, and how making of wise decisions promote enrichment of ones living conditions.

Keywords: Approaches, Decision Making Processes, Goals, Innovative Methods, Job Duties, Objectives, Technologies, Strategies

Decision making is an integral part of the lives of the individuals (Decision Making, 2021). The individuals belonging to all age groups, gender, occupations, categories and backgrounds are required to make decisions in their personal as well as professional lives. In the implementation of the decision making processes, the individuals need to conduct an analysis of the alternatives. After the analysis has been conducted, they need to identify, which alternatives would be regarded as most suitable, useful, beneficial and worthwhile. The alternatives which would be advantageous to individuals, others, their jobs and other related factors are selected (7 Steps of the Decision-Making Process, 2021). In some cases, the decision making processes are not manageable and straightforward. In other words, they are tedious and complicated. In such cases, there are two main strategies that are put into practice, one is communicating with others and acquiring ideas and viewpoints and making use of technologies and innovative methods. The internet is regarded as one of the crucial sources that renders a significant contribution in augmenting knowledge and understanding among individuals in terms of various factors. Therefore, utilization of technologies and innovative methods contribute in a meaningful manner in

making of wise and productive decisions.

When the individuals are making decisions, they need to be aware in terms of various types of methods, procedures and strategies (What is Decision Making? 2021). The decisions are major and minor. The major decisions are the ones, which have an effect upon all individuals, job duties and the overall environmental conditions on a large scale. On the other hand, minor decisions are the ones, which do not have major effects upon the individuals, job duties and the overall environmental conditions. Within educational institutions at all levels and in various types of organizations, the individuals in leadership positions are the ones, who are vested with the authority of making decisions. They make the decisions in terms of job duties, laws, rules, procedures, methods, approaches, resources, subordinates and the overall environmental conditions. When they are making decisions in terms of others, they need to make sure that they prove to be beneficial and worthwhile to them. The utilization of technologies and innovative methods renders a significant contribution in augmenting knowledge and understanding among individuals in terms of different areas. Therefore, utilization of technologies and innovative methods contribute in a worthwhile manner in making of wise and productive decisions within all types of organizations.

Implementation of household responsibilities is an important area in terms of which decisions need to be made. When the heads of the households make decisions in terms of this area, they need to ensure that the decisions prove to be beneficial and worthwhile to all the individuals. In rural communities, in some households, the male members are vested with the authority and responsibility of making decisions. They may or may not obtain ideas and suggestions from others. The women are normally given instructions by the male members, in terms of various types of job duties and responsibilities, which they need to put into practice. Normally, in the case of implementation of household responsibilities, the individuals are aware of the methods and approaches that need to be acknowledged in making of meaningful decisions, but when they are not aware, they make use of technologies and innovative methods. For example, when one makes decision in terms of preparation of a food item, one makes use of internet to acquire information in terms of ingredients, method and so forth. Therefore, it can be stated, utilization of technologies and innovative methods contribute in a worthwhile manner in making of wise and productive decisions within the households.

Areas in which Technologies and Innovative Methods are utilized in the Decision Making Processes

When the individuals are making use of technologies and innovative methods in the decision making processes in terms of various areas, one of the important aspects that needs to be taken into account is, the individuals need to be well-equipped in terms of their usage (James, Boyle, Lei Yu & Bennett, 2013). The various types of technologies that are put into practice are, computers, lap-tops, I pads, and mobile technologies. When they have internet connection, the individuals can make use of them to augment their knowledge and understanding (Decision, 2021). There are number of areas in the lives of the individuals, in terms of which decisions need to be made through the utilization of technologies and innovative methods. These are stated as follows:

Acquisition of Education – The individuals need to make decisions in terms of acquisition of education. When they need to get enrolled in educational institutions at all levels, they need to make

decisions. When the individuals are below the age of 18, their parents make decisions for them. But when they are adults and are to get enrolled in higher educational institutions, they usually make decisions on their own. Apart from educational institutions, the students are required to make decisions in terms of selection of the subjects. In senior secondary education, they make selection of the subjects of arts, or commerce or science. Through the utilization of technologies and innovative methods, the individuals are able to augment their knowledge in terms of educational institutions as well as other factors related to education. When the individuals are aware, they will be able to make useful and favourable decisions. Therefore, it can be stated, acquisition of education is a crucial area in which technologies and innovative methods are utilized in the decision making processes.

Acquisition of Employment Opportunities – Acquisition of employment opportunities is the primary aim of all individuals. It is comprehensively understood, when they need to look for employment opportunities, they make use of the internet. When the individuals aspire to look for employment opportunities in other cities or states, they are required to make use of technologies and innovative methods. When the individuals need to fill out job applications online or email their resumes, they make use of technologies and internet on a large scale. Through the utilization of technologies and innovative methods, the individuals are able to augment their knowledge in terms of various types of employment settings, where they can apply for jobs. Furthermore, when the individuals work from home, then too technologies and innovative methods are used on a large scale. When the individuals are informative, they will be able to make beneficial and positive decisions. Therefore, one is able to understand well that acquisition of employment opportunities is a crucial area in which technologies and innovative methods are utilized in the decision making processes.

Enhancing Career Prospects – The individuals aim to enhance their career prospects and bring about improvements in their overall quality of lives. This is irrespective of their age groups, educational qualifications, competencies, categories, communities and backgrounds. It is apparent that they need to inculcate the traits of diligence, resourcefulness and conscientiousness. But apart from these, they need to pay attention towards honing of technical skills. When technical skills will be up-graded, technologies and innovative methods can be used satisfactorily for all purposes. The career prospects of the individuals can be enhanced through acquisition of education and employment opportunities. Through the utilization of technologies and innovative methods, the individuals are able to augment their knowledge in terms of various types of educational programs, educational institutions, training centres and employment opportunities. After they have generated information and augmented their knowledge and understanding in terms of various areas, they are able to make effective decisions. Therefore, one is able to understand on a comprehensive basis that when the individuals are determined towards enhancing their career prospects, they make use of technologies and innovative methods in the decision making processes.

Developing Skills and Abilities – Development of technical skills is regarded to be of utmost significance. As when technical skills will be up-graded, technologies and innovative methods can be used satisfactorily for all purposes. In some cases, the individuals do not feel comfortable with the utilization of technologies. In such cases, they get enrolled in educational institutions and training centres. These offer programs, which can be long-term as well as short-term. It is necessary for the individuals to be well-equipped in terms of their usage. Getting engaged in regular practice is the key, which enables the

individuals to develop their skills and abilities. Apart from technical skills, the technologies and innovative methods can be used for developing analytical, problem solving, critical thinking, presentation, personal and professional skills. Furthermore, all these types of skills are facilitating the decision making processes. Therefore, one is able to understand to a major extent that when the individuals are determined towards generating awareness in terms of various aspects and developing their skills and abilities, they make use of technologies and innovative methods in the decision making processes.

Utilization of Innovative Methods in the Implementation of Job Duties – In the present existence, with advancements taking place and with the advent of modernization and globalization, there are utilization of innovative methods in the implementation of job duties. Within the course of acquisition of education, the students are required to work on projects, prepare assignments and reports and put into practice various types of academic activities. In the implementation of all these tasks and activities, they make use of technologies and innovative methods. On the other hand, within the course of implementation of employment opportunities as well, the individuals make use of technologies and innovative methods in putting into practice various types of job duties, tasks and activities. When decisions are made in terms of selection of the innovative methods, it needs to be ensured, they are beneficial, favourable and meaningful. Therefore, it can be stated, utilization of innovative methods in the implementation of job duties is regarded as one of the indispensable areas in which technologies and innovative methods are utilized in the decision making processes.

Enhancing the Overall Structure of the Organization – In leading to enhancement of the overall structure of the organization, there are number of factors, in terms of which decisions need to be made. These are, job duties, tasks, activities, laws, rules, procedures, methods, approaches, resources, subordinates and the overall environmental conditions. When they are making decisions in terms of others, they need to make sure that they prove to be beneficial and worthwhile to the members as well as the organization as a whole. When all the members of the organization, irrespective of their job positions in the hierarchy are aware in terms of their job duties and responsibilities, when resources are managed in a satisfactory manner, when pleasant environment will be created and decisions are made wisely, then organizational culture will be enhanced. The utilization of technologies and innovative methods renders a significant contribution in augmenting knowledge and understanding among individuals in terms of different areas. Therefore, enhancing the overall structure of the organization is an area in terms of which technologies and innovative methods are utilized in the decision making processes.

Putting into Practice Teaching-Learning Materials – In educational institutions at all levels, the instructors put into practice teaching-learning materials. The various types of teaching-learning materials are, books, articles, reports, projects, charts, graphs, images, pictures, graphs, maps and technologies. When these are made use of to impart knowledge and understanding among students in terms of academic subjects and lesson plans, the decisions made in terms of their selection is based on number of factors, i.e. grade levels of students, academic subjects and lesson plans, needs and requirements of the students, their learning abilities and the overall system of education. Through the utilization of technologies and innovative methods one is able to render a significant contribution in augmenting knowledge and understanding among individuals in terms of different areas. When the instructors will be well-aware in terms of these factors, they will make wise and productive decisions. Therefore, one can acknowledge

that putting into practice teaching-learning materials is an area in terms of which technologies and innovative methods are utilized in the decision making processes.

