

The study on the relationship between Technology and Employee Performance

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Abstract

In the present modern business world technology has an important influence on employee's job performance where it helps to reduce human error, improve efficiency, increase productivity, and increase the speed of delivery and communication. Even though the usage of technology is a common factor for all organizations, financial institutions mainly the banks are always remained largest stakeholders in technology. Banks have created different delivery channels through investment in technology. The purpose of this research study is to examine relationship between technology and employee job performance in Bank employees. The data was collected from 100 respondents through a structured survey questionnaire. The study utilized the quantitative non-experimental research design, employing the correlational technique to test if there is a significant relationship between the technology and employee job performance in Bank employees. Results revealed a positive correlation between the effects of using technology in the workplace and its employee performance. Therefore, on the strength of the relationship, there is a strong positive correlation. Thus, we could proceed with the generation of the model to identify the effects of technology can significantly influence employee performance.

Key words: Efficiency, Employees performance, Information Technology

1. Introduction.

The nature and level of technology determines the quality and quantity of goods and services produced by organizations. The application of technology has vital importance in every field in all types of organization and is providing maximum services to facilitate their customer and capture maximum market potential. Productions of goods and services in the world today have

been greatly influenced by the systematic application of physical forces through different types of technology. Technology in most organization provided the required forces through various forms by which goods and services were produced. In the present context customers are more knowledgeable and are more aware about market and products than ever. To stay in the competitive business environment and to meet customer needs, organizations have to adopt new practices and new technologies. The concept of globalization and technology have made world a Global Village. As a result, quick interaction, timely and accurate information, cost effectiveness etc. all are became outcomes of technological advancement.

2. Literature Review

According to Dauda (2009) technology may be in the forms of machine, equipment, information and communication made up of knowledge, tools, method and system directed to work in specific manner. The application of technology is an inevitable factor and parameter for all types of business in the present world. Even though the usage of technology is a common factor for all organizations, financial institutions mainly the banks are always remained largest stakeholders in technology. Technologies have been undergoing a drastic transformation over time, there is always new creations and innovation that appear in the market. Technology has considerably modified the traditional concept of banking from merely accepting deposit and advancing loans, to providing much more to their customers in very many aspects. The reason for the high acceptance of technologies in an organization is because technology is one of the most significant elements that related to effective operations management in an organization (Ahmad, 2014). According to Odeh (2019), business transparency and efficiency is found to increase when there is a use of technology in the organization. With the advance and dynamic growth of technologies, how fast the consumers are accepting these technologies depends on a number of factors such as availability of technology, convenience, consumers' adoption of new technologies (Meuter, Ostrom, Roundtree, & Bitner, 2000).

At the initial stage of the introduction of technology in organizations in the past, most of the public perceived that technology will take over the human job in the future; hence it creates a negative perception to the public that the purpose of technology creation is to replace human

jobs. From the employee perspective, they are concerned on would their job being replaced by technology advancement. While on the other hand, few people who had the knowledge about technological efficiency believed that, the existence of technology is to lead the human to another level that life becomes more efficient and convenient. The major problems faced by the employee in a manufacturing company are the adoption of technology creating job stress to the worker, as they perceived that technology will take over their current job. Other than that, the process of adopting new technology in an organization will create many problems for worker's day-to-day processes, as they have to accommodate and force to use new technology in their task, the learning cost of new technology will be much higher at the beginning.

Based on past research, there is very limited research related to technology adoption in an organization affecting the employee's job performance and leads to job insecurity. However, some researchers notice there is a relationship between these variables. As mentioned by Hampel and Martinsons (2009), adopting new technology will change the organizational policies and strategies. In most of the organization, the challenges they faced is generated by the advanced technology, competition in the industry, improving employee efficiency, new leadership, and management (Madsen et al., 2005).

