

Acceptance of Technological Changes and Job Performance among Administrative Support Personnel in the Government Offices in Maran, Pahang Darul Makmur

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ABSTRACT

The study was conducted to develop an understanding of the role of acceptance of technological changes as a prediction of the administrative support personnel job performance in the government offices. The rapid changes in technology have led to many challenges and changes that affect all levels of management in an organization. Employees might experience difficulties for not being able to cope with the changes and it is feared that such behavior can influence their job performance. Using a survey method, data were gathered from 101 administrative support personnel employed in the government offices in the district of Maran, Pahang Darul Makmur. The Davis, 1989 Technology Acceptance Model was used to determine the relationship between Perceived Ease of Use and Perceived Usefulness of technology and job performance. Result shows that the issues in acceptance of technological changes are positively and significantly correlated with job performance. The study concludes that technological issues investigated were very important in ensuring higher acceptance of technological changes, thus improve the performance of the employees in the government offices.

Keywords: *perceived ease of use, perceived usefulness, job performance*

Introduction

Change is an inevitable and inalienable part of human life. The process of change is a phenomenon that takes place in organizations large and small. The changes in competition, technology, and the ongoing development and evolution of organizations are just some of the issues contributing to organizational change (Barnett, 2005; Morgan, 2001). It is also essential to an organization's survival as it leads to new ideas, technology, innovation and improvement. The rapid growth in the use of information systems has led to changes in the workflow of both the private and public sectors in Malaysia (Ramlah, Nor Shahriza & Mohd Hasan, 2007). The organization and its people must break old habits and develop new behaviors and processes that could make them more effective and efficient. As such, organizations invest in technology with the expectation that it will contribute to performance, and members of the organization must use technology for it to make a contribution. However, according to Gallivan (2004), not all employees can cope with rapid changes of new technology in organization and it is feared that such behavior can influence job performance. The research further stated that the investigations of users' acceptance of information technology were crucial as the main purpose of the technological inventions was designed to support or enhance an individual's task performance. Due to this factor, the researcher believes that it is imperative to understand the effect of technological changes on job performance among the employees. The job performance of the respondents in this study was measured through their communication skills and technical skills (Goldstein, 1988). Since research has proven that employees' job performance is linked to the performance of an organization, it is of importance to both the organization as well as the employees to keep track of their performances in order to ensure that the objectives of the organization are met.

In this study, the Technology Acceptance Model (Davis, 1989) with the two major characteristics of perceived ease of use and perceived usefulness was used as a basis to determine the relationship between the acceptance of

technological changes and job performance among the administrative support personnel in the government offices in the district of Maran, Pahang Darul Makmur. It is hoped that the findings could benefit the existing and potential IT users of this area as no research has been conducted on user's acceptance of technological changes in this location. It is hoped that the findings of this study can be used to improve the job performance through better understanding on the issues of acceptance of technological changes and how these issues affect the overall performance of the organization.

Literature Review

The acceptance and effective utilization of new technologies and information systems by individuals and organizations are areas of research that have gained importance in recent years. The issue on lack of user acceptance and adoption of new technologies has long been an impediment to its implementation success. Thus, researchers and practitioners alike have made these issues a high priority item (Davis, Bagozzi, & Warshaw, 1989; Venkatesh & Davis, 2000; Venkatesh, Morris, & Ackerman, 2000). As indicated by Al-Gahtani (2004), the changes in information technologies has been the single biggest drive impacting organizations during the past decades, therefore, the acceptance of information technology which leads to adoption and use in the workplace is a necessary condition for effectiveness and competency in the information age.

Venkatesh and Davis (2000) defined user acceptance of technology as the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support. The statement is supported by Bhattacharjee and Premkumar (2004) which stated that user beliefs and attitudes are the key perceptions driving information technology usage and adoption in an organization. Though an element of uncertainty exists in the minds of the users as newer technologies are generally perceived as complex, users will subsequently form an attitude and intention towards trying to learn to use the technology (Ndubisi, 2005). In this study, the Technology Acceptance Model or TAM (Davis, 1989) was selected as it is one of the most widely used research constructs in the study of information systems utilization.

Perceived Ease of Use as an Indicator of Technological Acceptance

Davis (1989) defined perceived ease-of-use as the degree to which a person believes that using a particular system would be free of effort. Venkatesh et al., (2000) further explained that perceived ease of use or difficulty of using technology is expected to have an important influence over the users' decisions to adopt or reject a new technology. Users believe that a given application is useful but they may, at the same time, believe that the technology is too difficult to use and that the performance benefits of usage are outweighed by the effort of using the technology.