Putting into Practice Teaching-Learning Methods - In educational institutions at all levels, the instructors need to make wise and productive decisions in terms of teaching-learning methods. When these are made use of to impart knowledge and understanding among students in terms of academic subjects and lesson plans, the decisions made in terms of their selection are based on number of factors, i.e. grade levels of students, academic subjects and lesson plans, needs and requirements of the students, their learning abilities and the overall system of education. Through the utilization of technologies and innovative methods one is able to render a significant contribution in augmenting knowledge and understanding among individuals in terms of different concepts and areas. The instructors make use of technologies and innovative methods to conduct research in terms of the subjects and concepts. When the instructors will be well-aware in terms of these factors, they will make astute and judicious decisions. Therefore, one can acknowledge that putting into practice teaching-learning methods is an area in terms of which technologies and innovative methods are utilized in the decision making processes.

Implementation of Household Responsibilities – Implementation of household responsibilities is an important area in terms of which decisions need to be made. When the heads of the households make decisions in terms of this area, they need to ensure that the decisions prove to be beneficial and worthwhile to all the members of the household. The important household responsibilities are, cleaning, washing, preparation of meals, gardening, health and well-being of family members, repair work, and functions in the overall management of the household. In the case of implementation of household responsibilities, the individuals are aware in terms of the procedures and methodologies that need to be acknowledged in making of meaningful decisions. When they are not aware, they make use of technologies and innovative methods. For example, when one makes a decision in terms of preparation of a food item, one makes use of internet to acquire information in terms of ingredients, and the method of preparation. Therefore, one can acknowledge that implementation of household responsibilities is an area in terms of which technologies and innovative methods are utilized in the decision making processes in all communities.

Promoting Health and Well-being – Health and well-being is an important area, which needs to be paid attention to throughout one's life. When the individuals possess good health, they will be able to carry out their job duties well and bring about improvements in their overall quality of lives. In promoting health and well-being, there are various factors, which need to be taken into account, i.e. diet and nutrition, exercise and physical activities, yoga and meditation, obtaining medical check-ups on a regular basis, obtaining medical treatment in case of health problems and illnesses, forming cordial and amiable terms and relationships with others, learning to manage various types of psychological problems, being well-equipped in terms of job duties and responsibilities, generating information in terms of weight management and getting adequate sleep of at least six to seven hours. The individuals make use of technologies and innovative methods, when they need to generate awareness in terms of various aspects. Being well-equipped in terms of various factors facilitate the decision making processes. Therefore, one can identify that promoting health and well-being is an area in terms of which technologies and innovative methods are utilized in the decision making processes in case of all individuals, irrespective of

Factors highlighting the Uses of Technologies and Innovative Methods in Decision Making Processes

The factors highlighting the uses of technologies and innovative methods in decision making processes are, facilitating selection of the most suitable alternative, enhancing career prospects, implementation of job duties and bringing about improvements in one's overall quality of lives. In the implementation of the decision making processes, the individuals need to conduct an analysis of the alternatives. In some cases, there is more than one alternative available. In such cases, the individuals need to ensure that they select the alternative, which would be most favourable. After the analysis has been conducted, they need to identify, which alternatives would be regarded as most suitable, convenient, and worthwhile. The alternatives which would be advantageous to individuals, others, job duties and responsibilities and other related factors are chosen. Therefore, one is able to understand that facilitating selection of the most suitable alternative is a vital factor highlighting the uses of technologies and innovative methods in the decision making processes.

All the individuals have the goal of enhancing their career prospects and bringing about improvements in their overall quality of lives. This is irrespective of their age groups, educational qualifications, categories, communities and backgrounds. It is apparent that they need to inculcate the traits of meticulousness, ingenuity, creativity and conscientiousness. But apart from these, they need to pay attention towards honing of skills and abilities. When the various types of skills will be up-graded, technologies and innovative methods can be used acceptably for all tasks and activities. The career prospects of the individuals can be enhanced through acquisition of education and employment opportunities. Through the utilization of technologies and innovative methods, the individuals are able to enhance their knowledge in terms of various types of educational programs, educational institutions, training centres and employment opportunities. After they have generated information and augmented their knowledge and understanding in terms of various areas, they are able to make effective decisions. Therefore, one is able to acknowledge that enhancing career prospects is a crucial factor highlighting the uses of technologies and innovative methods in the decision making processes.

There are utilization of technologies and innovative methods on a comprehensive basis within the course of implementation of job duties and achievement of desired goals and objectives. In educational institutions at all levels, within the course of acquisition of education, the students are required to work on projects, prepare assignments and reports and put into practice various types of academic activities. In the implementation of all these tasks and activities, they make use of technologies and innovative methods. On the other hand, within the course of implementation of employment opportunities as well in various types of organizations, the individuals make use of technologies and innovative methods in the implementation of job duties, tasks and activities. When the individuals are working on group projects, technologies are utilized for communicating as well as in the implementation of other tasks and activities. Therefore, it can be stated, implementation of job duties is a factor highlighting the uses of technologies and innovative methods in the decision making processes at all levels of educational institutions as well as in various types of organizations.

When the individuals are well-equipped with the usage of technologies, they are able to bring about improvements in their overall quality of lives. In the implementation of this task, one needs to ensure, they acquire an efficient understanding in terms of technologies and innovative methods. The individuals need to acquire good-quality education, develop technical skills, time management skills, leadership skills, decision making skills, negotiation skills, analytical skills, problem solving skills, critical thinking skills, presentation skills, personal skills and professional skills and when they are engaged in jobs, they need to be aware in terms of their job duties and responsibilities. Furthermore, they need to put in their best abilities and meet the expectations of their employers. The utilization of technologies and innovative methods prove to be beneficial to the individuals in providing solutions to various types of problems that take place in the personal and professional lives of the individuals. Therefore, one is able to identify that decisions made in terms of utilization of technologies and innovative methods render a significant contribution in bringing about improvements in one's overall quality of lives.

How Making of Wise Decisions promote Enrichment of ones Living Conditions?

Making of wise decisions promote enrichment of ones living conditions. In leading to enrichment of ones living conditions, the individuals need to recognize the meaning and significance of education. Education is the instrument, which makes provision of knowledge to the individuals, so they can carry out their job duties in a well-ordered and regimented manner. When the individuals need to get enrolled in educational institutions at all levels, they need to make wise decisions. When the individuals are below the age of 18, their parents are responsible for making decisions for them. But when they are adults and are to get enrolled in higher educational institutions, they usually make decisions on their own. Apart from educational institutions, the students are required to make decisions in terms of selection of the fields. In senior secondary education, they make selection of the subjects of arts, or commerce or science. Through the utilization of technologies and innovative methods, the individuals are able to augment their knowledge in terms of educational institutions as well as other factors related to education. Therefore, it can be stated, making of wise decisions in terms of education lead to enrichment of ones living conditions.

Acquisition of jobs is the primary aim of all individuals. It is comprehensively understood, when they need to look for jobs, they make use of technologies and internet. When the individuals aspire to look for employment opportunities in other cities or states, in such cases, technologies and innovative methods are regarded to play an important role. When the individuals need to fill out job applications online or email their resumes, they make use of technologies and internet to a major extent. Through the utilization of technologies and innovative methods, the individuals are able to augment their knowledge in terms of various types of employment settings, where they can apply for jobs. When the individuals get engaged in jobs, they need to ensure they are in accordance to their educational qualifications, skills and abilities. Therefore, it can be stated, making of wise decisions in terms of acquisition of jobs lead to enrichment of ones living conditions.

Development of technical skills is regarded to be of utmost significance. As when technical skills will be up-graded, technologies and innovative methods can be used satisfactorily for all purposes. In some cases, the individuals do not feel comfortable with the utilization of technologies and innovative

methods. In such cases, they get enrolled in educational institutions and training centres. These offer programs, which can be long-term and short-term. It is necessary for the individuals to be well-equipped in terms of various types of technologies. These are necessary to achieve the desired goals and objectives and lead to enrichment of one's living conditions. Getting engaged in regular practice is the key, which enables the individuals to develop their skills and abilities. Apart from technical skills, the technologies and innovative methods can be used for developing analytical, problem solving, critical thinking, presentation, personal and professional skills. Therefore, one is able to understand in a well-ordered and satisfactory manner, making of wise decisions in terms of development of skills and abilities render an important contribution in leading to enrichment of ones living conditions.

Conclusion

Decision making process is an integral part of the lives of the individuals. The individuals belonging to all age groups, gender, occupations, categories and backgrounds are required to make decisions in their personal as well as professional lives. In the implementation of the decision making processes, the individuals need to augment their knowledge. This is regarded as one of the vital factors, for which technologies and innovative methods are utilized. Areas in which technologies and innovative methods are utilized in the decision making processes are, acquisition of education, acquisition of employment opportunities, enhancing career prospects, developing skills and abilities, utilization of innovative methods in the implementation of job duties, enhancing the overall structure of the organization, putting into practice teaching-learning materials, putting into practice teaching-learning methods, implementation of household responsibilities and promoting health and well-being. The factors highlighting the uses of technologies and innovative methods in decision making processes are, facilitating selection of the most suitable alternative, enhancing career prospects, implementation of job duties and bringing about improvements in one's overall quality of lives. Making of wise decisions promote enrichment of ones living conditions. Finally, it can be stated, when the individuals utilize technologies and innovative methods in the decision making processes, they are able to make wise, meaningful and productive decisions.