It is important to investigate the adoption of technology by the employee within the organizations. This is because if there is no acceptance among the employees, the desired outcome or benefit of technology adaptation would not be realized and the organization may have to evacuate technology (Talukder, 2012). Most of the time, people tend to resist or refuse new changes unless they can be convinced that the changes can benefit them (Ajzen, 1991). Therefore, the organization needs to motivate the employees to accept the changes and adopt the new technology, where the organization should give either intrinsic or extrinsic motivation to employees for better performance (Dauda & Akingbade, 2011). According to Imran, Maqbool, and Shafique (2014), the adoption of new technology will enhance employee performance when they use technology for the benefit of the organization with ethical value. He further explained that the advancement of technology helps to reduce the workload of the employees and human effort. It is clear that advanced technology helps to reduce manpower in the industry but there is

some problem associated with advanced technology. First, techno stress is one of the factors that will reduce the employee's performance and it will contribute a high level of job insecurity. Some researchers also mentioned that the implementation of advanced technology within the organization will create techno stress to the organization members. (Ho-Jin, & Cho, 2016). Techno stress occurs when an employee is lacking the need for skills and competencies to performing the task. It can be defined as an individual adaptation of the reaction exceed the psychological and physical demands (Park & Im, 2012). Other than that, techno stress may lead to job insecurity where the employee is fear or anxious about losing their job or being replaced by the new adopt technology (Ho-Jin, & Cho, 2016). Thus, the organization needs to study what are the most suitable technology need to adopt before implementing it. The financial industry will be able to understand how to utilize the technology acceptance model to evaluate the effects on the workplace by using perceived usefulness and perceived ease of use to measure the relationship of technology affects employee's job performance. Other than that, the study also helps organizations to understand whether it is worthwhile to adopt new technology in the workplace without increasing the stress levels of workers, decrease the workload, and encourage employees to work more efficiently.

Technology Adoption

Technology adoption is defined as the choice or decision, by individual or organization, to acquire and implement a new innovation technology. Both individuals and organizations tend to adopt new technology when there are some potential benefits that could increase their market competitiveness. The adoption of technology not only depend on organizational strategies, policies, and action, but it also relies on the employee's attitude. Nevertheless, technology adoption requires strong managerial efforts and commitments in the organization (Achieng & Jagero, 2014). Hence, organizations require to provide sufficient facilitating conditions such as technology and resource support which would eventually influence them on using new technology. Generally, people tend to resists or refuse to adopt the changes, unless they can be convinced that the changes are beneficial to them. However, many studies are failed to carry out reliable behavior measures that help to explain technology acceptance or rejection (Davis, 1989).

Davis (1989) proposes that user motivation can be explained by 3 factors: Perceived Usefulness (PU), Perceived Ease of Use (PEU), and attitude toward using the technology. In his proposal Davis (1989) proposes that, attitude-behavior towards technology is the main factor that determines whether the user will actually adopt or reject technology. In addition, the important factors that affect the attitude are perceived usefulness and perceived ease of use (Swanson, 1982). Perceived usefulness is defined as user perceived that the function of the adopting technology helps to improve or enhance their job performance (Schultz & Slevin, 1975). Perceived ease of use is defined as the user-perceived learning for using particular technology shall be effortless (Tornatzky & Klein, 1982). The success of the technology acceptance model has become a very popular study cited in most of the research that studies the user acceptance of technology (Lee, Kozar & Larsen, 2003).

Employee Job Performance

According to Motowidlo, Borman, and Schmidt (1997), job performance can be defined as the total expected quality and value in a particular job from an employee's behaviors carried over a standard period of time. Kahya (2009), explains that, there are two distinct dimensions of work behaviors in job performance which are contextual (citizenship) performance and task performance. According to (Werner, 2000), contextual performance is described as the employee's effort that is not directly related to their main job function but their efforts are important as they support the organizational, social, and psychological environment that serves as the critical catalyst for job activities and processes. Whereas, the task performance is defined as the employee perform the job activities are formally recognized as part of their jobs and the activities that will be contributed to the organization (Borman & Motowidlo, 1993). Therefore, It is an important factor that Employee' job performance is significant for the organization as their performance and contribution will be affecting the profitability, business success, as well as achieve competitive advantages of the organization, whereas inefficient job performance will destruct the overall organization productivity, profitability, and effectiveness.

Performances are also important for individuals as the accomplishment of a job and performing tasks at a high level can be a source of satisfaction (Muchhal, 2014). The employee who is low

performance and fails to achieve organizational goals might be experienced as dissatisfaction or personal failure. There might be exceptions for those high performers as they will have a better career opportunity and get promoted more easily within the organization than the low performers (Van Scotter, Motowidlo, & Cross, 1996).