Perceived Usefulness as an Indicator of Technological Acceptance

Perceived Usefulness was defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). People tend to use or not to use a technology to the extent they believe it will help them perform their job better. Specifically, the link between perceptions of usefulness and attitude toward using a new technology has shown strong relationship with performance (Davis et al., 1989). Given these strong results, it could be concluded that an individual's attitude toward using a technology in the workplace reflects instrumentality and intrinsic motivation to use technology.

This study also aimed to measure the job performance of the administrative support personnel employed in the government offices. Most government offices have their own performance evaluation procedures depending on the job specifications of the employees. Rajkumar (2002) defined job performance as the degree of accomplishment of a task that makes up an individual's job. The job performance assessment is important as it provides information for managerial decisions on compensation, promotion, and training as well as a basis for improving performance or recommending termination (Rajkumar, 2002). Generally, the organization sets up a list of objectives for the employees to complete within a designated time frame and they become the criteria for effective job performance. In relation to the statement, Goldstein (1988) mentioned that the measurement of job performance plays an important role in information systems research. A well-constructed performance measure can be used to evaluate effectiveness of the personnel using the information technology systems or to measure the impact of changes to the organi-

zation. Therefore, in meeting the rapid changes in technology, the independent variables measured in this study used the updated version of Goldstein (1988). However, the job performance of the respondents was measured on the elements of technical skills and communication skills only as they are more related to the job title of the respondents.

Technical Skills as an Indicator of Job Performance

Administrative support personnel have responsibilities that often change daily with the needs of the specific job and the employer. Hastings (2001) stated that among the technical jobs of administrative professionals are performing financial functions, computer hardware and software responsibilities, and assuming supervisory roles depending on the size of the organization and type of business. Due to the rapid growth and development of technology and use of information in business, administrative support professionals must be proficient at understanding and utilizing technological innovations and perform higher administrative and informational functions than they have in the past. The mastery of technical skills with regard to the administrative support personnel job should not be neglected especially when it involves learning or using new technology or software. In fact, administrative professionals should be proactive in the areas of informational and technological literacy in order to be successful in this field.

Communication Skills as an Indicator of Job Performance

According to Payne (2005), as organizational structures flatten, corporate demand for employees skilled in communication is on the rise. Organizations are working to recruit, promote, develop, and train leaders who connect with employees emotionally and have verbal and coaching skills. A study conducted by Morreale, Osborn and Pearson (2000) stated that numerous studies querying graduates, employers, and faculty members show communication skills as one of the top areas needing improvement among employees and new graduates. This shows that communication skill is becoming a key indicator to employees' job performance.

The relationship between Acceptance of Technological Changes and Job Performance

According to Hastings (2001), administrative professionals are required to use a variety of technologies and software applications in the performance of their job functions. Although some innovative technologies like computer pens and personal digital assistants or advanced software such as voice recognition are not being widely used by the Malaysian government offices and administrative professionals at present, Hastings (2001) suggested that these technologies could improve the performance of the users' job. As suggested by Davis (1989), Lo and Darma (2000) also found that there are reliable indicators of the actual level of employees' acceptance of information technology usage and their organizational performance.

Conceptual Framework

In relation to the literature review discussed above, a conceptual framework as shown in Figure 1 has been developed. This research recognizes the independent variables, namely the perceived ease of use of technology (PEOU) and perceived usefulness of technology (PU) which make up Davis's (1989) Technology Acceptance Model (TAM) and it proves that these two variables have an influence on the dependent variable, which is the job performance of the respondents, focusing on the elements of technical skills and communication skills as they are more related to the respondents' job position (Goldstein, 1988).