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THE IMPACT OF THE CORONAVIRUS PANDEMIC ON SME'S IN GHANA

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Abstract

The coronavirus pandemic although a health crisis has affected a lot of businesses in the world and affected many economies negatively and one of the key sectors that was seriously affected in Ghana is the area of Small-Scale Enterprises (SMEs). Most of the decisions taken by the government in an attempt to solve or curb the impact of the virus had a toll on many businesses.

Keywords: Covid-19, Small-to-mid size enterprises (SMEs), Economy, Ghana, Pandemic, Impact.

1. Introduction

SME is an acronym for a small-to-mid-size enterprise. SMEs refers to businesses with capital, assets or workers that fall below a particular level. The yardstick for determining a Small to mid-size Enterprise differ from one country to another (Ward, 2020). That is to say; each country has in its own terms which kind of businesses will be seen as an SME and hence globally; there is not a laid down definition of what an SME is. Every country can define what an SME is and gets to decide peculiar perimeters for specific industries. For instance, according to the European Union; any firm that constitutes less than Two-Hundred and fifty (250) members is regarded as a Small to mid-size enterprise (SME) while in the case of United States of America; any business organisation with less than Thousand Two-Hundred (1200) employers are considered an SME. (Ward, 2020). It can be deduced that although there is not a worldwide acceptable definition or criteria for SMEs, the number of employees or workers in a business organisation qualifies it to be an SME or not, and mostly this number differs from country to country.

Within the context of Ghana; The Ghana Statistical Service (GSS) uses employment as a basis for defining a small-scale industry. Hence, it is buttressing that the number of workers present in a business organisation determines whether it is a small-scale industry. According to the Ghana Statistical Service (GSS), fewer than ten (10) workers are regarded as a small-scale enterprise. The research on the effect of Ghana's Economic Recovery Program on Small-scale industries undertaken by Baah-Nuako et al. (1994) 'a small-scale industry was defined as an organisation that employs fewer than thirty (30) workers.' According to steel and Webster (1991), thirty (30) employees' employment limit shows that that particular business is a small-scale enterprise.

SMEs are also classified with regards to capital, that is to say, the capital outlay of an organisation qualifies it to be regarded as a small-scale enterprise. According to The World Bank Discussion Papers, Africa Technical Series (1994), an organisation with total assets, excluding land approximately worth two (2) million dollars equivalence in the 1988 constant prices constitutes a Small-Scale Enterprise. The National Board for Small Scale Industries (NBSSI) defines SMEs as organisations that comprise of a limit of twenty-nine (29) or fewer workers with a sizeable working revenue of not surpassing one hundred thousand dollars (US\$ 100,000) Ghana cedi correspondence.

1. The Importance of SMEs to the Economy of Ghana

According to Sowah, Baan-Nuarko et al., (1993), Small scale Enterprises in Ghana stretches over an extensive scope of ventures or occupations in both the formal and informal provinces. Distinct sectors in Ghana includes tailoring, processing of food, vendors by the roadside, restaurants, waakye joints, porridge sellers, chop bars, business operators in a kiosk, kenkey vendors, fitting works, electricians, catering shops, other agro-based industries, the repairs and manufacturing of shoes, pottery, printing shops, Chemical and pharmacy shops, steel repairs and manufacturing amongst others (Ayraka, 2020). Within the context of the Ghanaian economy, small scale enterprises constitute a large proportion of businesses. The average Ghanaian is into a business that falls under small scale industries hence making it extremely clear that the SME sector has a wide number of Ghanaian employees working in this sector, hence any factor that negatively affects this sector causes serious harm to the economic development of the country of Ghana.

Small Scale Enterprises are crucial contributors to the domestic economy of many nations (UNCTAD 2005). SMEs constitute a large scale of many countries' economies and largely contribute to many countries' GDP. Small and medium-scale enterprises (SME) are important contributors to the development endeavours of developing countries like Ghana. (Acheampong, 2015). Small and Medium Scale Enterprises (SMEs) or Small-Scale Enterprises (SSEs) constitute the backbone of numerous developing countries in the world, with Ghana inclusive (Ayraka, 2020). According to the Registrar General Department acclaimed by Graphic online; ninety percent (90%) of the registered and approved businesses in Ghana fall under small scale industries' jurisdiction. Moreover, based on this data, we can deduce that in the Ghanaian economy, the business that does not fall within the territory of Small-scale industries is just about ten percent (10%). As a result, small scale industries contribute more to Ghana's economy and GDP than other businesses. The Ghana Web news portal undertook a small-scale survey study which furthermore stipulated that small scale enterprises contribute an approximate amount of seventy percent (70%) of Ghana's Gross Domestic Product (GDP) and contributes to about eighty-five percent (85%) of employment in the manufacturing sector of Ghana (Africa Briefing 2020). However, this submission has been paralysed; as numerous SMEs worldwide are battling to pull through during this current predicament of the Covid-19 pandemic (Ayrakwa, 2020).

2. Methodology

For the purposes of this study, the narrative-textual case study method will be adopted. Specifically the

descriptive and exploratory approaches was used to examine the impact of the coronavirus pandemic on SMEs in Ghana.

Published and official documents from various news portals, databases and websites will be used to obtain information for the study. The internet will serve as a medium of access to these websites, news portals and databases. Data was retrieved from the Ghana Statistical Service, the United Nations Development Program (UNDP) and the world bank amongst others. Thus, to say the study will base most of its analysis on secondary data obtained from these sources. The study also will analyze the performance of SMEs before and after the pandemic to give a practical actual view on how the pandemic has affected SMEs in the country.

3. Analysis and Discussions

The impact that the Coronavirus pandemic has had and is still having on many businesses across the world is not a subject that can go on unnoticed. Micro, small and medium-sized enterprises have been seriously affected by the coronavirus pandemic. (Shaffi et al., 2020). The Ghana Statistical Service (GSS) in collaboration with the United Nations Development Programme (UNDP) and the World Bank conducted a survey between 26th May and 17th June 2020; to assess the impact covid-19 has had on firms so far. 4311 firms were interviewed, and their results analysed between this period. Findings from the survey indicated that some of the effects of Covid 19 on SMEs in Ghana are around the areas of closure, employment crises, demand and supply shocks, financial shocks and continuous uncertainty about the future. According to the World Bank (2020), as a result of the pandemic; many SMEs were forced to reduce cost by laying off many workers, reducing salaries of workers and minimising the number of hours' employees work amongst others. According to the business tracker survey conducted by the GSS, UNDP and the World bank; about Forty-two thousand (42,000) workers were laid off and about Seven Hundred thousand (700,000) workers had a reduction in the number of hours they worked. Hence it can be deduced that Covid-19 caused many SMEs to lay off a significant number of their clients, and also the pandemic harmed the financials of SMEs hence making many of them fold-out of business. Furthermore, since SMEs contribute significantly to the GDP of Ghana's economy, a negative effect on SMEs leads to a direct negative effect on the country's GDP and economy.

The graphs below give us a graphical representation of the impact of covid-19 on SMEs in Ghana.

Table 1: Channels through which firms are affected (percent of firms)

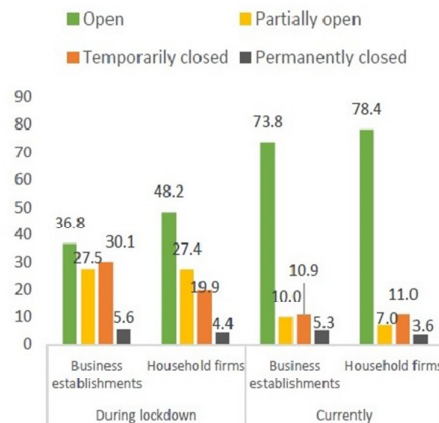
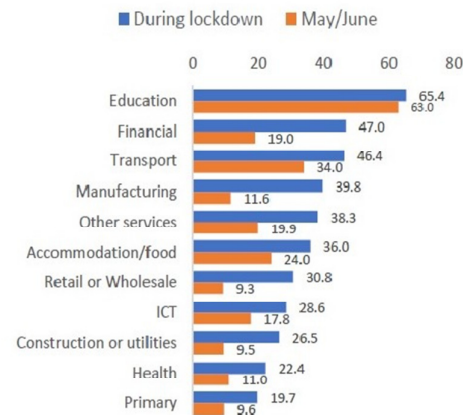
	Operating status during lockdown (April)		Operating status at time of survey (May/June)		Channels				
	Fully open	Closed	Fully open	Closed	Facing decrease in sales	Average decrease in sales	Facing difficulties in finding inputs	Reporting cash flow problems	Facing decreased access to finance
Business establishments*	36.8	35.7	73.8	16.1	91.4	60.6	51.4	75.6	25.4
Household firms	48.2	24.3	78.4	14.6	95.7	66.2	51.2	68.1	29.3
Young SMEs**	49.5	24.2	79.0	10.5	89.9	67.1	48.4	72.1	24.7
Sector									
Manufacturing	36.9	39.8	79.3	11.6	92.7	65.3	47.6	78.2	17.2
Agric & Other Industries	39.4	24.0	73.7	9.5	77.2	43.8	52.2	73.9	29.6
Trade	41.4	30.8	84.1	9.3	93.7	56.6	53.7	82.7	26.2
Accommodation / Food	39.1	36.0	63.9	24.0	91.0	56.7	58.9	67.8	26.9
Other Services	32.7	39.3	66.6	22.2	91.9	65.3	49.7	71.4	27.1
Size									
Micro (1-5)	35.4	37.0	71.6	18.5	92.2	60.9	51.1	75.2	24.7
Small (6-30)	41.9	33.5	82.6	9.1	89.7	60.8	52.3	77.8	26.6
Medium (31-100)	35.1	12.7	66.4	3.5	89.9	62.1	53.7	69.6	34.6
Large (100+)	46.6	20.0	93.3	2.6	45.1	16.0	42.7	47.0	21.9
Age of Firms									
Young (0-4)	42.3	37.9	64.9	17.2	86.5	52.0	58.0	73.5	27.1
Maturing (5-14)	34.8	36.6	73.1	17.1	91.2	60.9	51.9	75.0	23.9
Established (15+)	38.5	33.8	77.0	14.5	92.8	62.1	49.2	76.9	27.0
Other groups									
Informal firms	38.1	35.5	76.1	15.4	90.0	59.2	51.5	78.3	23.9
Exporters	41.8	36.7	62.2	0.0	96.1	68.5	46.5	95.9	11.9