Technology Adoption and Employee Job Performance

According to Imran et al. (2014), the employee's performance will be influenced by technological advancement. The recent research study on Technology and Workplace emphasis that organizations should motivate employees to increase the adoption rate of technology in the organization (Talukder, 2012). Most of the studies have repeatedly proved that appropriate technology adoption will have a positive relationship with the employee's performance. However, the organization should motivate employees by providing training and skill development activities, so that employees can rapidly acquire new knowledge and competencies that require by advanced technology. Some researchers also mentioned that the implementation of advanced technology within the organization will create technostress to the organization members. (Ho-Jin, & Cho, 2016). Technostress occurs when the employee has a low level of skill and knowledge to perform the task which will have a significant influence on job performance and productivity, as well as role stress. Through the prior research, the cause of technostress will directly influence the achievement of the organization (Im & Han, 2013).

3. Research Question

This study examines relationship between technology adoption and Employee performance in the financial Institutions in Batticaloa District.

1. What is the level of technology adoption in the financial Institutions in Batticaloa District?
2. What is the level of Employee performance in the financial Institutions in Batticaloa District?
3. What is the relationship between technology adoption and Employee performance in the financial Institutions in Batticaloa District.

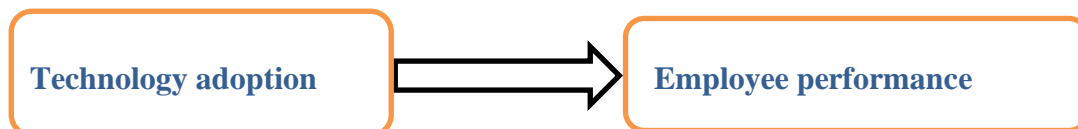
4. Objective of the Study

This study has three research objectives

1. To measure the level of technology adoption in the financial Institutions in Batticaloa District.
2. To measure the level of Employee performance in the financial Institutions in Batticaloa District.
3. To determine the relationship between technology adoption and Employee performance in the financial Institutions in Batticaloa District.

5. Conceptualization

The conceptual approach for this research study is based on a broad theoretical framework and the study examines the relationship between technology adoption and Employee performance in the financial Institutions in Batticaloa District.



6. Methodology

6.1 Study Setting

For the study of the relationship between technology adoption and Employee performance, data were collected based on primary and secondary sources. Primary data collected by issuing questionnaire and secondary data collected from past research papers, literature, reports, and internet.

The data was collected from a sample of 100 Employee from financial institutions in the Batticaloa District by using a survey questionnaire on a simple random sampling method from the staff grade officers.

Received: 21 Nov. 2022

Revised: 15 Dec 2022

Final Accepted for publication: 26 Dec 2022

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6.2 Unit of Analyses

The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage. This study is concerned the unit of analysis will be the individual staff of selected financial institutions in the Batticaloa District.

6.3 Time Horizon

This study was a cross sectional one in the time horizon, because data were collected in a one single time from the respondents.

6.4 Sample Size, Sampling Distribution

Sample selection is very significant process in conducting a research because in any research it is very difficult to examine entire research area or whole population. At the same time, when select a sample researcher should take more care because the findings taken through analyzing the sample is common for whole population. In this research, researcher considers the financial institutions in the Batticaloa town in the Batticaloa District. There are 286 employees working in the staff grade in the selected financial institutions. Out of these staff, only 100 were selected as sample to conduct this research by using simple random sampling method.

6.5 Method of Measurement

Likert scale of 1-5 which ranges from “Strongly Disagree” to “Strongly Agree” was applied in the questionnaire to evaluate responses. The numerical values was given for the purpose of quantification of variable as follows:

1. Strongly disagree
2. Disagree
3. Neither Agree nor Disagree
4. Agree
5. Strongly agree

6.6 Data presentation, analysis and evaluation

Data was presented using tables, and pie charts. Meanwhile Inferential and descriptive analysis was used for data analysis. Hence under the descriptive analysis, mean and standard deviation was derived from the analysis of samples. In inferential analysis, correlation was applied.