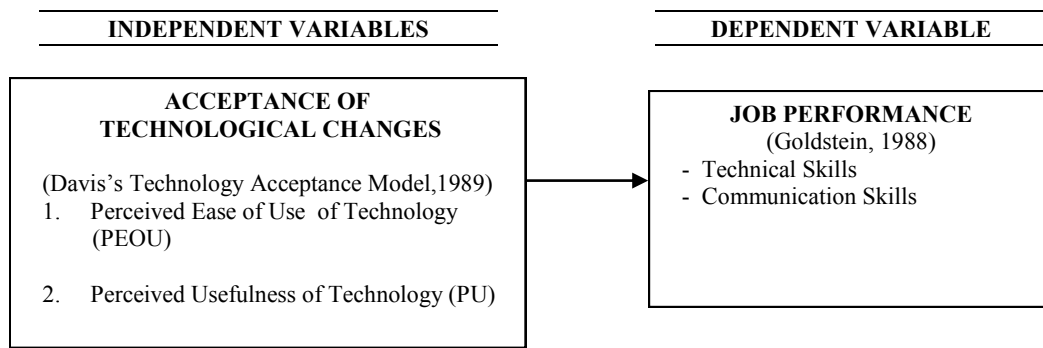


Figure 1: Conceptual Framework on the Relationship between the Acceptance of Technological Changes and Job Performance among Administrative Support Personnel Employed in the Government Offices in the District of Maran, Pahang Darul Makmur.

Methodology

The sampling frame of forty-one government offices in the district of Maran, Pahang Darul Makmur was obtained through the Land and District Office. The population consisted of 131 administrative support personnel employed in all the government offices. However, only 101 respondents were involved in the actual study as 30 respondents took part in the pilot test. No sampling technique was applied in this study as the number of population was rather small. All identified personnel were used as respondents. The sample size was calculated by allocating 20 observations for each variable tested in the study. The sample size was used to strengthen the significance of findings and to reduce the effect of size (Hair, Anderson, Tatham & Black, 2006). The sample size determined for this study was 60 respondents. The unit of analysis in this study was the government employees working as administrative support personnel in the district of Maran, Pahang Darul Makmur with the job titles of Administrative Assistant (Secretarial) (N17), Administrative Assistant (Clerical) (N17), and Typist (N11).

The researchers used a set of questionnaires which was adapted and modified from instruments from previous research. The questionnaire consisted of four sections, namely Section A (Demographic), Section B (Davis, 1989 TAM), Section C (Goldstein, 1988 Job Performance). The types of questions used in this study were closed-ended with a fixed-range of possible answers. Partially completed questionnaires and questionnaires that did not meet the requirements for the statistical analysis were rejected. A five-point Likert-scale basis was used in Section B and C with the values ranging from 1-strongly disagree to 5-strongly agree.

Table 1: Cronbach's Alpha Scores for the Acceptance of Technological Change and Job Performance for the pilot test (n=30) and actual study (n=75).

Scales	Pilot Test Reliability Coefficient (Alpha) (n=30)	Actual Study Reliability Coefficient (Alpha) (n=75)
Acceptance of Technological Changes	.834	.872
Job Performance	.856	.761

Statistical Package for Social Sciences (SPSS) Version 14.0 was used for analyzing the data gathered. The researcher used descriptive statistics and inferential statistics in analyzing the data. The data analysis was performed in two stages. The initial stage of the analysis involved conducting an exploratory data analysis (EDA) to examine the data before any specific statistical procedures were used to analyze them. The analysis involved descriptive statistics, which included frequencies, descriptive statistics, standard deviation, skewness, kurtosis, percentile, range, minimum, maximum, mean, median and mode. The second stage involves using various statistical procedures to answer the research questions. The inferential statistics used in the second stage of the analysis involved bivariate correlation analysis. The bivariate correlation analysis used the Pearson Product Moment Correlation

Coefficient (Pearson ‘r’) to measure the relationship between acceptance of technological changes and job performance.

Findings and Discussion

The researchers received 75% of total usable questionnaire (n=75). The majority of the respondents were female, in the age group of above 45 years old and have more than 20 years of working experience. They were mostly holding the N17 (Clerical) post and for the majority of them, SPM was the highest qualification they received.

Acceptance of Technological Changes

RQ1: What are the administrative support personnel’s perceptions about the perceived ease of use of technology?

Table 2 below shows the overall mean score for perceptions about the perceived ease of use of technology among the respondents. The result indicates a rather high agreement among respondents on the perceived ease of use of technology with the mean score of 4.07 on a 5-point scale and the standard deviation of .50.

Table 2: Overall Mean Scores for Perceived Ease of Use of Technology (n=75)

	N	Min	Max	Mean	Std. Dev.
Perceived Ease of Use	75	2.75	5.00	4.07	.50

Each item under the variable was further analyzed by using the descriptive statistics of the minimum value, maximum value, median and mode scores in order to identify which item has the strongest agreement to the perceived ease of use of technology. Table 3 shows the median and mode scores of the respondents’ perceptions about the perceived ease of use of technology. The most frequently occurring perception about the perceived ease of use of technology among respondents was learning to use the system is clear and understandable, followed by the perception that the system is easy to use.