* Based on the 2013 IBES sample. ** Based on SMEs from NBSSI client lists founded after 2013.

Table 2. Employment responses

	Laid off workers		Granted leave of absence		Reduced hours worked		Reduced wages	
	percent Firms	percent Workers	percent Firms	percent Workers	percent Firms	percent Workers	percent Firms	percent Workers
Business establishments*	4.0	1.4	19.1	15.9	35.9	23.2	46.1	25.7
Household firms	3.3	1.6	17.4	8.5	27.1	11.6	40.0	22.8
Young SMEs**	0.0	0.0	30.5	26.9	28.8	23.0	35.6	23.0
Sector								
Manufacturing	4.3	1.0	23.0	10.0	37.4	20.7	54.5	14.8
Agric & Other Industries	5.7	1.0	29.5	12.2	30.6	9.3	39.7	11.7
Trade	2.3	1.2	13.1	15.2	30.2	26.7	40.5	28.0
Accommodation / Food	6.7	5.0	22.6	19.5	23.1	23.2	33.8	30.5
Other Services	4.4	1.3	19.2	20.6	42.5	29.2	50.1	36.3
Size								
Micro (1-5)	2.3	1.4	13.3	10.9	34.6	27.7	46.3	35.0
Small (6-30)	8.9	2.4	31.5	17.7	37.7	23.8	44.8	25.5
Medium (31-100)	2.8	0.5	44.9	30.5	50.6	31.0	58.1	42.5
Large (100+)	3.6	0.4	26.8	4.8	29.3	11.0	11.5	2.5
Age of firms								
Young (0-4)	10.2	2.9	23.1	44.1	37.3	42.4	48.6	45.4
Maturing (5-14)	3.8	1.7	17.1	14.5	36.3	19.0	44.8	23.2
Established (15+)	2.8	0.9	20.8	13.8	35.0	24.3	47.1	25.4
Other groups								
Informal	2.9	1.7	16.8	20.1	38.0	27.7	45.5	30.3
Exporter	2.8	0.3	14.1	3.7	17.9	3.8	66.4	5.4

* Based on the 2013 IBES sample. ** Based on SMEs from NBSSI client lists founded after 2013.

Figure 1. Operating status of firms (percent of firms)

Figure 2. Closures by sector (Temporary or permanent closures, percent of firms)


SOURCE: GSS, UNDP and World Bank (2020)

According to table 1 above, it can be seen that during the period of the lockdown in April, 24.2% of SMEs were closed and by May/June after the partial lockdown was lifted; 10.5% of SMEs had folded up also. Moreover, 89.9% had a significant decrease in sales, and 72% had cash flow and liquidity issues. About 48% of SMEs had difficulty finding inputs for their business and a significant number of SMEs faced decreased access to funding to support their business. The results from the survey conducted by the world bank, UNDP and the GSS indicate that the

Covid-19 pandemic has negatively affected the sales and cash flow abilities of many small-scale businesses and most of them absorbed their capital during the lockdown period hence are left with little or no capital to continue with their business especially the micro-sized small-scale business as evident in table one above because it has the highest percentage of folding out of business by May/June; thus 18.5% of micro-sized SMEs folded out of business. Moreover, since a micro-sized SMEs ranges from a composition of one to five (1-5) employees, we can deduce that many SMEs at their beginning stages folded out of business due to the coronavirus pandemic hence widening the unemployment gap some more.

Furthermore, figure 2 shows a significant number of firms that closed down as a result of the Coronavirus pandemic. Since small scale enterprises form about 90% of businesses in the country, we can deduce that more than half of the businesses closed fall under SMEs. Their collapse is directly tangential to the financial implications brought about by the coronavirus pandemic and as a result, the pandemic has really harmed SMEs in Ghana.

4. Conclusion

All these notwithstanding, the covid-19 pandemic has brought about a massive change in the business world and every other sector and that is to say, many firms appreciated the need for digital marketing and the use for technology more and hence most of the SMEs took their business online during the period of the pandemic. So, in as much as the pandemic has harmed SMEs in Ghana, it has also hastened the appreciation of technology by most of these SMEs and, hence, helps us appreciate change and adaptation.

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THE EFFECT OF IMPLEMENTING THE INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS) ON JORDANIAN FINANCIAL MARKET REPORTING EFFECTIVENESS

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Abstract

Purpose: This paper investigates the effect of implementing International reporting standards in accounting on the quality and effectiveness of financial market reporting in Jordan.

Design/ Methodology: Data is collected through a questionnaire consisting of parts (Demographic, and the variables parts). It is also used to measure the gap between implementing International Financial Reporting Standards (IFRS) and if they are not.

Findings: The results showed that there is effect of implementing International reporting standards in accounting on the quality and effectiveness of financial market reporting in Jordan.

Originality and value: The importance of this study lies in finding the effect of applying the standards in Jordanian markets. What make this study significant is the few studies and scarce recourses that talk about the Jordanian market and the benefits of applying accounting standards in Jordan. Moreover, the findings of this study will be translated into a roadmap and suggestions for the companies of the financial market to help them enhancing their performance.

Keywords: IFRS, Jordan, Industrial sector, Financial Reporting, Amman Stock Exchange.

1. Introduction

Recently, a new paradigm of having a set of unified global standards for the accounting all over the world has become a critical need. Those who support this idea say it will help in growing the investments across borders. They argue that such unified standards will help and save companies from failure and save time and efforts.

The International accounting standards committee (IASC) was established in 1973 for this purpose. It was followed by the International Accounting Standards Board (IASB) in 2001. IASB main responsibility is established, control, monitoring and giving acceptable interpretations of the provisions of International Financial Reporting Standards (IFRs). Amman Stock Exchange (ASE) was found in 1999, as a

governmental authorized institute for trading securities through the securities legislations and law.

Standards of accounting are considered a business communication language that unifies the terminology between accountants in the financial markets. Applying these standards requires prerequisites preparations and ability to adopt them.

Thus, this study tries to explore the challenges that face implementing those standards and to what extent does implementing them affect the performance in the financial markets, to figure out if implementing them will enhance the performance and deserve the costs of implementation or if there is a resistance in the market for having those standards as a law at the work environment.

2. Literature Review

Business expansion is a strategy that recently has been adopted by companies for growing profits and sustained competitive advantage. Such strategies require investment take a place on a global bases, thus, globalized economy is needed. That is why adopting global standards for accounting like IFRs. (Negash, 2008).

Hope et al.(2006) found out that adopting IFRS helps the financial market by forcing them to upgrade the information and accounting systems. Moreover, it helps the markets to enhance their competitive advantage ([Mnifand Borgi, 2020](#)).

In 2012 Ann Tarca found that IFRS is efficient in developing capital markets. Also, the study focused on the importance of IFRS and the factors that affect the implementation of IFRS efficiently. On the other hand, the benefits of implementing IFRS vary according to legal enforcements of each country and the differences between GAAP and IFRS.

Masoud (2014) has explored the main factors that may affect the implementation of accounting standards. The study focused on culture, political system, educational system, legal environment, economic growth, privatization, firm size, liquidity, and the cost of equity capital. Yet in Egypt and Tunisia have experienced the disclosure effect of implementing IFRS (Eljammi et. Al 2020).

Trabelsi (2016) found that there is a cultural resistance that can affect the implementation of accounting standards; the study explored the differences between the developed and emerging countries. The emerging countries proved a lack suitable infrastructure and a lack for the real needs justifying the reform of international harmonization, except the need to display an IFRS to facilitate the access of firms from emerging economies to the developed financial markets. Implementing IFRS results in an improvement in earnings (Benkraiem et al, 2021).