Statistical package of SPSS 21.0 was used for this purpose. Furthermore, criteria shown in table was adopted to evaluate mean values.

Table 6.1 Evaluation criteria for mean values

Range	Decision Level
$1 \leq X < 2.5$	Low level
$2.5 < X < 3.5$	Moderate level
$3.5 < X \leq 5.0$	High level

Source- Formed for this research

7. Data presentation, analysis and Findings

7.1 Personal Information

7.1.1 Gender perspective of staff

Among the total respondents, 68% of respondents were found to female category, and remaining 32% represents are male category.

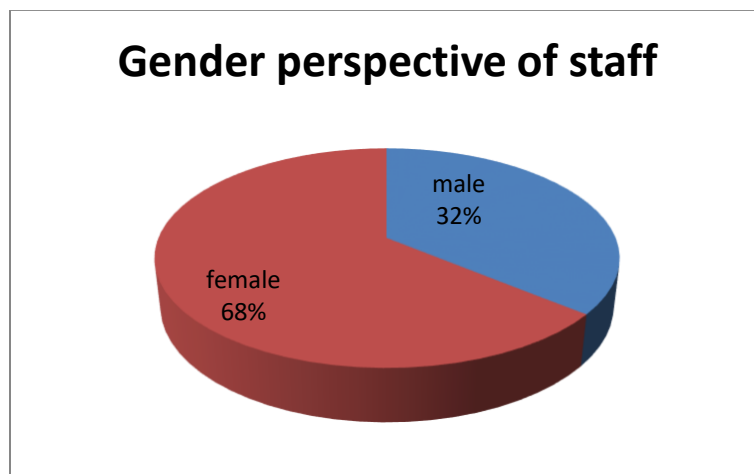


Figure 7.1 Gender perspectives of staff

7.1.2 Age distribution of staff

Received: 21 Nov. 2022

Revised: 15 Dec 2022

Final Accepted for publication: 26 Dec 2022

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Age distribution was categorized into three classes. Among the total respondents, 46% of respondents were found in between to 25 – 35 years old, 33 % were founded in between 36 to 45 years of age, and remaining 21% represents are above 46years.

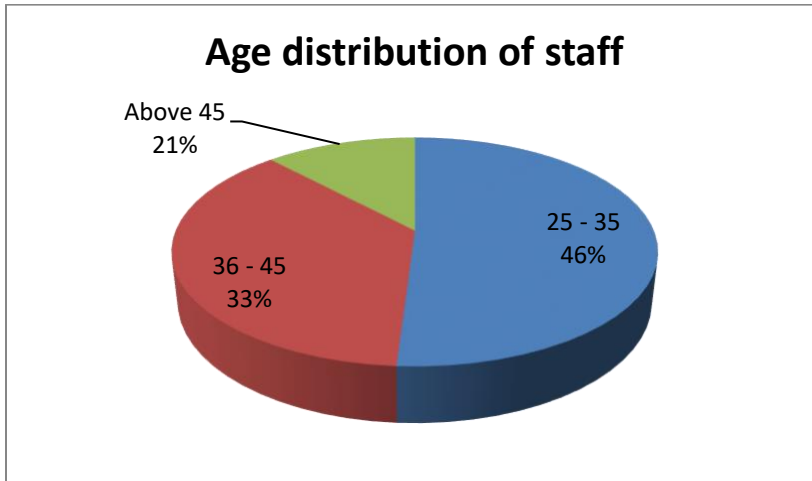


Figure 7.2 Age distribution of staff

7.1.3 Level of Educational Qualification of Staff

The educational level of respondents were classified by four categories from the questionnaire, 10% of the respondents had G.C.E Ordinary level qualification, 33% of the respondents had G.C.E Advanced level qualification, and 30% of the respondents had diploma qualification and remaining 27% of them were found with degree and higher diploma qualifications.