Table 3: Median and Mode Scores for Perceived Ease of Use of Technology (n=75)

Perceived Ease of Use of Technology	Min	Max	Median	Mode
Learning to use the system is clear and understandable	2.00	5.00	4.00	4.00
The system is easy to use	3.00	5.00	4.00	4.00
It is easy to get the system do what I want it to do	2.00	5.00	4.00	4.00
Need little mental effort to interact with the system	1.00	5.00	4.00	4.00

Perceived ease of use of technology has been shown to be an important factor in the studies of information technology acceptance (Ndubisi, Gupta & Massoud, 2003; Ndubisi 2005). The findings of the study suggest that most of the respondents perceived that the systems that are available in their offices as easy to use. The findings show that

among the reasons for the perceived ease of use of technology include the perceptions that it is easy for them to get the system do what they want it to do and they need very little mental effort whenever they interact with the system. The respondents also highly agree that learning to use as well as interacting with the system as clear and understandable. The findings are in line with the findings of a similar study by Ndubisi et al, (2003) which found a favorable perception that the system is easy to use with the majority of the respondents (87.8%) strongly agree or agree that interacting with the system is clear and understandable. Ndubisi et al (2003) and Venkatesh and Brown (2001) confirmed that if the user can experience enjoyment through the adoption of new technology, the attitude toward adoption will present positive responses. The statement further confirmed the idea that perceived ease of use of technology among the users would lead to better acceptance of new technologies used in the workplace, thus bringing a positive impact to the performance of the employees using the information systems.

RQ2: What are the administrative support personnel’s perceptions about the perceived usefulness of technology?

Table 4 shows the overall mean score for perceptions about the perceived usefulness of technology among the respondents. The result indicates a rather high agreement among respondents on the perceived usefulness of technology with the mean score of 4.41 on a 5-point scale and the standard deviation of .46.

Table 4: Overall Mean Scores for Perceived Usefulness of Technology (n=75)

	N	Min	Max	Mean	Std. Dev.
Perceived Usefulness	75	3.50	5.00	4.41	.46

Table 4 shows the median and mode scores of the respondents’ perceptions about the perceived usefulness of technology. All four statements recorded that the respondents agreed that the system enhances their job effectiveness, makes their job easier, is useful in their job and increases their job productivity. The most frequently occurring perception about the perceived usefulness of technology among respondents was the system enhances their job effectiveness, followed by the perception that the system makes their job easier. The next perception about the perceived usefulness of technology was that the respondents found the system to be useful in their job and the lowest level of perception was the system increases job productivity.

Table 5: Median and Mode Scores for Perceived Usefulness of Technology (n=75)

Perceived Usefulness of Technology	Min	Max	Median	Mode
System enhances job effectiveness	3.00	5.00	4.00	4.00
System makes job easier	3.00	5.00	4.00	4.00
System is useful in job	2.00	5.00	4.00	4.00
System increases job productivity	3.00	5.00	4.00	4.00

From the results above, the findings show that most of the respondents highly perceived the system as useful. They perceived that using the system would enhance their job effectiveness and make their job easier. In other words, the respondents have the perceptions of how useful the technology is in performing their job tasks which might include decreasing the time for doing the job with more efficiency and accuracy. Generally, users such as the respondents of this study typically focus on accomplishing their key tasks by using the systems available to them.

The conclusions made on whether or not the system is useful depend on the perceived benefits that they will get from the system. Apart from that, the respondents also perceived that the system they are using is useful as it also help them increases their job productivity and improves their job performance. The result of this study is supported by a similar study by Ndubisi et al. (2003) which stated that respondents perceived the system as useful with the majority of the respondents (96%) strongly agree or agree that the system enhances their job effectiveness, improves their job performance and increases their productivity. Moreover, Dias (1998) also found that users were motivated to use the technology because they perceived the technology as a useful tool to accomplish their task as well as to increase the quality and the productivity of their work. Meanwhile, other research has also found that perceived usefulness, which is one of the primary motivational factors for accepting and using new technologies (Davis et. al., 1989), have a significant positive relationship with the job performance of the users (Ndubisi, et al, 2003; Ndubisi, 2005). Hence, perceived usefulness of technology can be a powerful medium for improving acceptance and utilization of innovative information technologies, thus, improving the job performance of the employees and the productivity of the organization as a whole.

RQ3: What are the administrative support personnel’s perceptions about job performance?