Working in global markets is beneficial for the interest of investors. They can use the information of companies' reports without the need for translation or modification, which will help to expand the market (Alvaro 2011).

Alsaqqa & Sawan (2013) studied the cons and pros of implementing the IFRS in UAE (United Arab Emirates). It was clear that the benefits outweigh challenges and barriers. The IFRS implementation helped in attracting the investors and more effective financial reporting decisions ([Lenormand, G.](#) and [Touchais, L.](#) 2021).

To improve the wealth of the country, dominant ones take into considerations implementing the

international polices, also adopting main global business practices (Harris 2002). The closeness between (IFRS) and GAAP is the hope to find a way for optimal solutions in accounting, developing countries shall take the chance of this globalized standards (United Nations General Assembly, 2004).

The variations among the accounting standards are caused by the environment and same cultures (Radebaugh& Gray 2006), in developing countries there are many challenges that limit the standards implementation, economic differences, cultural differences, shortage of experts, lack of adequate level of education specialized in those standards Chow et al., 1995; Yapa (2003); Zeghal and Mhedhbi (2006).

3. Hypotheses development:

Alawaqleh (2020) stated that Adopting IFRS in Jordan has many benefits such as the rapid process of transferring stocks into cash, least costs, and at a price close to the last trading price. It also reduced risks of investments. So, the following hypothesis was formulated:

H1: There is a relationship between adopting IFRS standards and the quality and effectiveness of reporting in Jordanian financial markets.

4. Operational Definitions:

Independent Variable:

This study depends on the panel analysis of Annual reports of ASE like other studies depended on previous studies like Alawaqleh (2020), (Nguyen, 2020; Barth et. al., 2008).

Dependent Variable:

Effectiveness of the financial reporting system. This will be reflected from the panel analysis for the amendments of using the IFRS versions through the last five years in ASE.

5. Methodology

Sample

There are 59 industrial companies listed on the Amman Stock Exchange for the five last years.

5.1.Suggested Model

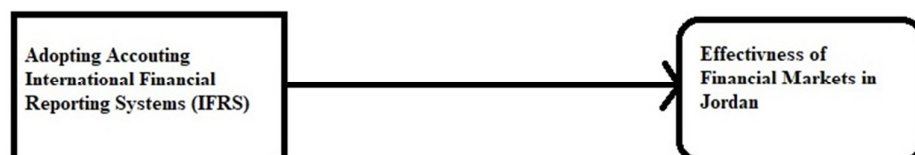


Fig.1: "Suggested study model"

5.2.Sampling and data collection

The population of this study consisted of 59 industrial companies. For the purpose of this research, only financial managers, Marketing Managers, senior accountants were selected. The total number of (150) questionnaires were distributed randomly. (120) valid questionnaires were returned. This constitutes 80% of distributed questionnaires.

5.3. Reliability and validity

To insure reliability Cronbach's alpha was used to measure of internal consistency, which indicates how closely, related a set of items or as a group. The results are shown in the following table

Scale item	Cronbach's Alpha
Cost of IFRS implementation	.827
Systems Compatibility with IFRS	.851
Employees Knowledge of IFRS	.844
Institutional Attitude about IFRS	.790
Over all of the Ind. variable (IFRS Implementation)	.872

Table (1) here: "Reliability of scale"

6. Findings and Discussion

6.1. Characteristics of the sample

Results showed regarding the education level, the results illustrate that (52.2 %) of the sample are holds bachelor (university degree) and higher certificates in accounting which reflects the high level of education in the sample. In addition, it is found that (62.4%) of the sample between 20-29 years old. Remarkably, it is found that (71.3%) of the sample have been working for less than 10 years, which implies that they are still juniors. On the other hand, it's realized that the sample represents few specialized accounting certificates such CMA and CPA with (6.1 %).

6.2. Relative importance of each dimension of EI according to the mean of the sample results

Since the 5-point Likert scale used in this study then the mean equals 3, $(1+2+3+4+5/5=3)$, which means that 3 represents a medium level, less than 3 is a low level, and greater than 3 is a high level.

Variables	Means	Std. deviations	Degree of importance
Cost of IFRS implementation	3.16	.8789	Relatively positive

Systems Compatibility with IFRS	3.55	.8667	Relatively positive
Employees Knowledge of IFRS	3.41	.7844	Relatively positive
Institutional Attitude about IFRS	3.24	.8251	Relatively positive

Table (2) here: "The relative importance of IFRS Items"

It was found that there are positive attitudes toward all IFRS variables since the mean values for all of them above (3). Which indicates that the all the variables are relatively important in this study. Moreover, it was found that "Systems Compatibility" has the highest positive attitudes whereas "Employees Knowledge" has the lowest positive attitudes.

On the other hand, mean and standard deviation of IFRS Adoption dimensions were used to describe attitudes of Accountants and financial Managers toward the expected quality of reporting system in Jordanian Market. It was found that there are extreme positive attitudes toward all dimensions of IFRS Adoption because all means of this variable are above mean of the scale (3).

6.3.Hypotheses testing and findings

H_{0.1}: There is no statistically significant relationship between adopting IFRS standards and the quality and effectiveness of reporting in Jordanian financial markets

Multiple regressions were used to test the proposed hypothesis; the results can be seen in the following tables.

Table (4): Model Summary

Model	R Square	Std. Error of the Estimate
1	.018	.68177

a. Predictors: (Constant), Cost of IFRS implementation, Systems Compatibility with IFRS, Employees Knowledge of IFRS, Institutional Attitude about IFRS.

Table (5): analysis of variance for the research model (ANOVA b)

F	Sig.	Result
1.497	.216 ^a	Reject the null hypothesis

Predictors: (Constant), Cost of IFRS implementation, Systems Compatibility with IFRS, Employees Knowledge of IFRS, Institutional Attitude about IFRS.

b. Dependent Variable: effectiveness of reporting in Jordanian financial markets

In the model summary table, the R Square (0.018), What the results mean is that only (1.8%) of the variance (R-Square) in the sample responses has been significantly explained by IFRS dimensions, which is very low. We can conclude that there are other variables that may affect this relationship.

Table (6) Here: Coefficients

Model	t	Sig.	Result of hypothesis testing
Cost of IFRS implementation	1.216 -1.283-	.225 .201	Fail to reject the null hypothesis
Systems Compatibility with IFRS	-.779-	.436	Fail to reject the null hypothesis
Employees Knowledge of IFRS	1.534	.126	Fail to reject the null hypothesis
Institutional Attitude about IFRS	1.241	.231	Fail to reject the null hypothesis

H_{0.1.1}: There is no relationship between Cost of IFRS implementation and effectiveness of reporting in Jordanian financial markets.

The decision rule is to reject the null hypothesis if the significance level is less than 0.05 as illustrated in table (6). Therefore, we fail to reject the null hypothesis, which means that there is no statistically significant effect of Cost of IFRS implementation and effectiveness of reporting in Jordanian financial markets.

H_{0.1.2}: There is no relationship between Systems Compatibility with IFRS and effectiveness of reporting in Jordanian financial markets.

Again using the same decision rule, we fail to reject the null hypothesis since the significance level is less than 0.05 as shown in table (6), thus there is no statistically significant effect for Systems Compatibility with IFRS on effectiveness of reporting in Jordanian financial markets.

H_{0.1.3}: There is no relationship between Employees Knowledge of IFRS and effectiveness of reporting in Jordanian financial markets.

Regarding the decision rule is to reject the null hypothesis if the significance level is less than 0.05 as illustrated in table (12). Therefore, we fail to reject the null hypothesis, so there is no statistically significant effect for Employees Knowledge of IFRS on effectiveness of reporting in Jordanian financial markets.

6.4.Discussion

The first outcome that can be drawn is the extent of applying IFRS in Jordanian Financial Market. According to the data analysis the mean of the dimensions of IFRS Implementation is relatively moderate; this indicates that the sampling unit of the industrial companies in Amman exchange stock is aware of the essential role of implementing IFRS in their organizations.

According to the equation of Gap analysis ($\text{Gap} = P - E$). Where p is the perceived value and E is the expected one, the following results were revealed:

Table (7) Gap analysis

Dimension	Gap	Perceived reporting quality (P)	Expected reporting quality (E)
Cost of IFRS implementation	-.9054	3.2311	4.1365
Systems Compatibility with IFRS	-.9152	3.1101	4.0253
Employees Knowledge of IFRS	-.2653	3.7467	4.0120
Institutional Attitude about IFRS	-.3473	3.7125	4.0598

Table (5) demonstrates the differences between the expected and perceived values for effectiveness of reporting If IFRS is used and if it's not, the differences are relatively remarkable, this leads to conclude that implementing IFRS makes difference in reporting systems when used.

This indicates that the sampling unit of the study is expecting a high difference in reporting system when IFRS is used than old traditional way.

The final outcome that can be drawn, based on the regression results, we fail to reject the null hypothesis, which means that there is a significant relationship between adopting IFRS standards and the quality and effectiveness of reporting in Jordanian financial market.

7. Conclusions

This research contributes to prior Knowledge literature by establishing a research model to examine the relationship between relationship between adopting IFRS standards and the quality and effectiveness of reporting in Jordanian financial market.