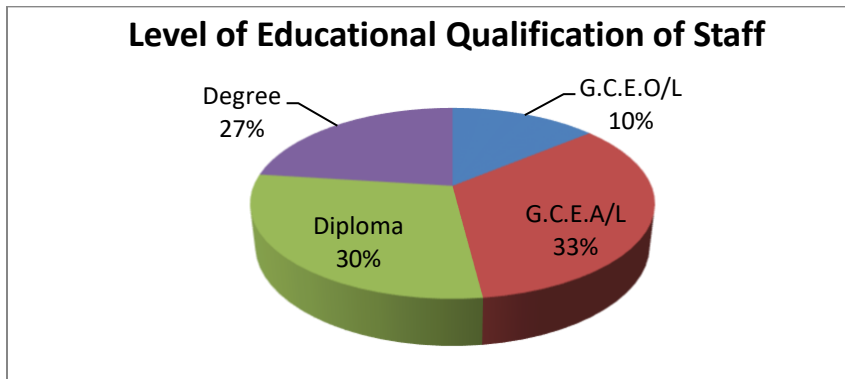


Figure 7.3 Level of Educational Qualification of Staff

7.1.4 Level of Work Experience of Staff

Received: 21 Nov. 2022

Revised: 15 Dec 2022

Final Accepted for publication: 26 Dec 2022

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Experience has been divided into four categories and 15 % of the respondents with less than 1 year working experience, 42% were 2- 5 years working experience, 33% were 6-10 years working experience, 10% and were more than 10 years working experience.

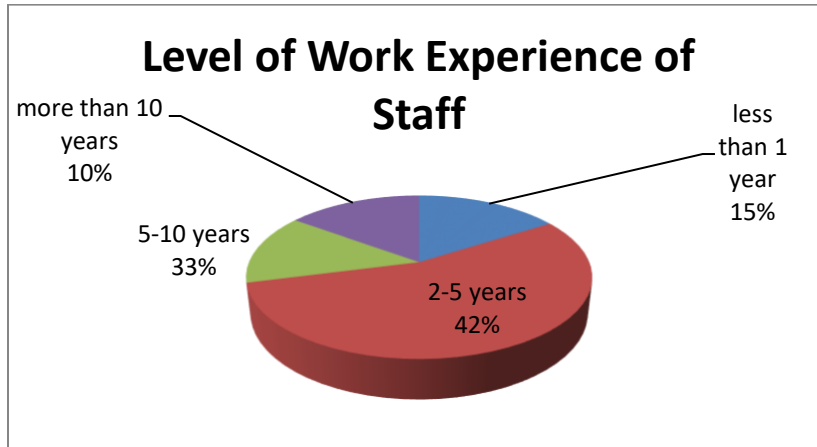


Figure 7.4 Level of Work Experience of Staff

7.1.5. Descriptive statistics

This section presents mean and standard deviation for the variable of technology adoption. Mean values have been distributed based on Likert’s scale of between 1-5 which represent “Strongly Disagree” to “Strongly Agree”. Meanwhile mean values were evaluated based on already established evaluative criteria which range from “Low level” to “High level”.

Table 7.1 Mean and standard deviation for the variables of technology adoption

Variables	Mean	Standard Deviation
Technology adoption	3.97	0.37

As presented in Table 7.1, the mean value for technology adoption was more than 3.5, which fall under the evaluative category of high level. It could be noted that the mean value for technology adoption is 3.97 which is more than the moderate level as noted above, reveals that there is high level of technology adoption in the selected financial institutions.

Received: 21 Nov. 2022

Revised: 15 Dec 2022

Final Accepted for publication: 26 Dec 2022

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Table 7.2 Mean and standard deviation for the variable of Employee performance

Variables	Mean	Standard Deviation
Employee performance	3.61	0.46

As highlighted in Table 7.2, the mean value for Employee performance was more than 3.5 and said to be high level. It could be noted that the mean value for Employee performance is 3.61 which is more than the moderate level as noted above, reveals that there is high level of Employee performance in the selected financial institutions.

7.1.6 Correlation analysis

Correlation values were found to determine the relationship between technology adoption and Employee performance. It has been presented in the table 7.3.

Table 7.3 Correlation between technology adoption and Employee performance.