In order to measure the job performance, Goldstein’s job performance dimensions of technical skills and communication skills were used in the study. The analysis involved the use of descriptive statistics such as minimum value, maximum value, mean and standard deviation. Table 6 shows the perceptions about the respondents’ job performance in descending order from the highest to the lowest mean. High mean score indicates a higher level of job performance whilst lower mean score indicates a lower level of job performance. The highest indicator of job performance of the respondents was the communication skills (M = 3.99, SD = .40), followed by technical skills (M = 3.91, SD = .42).

Table 6: Administrative Support Personnel’s Perceptions about Job Performance (n=75)

Job Performance	Min	Max	Mean	Std Dev.
Communication	3.17	5.00	3.99	.41
Technical	2.80	4.80	3.91	.42

From the results above, the findings show that most of the respondents found that communication skills act as a strong indicator of their job performance. The result is supported by Payne (2005) who suggested that communication skills is a very important asset to the employees and studies have proven that more skilled employees are performing better in their jobs than unskilled employees. Moreover, similar research has confirmed that communication skills is becoming a key indicator to employee’s job performance and is also positively related to the overall job performance of the employees (Morreale et al., 2000; Gallivan, 2003). On the other hand, the technical skills have been rated second after communication skills in determining the job performance of the respondents, which is also consistent with the findings of Gallivan (2003). Though it has been rated second after communication skills, the researchers believe that it is still very important for the respondents to acquire the right technical skills in coping up with the fast changing technology when performing their jobs. As pointed out by Betcherman, Lauzon and Leckie (1998), empirical evidence has confirmed that as skills is a multi-dimensional concept, workers perceived changes in different dimensions of skill, and that include the technical specifications of their jobs.

RQ4: Is there a significant relationship between acceptance of technological changes and job performance among administrative support personnel in the government offices?

The first objective of this study is to determine the relationship between the acceptance of technological changes and job performance of administrative support personnel in government offices in the district of Maran, Pahang

Darul Makmur. Therefore, the relationship of the two variables was examined and the findings were used to determine whether the null hypotheses is accepted or rejected. The level of significance was set at 0.05.

Ho1: There is no significant relationship between acceptance of technological changes (Perceived Usefulness and Perceived Ease of Use) and job performance.

H_A1: There is a significant relationship between acceptance of technological changes (Perceived Usefulness and Perceived Ease of Use) and job performance.

Before the correlation analysis was used, a number of assumptions about the data were checked before running the output using SPSS. The assumptions were made in order to ensure that the correlation analysis was appropriate to the data. The first assumption of correlation is the levels of measurement. In this study, the 5-point Likert scale was used as the interval scale of measurement for the variable. The next assumption of correlation is related pairs. As stated by Coakes and Steed (2007), the data collected in the study must be from related pairs. The respondents of this study were the administrative support personnel employed in the government offices in the district of Maran, Pahang Darul Makmur. The same respondents provided the scores both for the acceptance of technological changes and job performance. Therefore, the second assumption of correlation was met. The normality test was conducted and based from the values of skewness and kurtosis, and the inspection of histogram of each variable in this study, the scores were found to be reasonably normally distributed, with most scores occurring in the centre, tapering out towards the extremes. The assumption for linearity could be tested by examining the scatterplots of the variables. The examination of the scatterplot of scores for acceptance of technological changes and job performance shows a straight line, therefore, meeting the assumption of correlation. The last assumption of homoscedasticity was also met with the scatterplot of scores shows a fairly even cigar shape along its length.

In order to test the relationship between the variables, the issues of acceptance of technological changes were computed for the overall mean. The same procedure was carried out for job performance. For interpreting the output of the correlation between the variables, Cohen’s (1988) table was used (Salkind, 2006). Table 7 provides the explanation on the strength of the relationship in terms of the value of Pearson Correlation (*r*) and the direction of the relationship for the variables used in the study.

Table 7: Coefficient Correlations between Acceptance of Technological Changes and Job Performance (adapted from Cohen, 1988)

<i>r</i> = .10 to .29	or <i>r</i> = -.10 to -.29	small correlation
<i>r</i> = .30 to .49	or <i>r</i> = -.30 to -.49	medium correlation
<i>r</i> = .50 to 1.0	or <i>r</i> = -.50 to -1.0	large correlation

The relationship between acceptance of technological changes and job performance was investigated using the Pearson product-moment correlation coefficient. Preliminary analysis was performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There is a large, significant, positive and linear correlation between the two variables ($r(73) = .53, p < .01$) with high level of acceptance of technological changes associated with high levels of job performance.