For this purpose 59 industrial companies listed on the Amman Stock Exchange for the five last years were taken as a sample of this research.

The results revealed that there is a significant relationship between adopting IFRS standards and the quality and effectiveness of reporting in Jordanian financial market.

Moreover, the findings imply that adopting IFRS standards has slight influence on the gap between the expected and perceived reporting in the industrial companies listed in Amman Stock Exchange. The top management in each of these companies is encouraged to look for other factors that influence the existing gab.

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HUMAN RESOURCE MANAGEMENT DECENTRALISATION IN PUBLIC SECTOR: THE CASE OF VIETNAM

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ABSTRACT

With the purpose of understanding the decentralization in the field of HRM in the public sector in Vietnam that serves to figure out suggestions for improvement, the paper examines the HRM decentralization between Central Government and Local Government. In Vietnam this includes the five pillars of HRM: recruitment, training, performance management, pay management and HRM planning. The main research method in the paper is desk study. The authors collect legal documents and research relevant to HRM decentralization to illustrate HRM decentralization in Vietnam. The findings indicate that recruitment, selection, and training are the areas that have the highest level of decentralization while the other three dimensions are performance management, pay management and HRM planning which get less decentralized. Local government has not much power in HRM management. They strictly follow the regulations issued by Central Government instead of their practices to meet their unique conditions.

KEYWORDS

HRM, decentralization, Recruitment, Performance management, Pay management.

INTRODUCTION

From the first independence day of The Socialist Republic of Vietnam, Ho Chi Minh President, Communist Party and the government significantly concerned public service and public servants. Since then there have been many reforms in public service to become a more effective administrative system. From 1998 to 2008, the most important legal framework for Vietnam's Public Service is Public Service Ordinance 2008. For further improvement of this arena, in 2008, Public Service Law came into force and replaced Public Service Ordinance 1998 (SRV 2008). Then in 2010, the National Assembly approved the Law of Public Servants in Public Service Agency (SRV 2010). These two laws incorporated new ideas and philosophy of HRM reforms including HRM decentralization. The Public Service Law is considered as a breakthrough in Vietnam's civil service. This is because the norm and idea of a "position-based system" was first introduced in this Law. It can be clearly seen that decentralization in Human resource management is a central issue in the public civil service. This paper then aims to examine the situation and discover the degree of decentralization in Human resource management in the public sector of Vietnam. This discovery could benefit the Vietnamese Government on its journey of public reforms.

HRM includes five aspects such as: recruitment and selection, development management of HRM,

performance management and appraisal systems, payment management and payment and human resource planning. The paper looks at the question of “Whether or not the local government has discretion in HRM?” as the focus of the research.

In addition, the paper also tries to address the question of “Among five pillars of HRM, which receives decentralization from Central to Local Governments?”. Answering these two questions could help the Vietnamese Government reconsider its situation and find the appropriate solutions for better HRM decentralization in specifics and public reform in general.

RESEARCH OBJECTIVES

Due to the importance of HRM decentralization, the aim of the study is to understand the HRM decentralization picture in Vietnam’s civil service.

LITERATURE REVIEW

Definition of HRM decentralization

One of the main issues of public sector reforms that has caused concern to academia is administrative decentralization. Administrative decentralization is a process of transferring power to lower managerial levels (Kolehmainen 2000; OECD 2004, p.16). This process aims to generate a more responsive local government to its population (Ishii et. al 2012). Local governments are those who have close connection with its population. These actors also could effectively address the needs of their localities. Due to these, the more responsive they are, the more effective and efficient they manage.

Administrative decentralization indicates better and more democratic governance (Peters, 2011). However in developing countries there are many challenges for administrative decentralization i.e. the political system and legal background (Kim, 2008). Additionally the administrative decentralization of local government has to be more transparent when asserting discretion. This kind of openness could include any misconducting of their role. This would result in a good human resource management system of the local government. In other words, in the countries where traditional local bosses dominate local governments with low responsiveness to their constituencies, there is a downside where the management of decentralized local government could fall into the human resource management system of the local civil service (Ishii, et.al 2012). However the human resource management aspect of decentralization has received less attention in comparison to the fiscal one (Gramlich 1993, Zhang and Zou, 1998). Human resource management decentralization then has involved a reform agenda in compliance with the decentralized orientation of the public sector.

HRM decentralization can be interpreted in two dimensions; outward and inward. HRM decentralization is the process of transferring HRM responsibility from central management bodies to line departments and agencies (Shim 2001). The process also incorporates devolution within departments and agencies (Shim 2001). This definition includes the two directions of HRM decentralization that are outward and inward focused. Actually, from the angle of public administration, HRM decentralization

usually refers to a transfer from central to local governments. HRM decentralization focuses on addressing the role of local government in the public service as well as its discretion in HRM.

Degree of human resource management decentralization

HRM decentralization can vary due to its degree of transferred power. Depending on the power transferred, HRM decentralization ranges from deconcentration to delegation to devolution (Amanda 2005, p.130). Deconcentration is the least decentralized while devolution is the most decentralized. Devolution is where powers are effectively devolved to the local levels (John & Los 2003). Deconcentration creates minimal change and devolution is for substantial change. Delegation is in the middle. These three levels of decentralization are featured the Table 1 (World Bank 2003, p.189) .

Table 1. Degree of decentralization

Deconcentration (minimal change)	Delegation (intermediate)	Devolution (substantial change)
Provider staff working at local level are employees of and accountable to the center, usually through their respective ministries; central employees compensate for weak local capacity.	<p>Provider could be an employer of central or local government, but the center typically defines pay and employment.</p> <p>Local government has some authority over hiring and location of staff, but is less likely to have authority over firing.</p>	<p>Providers are employees of local government.</p> <p>Local government has full direction over salary levels, allocation and numbers of staff, as well as the authority to hire and fire.</p> <p>An overarching civil service framework covering local governments may still establish standards and procedures for hiring and managing staff.</p>

In deconcentralisation, central government covers the key issues in HRM. Public servant at local level are employees of and accountable to the center through their respective ministries. The central government regulates almost every issue relating to public servants. In delegation, the central government empowers to some extent local governments. Local governments can recruit suitable staff for its operation. However, local governments have to follow procedures and regulation issued by central government. In devolution, local governments have discretion in recruiting, managing and even wages payment management. However, to ensure the national quality of public servants, the national standard, recruitment procedure and evaluation are controlled by central government.

Contents of human resource management decentralization

Recruitment and selection is one aspect of HRM decentralization. Recruitment and selection is the

entrance process used to employ those people who want to work within the public sector. This stage involves selection and allocation of a personnel to a suitable position for a well-functioned organization (Ishii et. al 2012). A wrong selection then could cause an ineffective and dysfunctional organization. Unfortunately, this stage itself is very risky. This is because recruitment and selection, in the developing context, is very corruptible (World Bank 1997) due to the common interference of local bosses (Ishii et. al 2012).

The second aspect of HRM decentralization is development management of HRM. Development management equates training, and training for development (McCourt 1999). Decentralization in training and developing refers to the responsibilities of the local governments in terms of training planning, training courses, training budgets and accelerated training.

The third is performance management and appraisal systems. Performance management with performance assessment as its core is a topical issue in advanced countries (Nunberg, 1995), and now in developing contexts. Many countries have attempted to relate the performance and wages, bonuses as well as promotion. However, performance management in the context of decentralization usually focuses on actors who have regulatory power to set the performance criteria.

The fourth is pay management. Pay management significantly involves setting overall wage rates, incentives (Amanda 2005, p. 135) and salary budget. It is about the way system works for and suits the civil service.

The fifth is human resource planning. Human resource planning is interpreted as a process of matching labour demand of an organization and labour supply in the market (Nankervis et al, 2002,p. 82). This process also involves looking for talented staff.

Vietnam Country Background

Vietnam gained its unification in 1975 and then followed a center-based plan economy. In 1986, there was a necessity of innovation in all aspects of Vietnam's economy. This innovative policy was raised and focused on four main pillars (Le, 2015, p. 103): (1) Diversifying the forms of administration business in agriculture and admitting a family-based agriculture; (2) Erasing centered planning distribution and accepting market price; (3) reforming public finance and bank system as well as carrying out macro policies to put inflation under control; (4) Opening and enhancing the relationship with many other nations and international agencies to improve international relations and international trade.

In order to push the innovation in all aspects, public administration has been considered a core issue in Vietnam's innovative progress. In 2001, Vietnam's Government issued Decision No. 136/2001/QĐ-TTg on the comprehensive program of public administrative reform in the 2001-2010 period. This is the first comprehensive action about public administrative reform taken by the Central Government. In 2011, the Central Government issued the second comprehensive program of public administrative reform from 2001 to 2010. These two comprehensive programs (Master program) of public administrative reform (PAR) defined six main of public administrative reform. These areas of reform included aspects of institutional reform, administrative procedures, mechanism reform, public civil reform, public finance reform and public administration modernization.

It can be seen that the civil reform is an important element that plays a decisive role in the success of the PAR Master Program 2011-2020. To implement this program, on October 18, 2012, the Prime Minister approved the project "Strengthening civil service and civil reform" with the aim of building a professional, responsible, dynamic, transparent, effective public civil. According to this project, public civil reform focuses on ten aspects.