Variables	Employee performance
Technology adoption	0.763*

* Correlation is significant at the 0.05 level (2-tailed)

As in table 7.3, the correlation value is positive and the value has been significant at 5% significant level ($P < 0.05$). This reveals that technology adoption is positively correlated with Employee performance. Hence there is a positive relationship between technology adoption and Employee performance.

technology adoption and Employee performance in the financial Institutions in Batticaloa District

The statistical mean of technology adoption scale showed employees willingness and positive attitudes towards increasing and promoting technology adoption. Thus, the scale can be applied to ascertain employees' attitudes and behaviours regarding technology adoption for

organizational success. The results of this study also show that technology adoption scale is significantly and positively correlated with Employee performance.

8. Conclusion

The results indicate that technology adoption contributes to support for enhancing employee performance. The findings of this study reveal that employees of financial institutions can develop positive attitudes and behaviours towards technology adoption and Employee performance. Higher the effectiveness of the technology adoption leads to higher the level of Employee performance for organizational success.

References.

1. Achieng, D. O., & Jagero, J. A. (2014). Management Support in Adoption of Computer Integrated Model in Financial Forecasting. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 4(2), pp. 170-179.
2. Ahmad, S. (2014). Technology in organizations. *International Journal of Research in Business Management*, Vol. 2(7), pp. 73-80.
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, Vol. 50(2), pp. 179-211.
4. Borman, W. C., & Motowidlo, S. M. (1993). Expanding the Criterion Domain to Include Elements of Contextual Performance, in N. Schmitt & W. C. Borman (Eds.), *Personnel Selection in Organizations*, p. 71-98.
5. Dauda, Y. A., & Akingbade, W. A. (2011). Technology innovation and Nigeria banks performance: The assessment of employee's and customer's responses. *American Journal of Social and Management Sciences*, Vol. 2(3), pp. 329-340.
6. Dauda, Y. A. (2009): Managing Global Technology Innovation and Work System Dynamics: Implication for Employment Relations in Nigeria 15th International Industrial Relations World Congress, Sydney, Australia. Monday 24th-Thursday 27th August 2009.

7. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, Vol. 13(3) pp. 319-340.
8. Hampel, P. S., & Martinsons, M. G. (2009). Developing international organizational change theory using cases from China. *Human Relations*, Vol. 62(4), pp. 459-499.
9. Ho-Jin, P., & Cho, J. S. (2016). The influence of information security technostress on the job satisfaction of employees. *Journal of Business and Retail Management Research*, Vol. 11(1), pp. 66-75.
10. Im, M., & Han, G. (2013). An investigation of causes and effects of technostress creators, *The Journal of Digital Policy & Management*, Vol. 11(10), pp.31-45.
11. Imran, M., Maqbool, N., & Shafique, H. (2014). Impact of technological advancement on employee performance in banking sector. *International Journal of Human Resource Studies*, Vol 4(1), pp. 57.
12. Kahya, E. (2009). The effects of job performance on effectiveness. *International Journal of Industrial Ergonomics*, Vol. 39(1), pp. 96-104.
13. Madsen, S. R., Miller, D., & John, C. R. (2005). Readiness for organizational change: do organizational commitment and social relationships in the workplace make a difference. *Human Resource Development Quarterly*, Vol.1(2), pp. 213-33.
14. Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, Vol. 64(3), pp. 50-64.
15. Motowidlo, S., Borman, W., & Schmidt, N. (1997). A theory of individual differences in task and contextual performance. *Human Performance*, Vol. 10, pp. 71-83.
16. Muchhal, D. S (2014). HR Practices and Job Performance. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 19(4), 55-61. <http://dx.doi.org/10.9790/0837-19415561>.
17. Odeh, M. H. (2019). Factors Affecting the Adoption of Financial Information Systems Based on UTAUT Model. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 9(2), pp. 108-116.

18. Park, C., & Im, M. (2012). The impact of technostress on information security perception and organizational outcomes, *The Journal of KIIT*, Vol. 10(1), pp. 97-109.
19. Talukder, M. (2012). Factors affecting the adoption of technological innovation by individual employees: An Australian study. *Procedia-Social and Behavioral Sciences*, Vol. 40, pp. 52-57.
20. Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management*, Vol. 29(1), pp. 28-45.
21. Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. *Journal of Applied Psychology*, Vol. 81(5), pp. 525.
22. Werner, J. M. (2000). Implications of OCB and contextual performance for human resource management. *Human Resource Management Review*, Vol. 10(1), pp. 3-24.