Hypothesis for Research Question 4 predicts that there is a relationship between acceptance of technological changes and job performance. The results of the study suggest that there is a relationship between the two variables. Therefore, the null hypothesis that there is no significant relationship between acceptance of technological changes and job performance is rejected. Table 8 shows the correlations between acceptance of technological changes and job performance.

Table 8: Correlations of Acceptance of Technological Changes and Job Performance (n=75)

	Job Performance
Acceptance of Technological Changes	.526(**)

** Correlation is significant at the 0.01 level (1-tailed).

The results of the Pearson correlation analysis indicated that there is a relationship between acceptance of technological changes and job performance. There are relationships between the two independent variables of perceived ease of use of technology and perceived usefulness of technology and the dependent variable of job performance. As defined by Agarwal and Karahanna (2000, p. 86) user acceptance of technology is “the act of adopting the information technology, that is, the initial decision to use it or not”. Therefore, the lack of user acceptance can be an impediment to the success of introducing new technologies, thus affecting the performance of the users as well as the organization. This finding is supported by Ndubisi et al. (2003) and Ndubisi (2005) who found that perceived usefulness of information technology has significant positive relationship with the adoption of technology, and better acceptance of new technologies used in the workplace would have a positive impact to the performance of the employees using the information systems. Lucas and Spitzer (1999) also concluded that acceptance to technological changes improves the job performance of the employees. It was further stated that by having better acceptance of technological changes in the workplace through better understanding of the systems used, employees perform their job better, thus, increase the productivity of the organization as a whole. Overall, the findings are definitely in line with Davis et al., (1989) findings which found the strong relationship between perceptions of usefulness and ease of use of new technology with performance. Since users’ acceptance of technological changes depends on the perceived ease of use of technology and perceived usefulness of technology (Davis, 1989), it seems logical that users’ acceptance of technological changes heavily impacts their job performance.

Conclusion

The current findings of this study shows that there is a strong relationship between acceptance of technological changes and job performance among the administrative support personnel employed in the government offices in the district of Maran, Pahang Darul Makmur. Based from the findings on perceived ease of use of technology, the researchers are able to conclude that the administrative support personnel employed in the government offices in Maran, Pahang Darul in Maran, Pahang Darul have been sufficiently exposed to the systems and technologies currently used in the marketplace. It can also be concluded that this is due to extensive training programs provided by the government offices especially to the majority of the respondents of this study who are of above 45 years old. The budget increase in the provision of IT infrastructure and facilities for government agencies during the annual budget review in the Eighth Malaysia Plan (Ramlah et al., 2007) could have been effectively disbursed of in providing the needed training and technical support services to the government employees. This is, of course, in tandem with the Government’s effort of improving its performance by providing alternative e-government systems to the general public.

In accordance with the result of this study, the following suggestions were made by the researchers. The government offices can use this study to better understand the issues of acceptance of technological among its employees, focusing specifically to those employees who have served the offices for more than 20 years as these are the people who have conventionally and traditionally served the offices years before the coming of the new information and communication technology age. It is important to understand the issues as the challenges of facilitating acceptance and use of new technologies among the employees is a real business consideration as organizations, whether the public or private sector, continue to develop and use new technological solutions while embracing the new globalized era. Furthermore, by understanding the issues in accepting new technologies, it would help the management to determine the proper trainings or providing relevant knowledge needed by these employees in enhancing their skills and abilities to accept the changes. With the ever evolving marketplace that sees rapid changes in technology, the researchers believe that upgrading of knowledge, trainings as well as re-trainings of existing employees should be given top priority by the agencies as these would have a direct influence upon their perceptions of the technology. The perceptions, indeed would affect the long-term performance and the utilization of technological innovations of the employees. Therefore, the awareness should be created in order not only to improve the performances of the individuals and organizations but also the productivity as a whole. As indicated in this study, it is essential to note that better understanding on the issues of acceptance of technology would have a significant impact to the performance of the employees.

Based on the findings of this study and the above conclusion on the need to provide proper training and upgrading of existing skills among the present workforce, the researchers also believe that this study is very relevant to the educational sector. The increasing need from the 500 Fortune Human Resource Manager for business school graduates to have adequate skills and knowledge such as listening, speaking, team participation, and communication of information has become most important in the 21st century (Porterfield & Forde, 2001). Of course, these have been part of the issues investigated in this study. The findings could help academicians to be more aware of

this matter, thus give more emphasis on the proper curriculum development of technical and communications skills of the students in preparing themselves before joining the workforce.

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