- The first aspect is about the position-based system establishment and the public civil servant plan. The Government has issued many documents to serve as a legal basis for ministries, branches and localities to implement the project of a position-based system. Accordingly, the ministries, branches and localities have to prepare the position-based system project in their organizations and then submit to the Ministry of Home Affairs for appraisal and approval. Up to the beginning of December 2015, the Ministry of Home Affairs has appraised and approved the Scheme on employment status and structure of civil servants of 17/20 ministries (85%) and 53/63 localities (accounting for 84.12%) (Vietnam's Government, 2016, p.8).

- The second aspect is about completion of the system of criteria and titles of public servants. By December 2015, the Ministry of Home Affairs together with the other ministries issued 47 criteria for titles of public servants. In addition, the Ministry of Home Affairs has also actively coordinated with relevant ministries and agencies to finalize and issue joint circulars about codes and criteria for professional titles of specialized officers. Accordingly, there were 30 joint circulars between the Ministry of Home Affairs and other ministries, which issued 44 sets of criteria for 137 civil servants. The Ministry of Home Affairs has responsibility for chairing and coordinating with ministries, branches and localities in commanding its functions. They work together in preparing and submitting to the Government a decree about the criteria for title of leader and manager position in state administrative agencies. This decree includes a specific standardization of manager positions from first-line level upwards (Vietnam's Government, 2016, p.8).

- The third aspect is about raising the quality of recruitment exams and improving the ranking and promotion examinations for civil servants. The Ministry of Home Affairs and some relevant ministries, branches and localities have deployed online software applications for civil servant recruitment examinations.

- The fourth aspect is about renewal of selection methods for departmental leaders and divisional managers and regulations on apprenticeships. There are six ministries, branches and thirty six provinces and special cities to pilot recruitment examinations for the position of departmental and divisional managers. In addition, the Political Bureau issued the Notice No. 202-TB/TW dated 26/5/2015 on the project "piloting the selection of management leaders at departmental and divisional levels." Accordingly, the Politburo basically agrees with the contents of the scheme and assigns the Party Committee for Party Affairs to chair and coordinate with the Central Organization Commission and the Party Affairs Commission of the Ministry of the Home Affairs in receiving opinions from the Politburo to finalize the scheme.

- The fifth aspect is about finalizing the mechanism for evaluating and ranking public servants and officials. The Ministry of Home Affairs has submitted to the Government the Decree No. 56/2015/NĐ-CP dated June 9, 2015 on the evaluation and ranking of cadres and civil servants. This is an

important legal basis for improving the method of assessing and ranking civil servants based on the results of the performance. This legal basis also incorporates the performance and responsibility of leaders of public organizations with the performance of that organization in the annual performance review.

- The sixth aspect is regarding the regime of human recommendation and policy on attraction, detection, remuneration and treatment of talented persons in public-duty activities. The Government has issued regulations on special recruitment for excellent graduates, graduates from respected universities overseas or those who have working experience of 5 years or more. At the same time, the Ministry of Home Affairs has developed a project to attract and source staff from excellent graduates and young scientists. This project was submitted to the Politburo for consideration and approval (in the Politburo's Conclusion 86/ KL-TW dated 24/01/2014).

- The seventh aspect is regarding the reorganization of the management of civil servants. In order to improve discipline in civil service, the Prime Minister issued Directive No. 07 / CT-TTg dated March 19, 2014 on strengthening anti-corruption in the management of civil servants and officials and.

- The eighth aspect is about the policy implementation on downsizing staff for the purpose of to be more efficient. The Ministry of Home Affairs has responsibility to chair this process and coordinate with the concerned agencies in preparing the project of downsizing number of public servants as well as restructuring the ranking of cadres, civil servants and officials.

- The ninth aspect is about training and fostering of cadres, civil servants and officials. Regarding the program and training materials for cadres, civil servants and officials, the Ministry of Home Affairs has cooperated with number of Ministries and Local Governments in compiling and promulgating new training courses. In addition, many ministries have compiled and issued nearly 100 programs and materials to train civil servants according to their work needs, focusing on fostering working skills that are close to practical issues.

- The tenth aspect is about the reform of wage policy, insurance policy, and incentives for people with meritorious services. In the period of 2011- 2015, wage reform and other policies and regimes for the contingent of cadres and civil servants were carried out. Government did some modification on the position allowance for some leading position as well as applied the public-duty allowance regime to cadres and civil servants who receive salaries from the National State budget in the Party's and State's agencies and socio-political organizations from the central to commune levels. Government also increased the rate of bonus for those who have excellent performance from 5% to 10% (Vietnam's Government, 2016, p.8).

- Regulations on social insurance, preferential treatment for people with merit have been paid attention, often amended and supplemented. The system of incentives for people with merit has institutionalized the guidelines, policies of the party and the state for people with merit. This helps to create a favorable legal environment for policies to come into force, create social consensus and contribute to ensuring social justice. Up to now, 97% of the peasants have had a high standard of living equal to the living standard of the population in the same area.

It can be seen that HRM in the public sector receives a considerable amount of interests concern from Vietnam's Government. The aforementioned background raised a need to have more research work

METHODOLOGY

Research question

The above background of HRM in Vietnam's public sector raises a question of "Whether the local government has discretion in HRM or not?" and "Among five pillars of HRM, which receives decentralization from Central to Local Governments?".

In order to address these research questions, authors read relevant documents to assess the decentralization in arena of HRM.

Research process

Decentralisation in HRM in Vietnam has appeared as a complicated issue. Because of this complexity, I firstly do literature review to construct a research framework. This research framework includes five factors of HRM decentralisation consisting of recruitment and selection; development management of HRM; performance management and appraisal systems; payment management; payment and human resource planning. These four dimensions will be measured by using three levels of decentralisation including deconcentration, delegation and devolution. The decentralisation degree of each dimension is measured by using its characteristics discussed by Amanda (2005, p.130).

The desk study is used in this paper. I focus on collecting and analyzing legal documents about HRM management in the public sector of Vietnam. The advantage of this research method is that it is not time-consuming. In addition, the decentralisation in HRM is very much clearly regulated and strictly followed by the government. The researcher also cannot interpret the legal document in his/her own way. By this I mean the objective analyses can be assured. Because of this, this validity of this research method is high.

RESULTS

The Vietnamese administrative system has four layers: central, provincial, district and commune government. However, the civil service management organization (herein is civil service organizations) only appears in the first three layers, with the exception of the commune or grass root level. At the central government, the Ministry of Home Affairs is responsible for the civil service management of the whole country. At the provincial level, it is the Department of Home Affairs that handles the human resource management within the scope of province, while at the district level it is the Division of Home Affairs. Apart from these civil service bodies, there are the ministries, departments, divisions and organizations that have public servants working in who also take part in the HRM management within their responsibility and scope. These organizations are defined as employers (herein is the employing organizations). Decentralization in Vietnamese context not only happens between the different layers of civil service organizations (vertically) but also between the civil service organizations and employing organizations (horizontally).

Recruitment and selection decentralization

The recruitment process starts with job classifications. Job classification involves defining a number of job positions (staff quotas) and titles for each organization at every tier. This action is very much centrally and horizontally taken since it was defined by both civil service organisations and employing organisations¹.

Central Government defines job classification for ministries, ministerial level organisations and Central Government's organisations, the whole administrative system and public service agencies. Based on the job classification of the Central Government, Provincial People's Council decides job classification for People's Council and People's Committee at province, district and commune level as well as public service agencies of People's Committee at every level. At a glance, there is a power transferred in job classification from the central government to local tier. In fact, there is still a full central control from the central government. Every change in job classification requires an approval from the central government.

This central control could limit the job numbers (quota) in each organization but at the same time is risky due to the high corruption in Vietnam. For example, according to the Degree No. 36/2012/NĐ-CP the number of deputy ministers of each Ministry does not exceed four. However, in reality the Ministry of Defense has 10 deputy ministers. Ministry of Police, Ministry of Trade and Industry, Ministry of Finance, and Ministry of Transport each have seven vice ministers. Ministry of Construction, and Ministry of Plan and Investment each have six deputy ministers. Ministry of Agriculture and Rural Development, Ministry of Environment and Natural Resources, Ministry of Labour - Veterans & Society, Ministry of Foreign Affairs and Ministry of Home Affairs each have five vice ministers.

Recruitment planning is another issue in HRM decentralization. Recruitment planning is carried out at the employing organizations with the exception of that at the commune level. At the central level, the employing organizations including Ministries, Ministerial level organization, Agency belonging to Central Government; organisations established by Government and Prime Minister have the right to prepare and approve recruitment plans. In this case these organizations have sub-organisations and these sub-organisations also have rights in recruitment plan making if they meet the requirements of having an independent legal seal and bank account. If the sub-organisations do not meet these two mandatory requirements, their recruitment plan has to be approved by its ascendancies. At local level, the provincial governments have the discretion in recruitment planning while the district level has to be decentralized by the provincial governments. The commune level has no discretion and any decentralization from the upper tiers in every components of the recruitment process.

Recruitment operation, at the central level, belongs to the employing organisations. Each employing organisation, based on the staff quota assigned by Ministry of Home Affairs, recruits its staffs within the procedure and progress issued by The Central Government.

¹ Central Communist Party, Country's president, Standing Committee of The National Assembly and Central Government centrally define job classification. Central Communist Party takes responsibility in job classification for the Communist Party leaders and public servants in the political and Scio-political organisations. Country's President defines job classification for The Office of the Country's President. Standing Committee of The National Assembly provides job classification for The National Assembly Office, State Audit, People's Court, and People's Office of Supervision and Control. However, this study focuses only on HRM decentralization in Administrative system rather the National Assembly, Country's President, Central Communist Party.

At the local level, recruitment operation varies from province to province due to differentiation in the degree of decentralization from provincial tier to district level. An illustration for this situation is the case of Binh Duong and Ho Chi Minh City. In Binh Duong, the Department of Home Affairs organizes the whole recruitment process for public servants at both provincial and district levels. In contrast, due to the higher degree of decentralization, Department of Home Affairs of Ho Chi Minh City is responsible for recruiting public servants for provincial organizations while Division of Home Affairs of each District operates recruitment itself. However it is important to notice that recruitment operation is based on regulation by the central government and Ministry of Home Affairs on every aspect of recruitment. This includes applicant criteria, application package, types of recruitment and recruitment procedure, recruitment board establishment, recruitment advertisement, recruitment examination, and a probationary period. The Ministry of Home Affairs also maintains its full right to audit and review recruitment of every employing organisation.

Interestingly, local governments and employing organisations can recruit and sign contemporary labour contracts with suitable labourers when these organisations are over worked. These labourers are not included in the public servant quota assigned. These employing organisations have to spend their own budget on salary for these contracts.

Human resource training decentralization

HRM training is divided into two categories. The first one is the fixed and compulsory training program applied nationally. The later includes optional training programs by local governments. These programs are designed to meet the needs of local government public servant development.

The first type of training program is controlled by Central Government in terms of curriculum, syllabus and teaching materials. The first aspect is training curriculums. The curriculums for training public servants in each position, leaders and managers throughout the administrative system are centrally controlled. For teaching material writing, based on the curriculums approved by Ministry of Home Affairs, the Central Government transfers this power to the Ho Chi Minh Academy of Politics and Public Administrations², Education Institutions of Ministries and employing organizations as well as Provincial Political Schools (Decree No. 18/2010/ND-CP, Article 9). Training activities are significantly devolved to the educational institutions.

The later area of HRM seems to receive the highest degree of decentralization. The human resource training decentralization in this arena is considered from several aspects ranging from curriculum, teaching materials, syllabus and educational institutions choice.

The second is training budget. There seems to be a deep decentralization in training budget when it is recorded in the Decree No. 18/2010/ND-CP that training expenses are extracted from national budget, local budget and employing organization budgets (Article 23). Actually, the story is quite different when there is an insight in budget procedures. The Ministry of Finance, on behalf of the Central Government, strictly set the expense level for each item in training budget that every organization in the administrative system has to apply (Circulars No. 51/2008/TT-BTC). Although the local authorities and

² This institution split into separate institutions that are The Ho Chi Minh Academy of Politics and The National Academy of Public Administration in 2013.

employing organizations use their own budget, they also have to strictly adapt the expense level centrally set. Another argument is about the expense estimation procedure. At the central, every single expense estimation from all employing organizations has to be approved by the Central Government. Then, Ministry of Home Affairs coordinates with Ministry of Finance to allocate budget for training purposes. At the local, based on both the national and local training plan, the provincial government prepares training expense estimate and submit it to the Central Government for approval. The Ministry of Home Affairs and Ministry of Finance then decide to allocate the national budget in case the local budget cannot cover the training expense. The training budget is incorporated in the yearly local or employing organizations' budget and controlled by the Law of State budget. Even when the local government have a sufficient budget for training, the usage of its budget has to be approved by the central government. The training budget for the district totally depends on the decision of the provincial tier. The lowest level of government has no discretion in allocating budget training. In other words, there is not much decentralization in training budget from the central to every lower tier. This encourages local government to try to make the full use of its budget as it possibly can.

Performance management and appraisal systems

Basically, the Central Government set the performance criteria, time for performance assessment, performance review procedure, and even review or assessment templates/forms (Decree No. 56/2015/NĐ-CP). The Central Government allows the localities and employing organizations discretion to generate separate assessment criteria, which have to be in compliance with and not against that of the Central Government. However, the assessment operation happens in employing organizations. The employing organization has devolution in evaluating their staff. The result of the review in each organization is the final result although this result then has to be handed to the Ministry of Home Affairs for statistical and reporting purposes.

Pay management decentralization

The pay system is generally set by the Central government. The local government depending on its local budget could allocate additional income for public servants. At local level, the provincial government has the right to decide payment for its whole locality according to the central government regulations. The employing organizations have discretion in allocating the savings of the organization such as saving from expenditures as an additional income for their staff. Some special cities can spend their budget on salary as extra payment for some target of public servants after receiving approval from the Central Government. An illustration for this is the case of Ho Chi Minh City (ranked as metropolitan). In order to attract and maintain the talented graduate in the public sector, Ho Chi Minh City issued a project of Graduate Attraction. Excellent students who are accepted by Ho Chi Minh City Government are recruited to work in public organisations. This target group receives a national wage rate as well as extra income from City's budget such as monthly female graduate allowance and monthly allowance for graduates working for remote and poor communes.

Human resource planning

In Vietnam, every employing organization prepares its human resource plan. The civil service organizations at the central, provincial and district tiers have responsibility to plan human resource yearly

at their level. Noticeably, there is no human resource strategy in Vietnam although this task falls on the Ministry of Home Affairs. The Central and Local governments do not have any retire plans. The Government has issued policy for the senior citizens. However, this policy cannot replace the retire plan.

DISCUSSION

From the above results, in Vietnam public sector, HRM decentralization is summarized in the Table 2.

Table 2. Summary of HRM decentralization in Vietnam

Area of HRM	The Central level	Local level		
		Provincial level	District level	Commune level
Recruitment and selection	Define staff quotas, recruitment planning, recruitment operation	Recruitment planning, recruitment operation.	Recruitment planning, recruitment operation (varies)	Not
Training	Training curriculum, training budget	Training budget		Not
Performance management	Assessment criteria,	Assessment operation	Assessment operation	Assessment operation
Pay management	Pay system	Additional income allocation	Additional income allocation	Additional income allocation
HRM planning	HRM planning	HRM planning	HRM planning	Not

Human resource management in the public sector of Vietnam in comparison with other aspects receives to some extent of decentralization. Among five dimensions of human resource management i.e. recruitment and selection, training, performance management, pay management and planning, recruitment and selection has the highest level of decentralization while pay management is the area with the lowest level of decentralization. Vertically, there is a stronger decentralization from the central government to the provincial government than that of from the provincial government to the district government. The commune government appears not to have any discretion in human resource management.

Back to the theory framework in the literature review, HRM decentralization in Vietnam public sector falls in degree of delegation. The central government and local government organize examinations

to choose its own public servants within the number of public servant quota assigned by Ministries of Home Affairs. Basically, public servants in the administrative system in Vietnam enjoy the same payment system. However, local governments and employing organizations can allocate their own budget for extra allowance or extra staff depending on the requirements of their heavy workload. Central governments, local governments and departments prepare their own HRM plan with consideration of national policy and project on HRM issued by the central government and Communist Party. However, when a public servants want to move to a higher ranking during their careers, they have to take a ranking promotion examination organized by the Ministry of Home Affairs or other ministries. The Ministry of Home Affairs organizes national ranking promotion examinations for public servants working in the central government and local governments. The General Department of Customs and General Department of Taxation organizes national ranking promotion examinations for their system with cooperation of the Ministry of Home Affairs. It is unlikely the degree of delegation (discussed in literature review) in Vietnam, local government and employing organizations have full firing rights over their public servants. The only thing controlled by the Central Government is the procedure of firing staff. The local government and employing organisations can dismiss a public servant if this person does not meet the requirement of Public Civil Law. A dismissal has to follow the regulation of the central government. In another words, local government and employing organizations have to strictly follow the national firing procedure as determined by law.

CONCLUSION

Although Vietnam is a developing country and is on the way to public administrative reform, HRM decentralization in this country to some extent is strong. The local governments and employing organizations are empowered strongly in terms of recruitment, training, firing and HRM planning. However there is a strong central control over the payment and evaluation systems.

Although HRM decentralization has become a popular tendency in the world, in a developing country like Vietnam, it includes risks due to high corruption and family culture in the public sector. Family culture in public organizations indicates that leaders of organizations their priority to their relatives when recruiting for the public sector. Due to these two factors, local governments and employing organizations could overuse HRM empowerment to recruit relatives into the public sector as well as money making in recruitment. This practice is causing problems of redundancy in the public sector that leads to ineffectiveness of the administrative system.

This paper aims at providing an understanding about HRM decentralization in Vietnam. However, HRM decentralization does not mean it is effective and efficient system. In addition, since employing desk study, the paper still has several limitations. For further understanding, it is necessary to do more research on the relationship between HRM decentralization and the effectiveness and efficiency of an administrative system in the context of Vietnam.

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