Relationship between Information Technology (IT) Acceptance and Employee Performance using Technology Acceptance Model (TAM)

Irzan Ismail[1], Amirul Fekree 'Aini[2], Nurazree Mahmud[3], Helmy Fadlisham Abu Hasan[4]
{irzan@uitm.edu.my[1]}

Universiti Teknologi MARA, Malaysia[1, 2, 3, 4]

Abstract. The issue of the absence of user acceptance and selection of new technologies has for quite some time been an obstruction to its usage achievement. Information technology has vital importance in every field and proven to facilitate employees in performing their tasks. The purpose of this research is to investigate the relationship between information technology (IT) and employee performance using Technology Acceptance Model (TAM). The data for this study were collected from 144 respondents. The sample selection was based on the census sampling method. The data collected was then evaluated by using Statistical Package for the Social Science (SPSS) Version 25. Numerous tests were converged such as frequency distribution, descriptive analysis, reliability analysis, Pearson's correlation analysis and multiple regression analysis. The results indicated that perceived usefulness and perceived ease of use are related to employee performance.

Keywords: Information Technology, Employee Performance, Technology Acceptance Model, Perceived Usefulness, Perceived Ease of Use

1 Introduction

Employee job performance has always been a major challenge in organizational management and adopting effective ways to motivate employees to achieve and deliver higher job performance as well as increase the organizational competitiveness is the main objective of every business organization [1][2][3][4][5][6]. It is therefore believed that employee performance is instrumental to organizational growth and profitability. The employees are regarded as the major business resources that facilitate the daily activities and operations of an organization [1][4][5]. Most worker of today have a high level of job dissatisfaction which make dispositions which create attitudes that are undesirable on the job and in turn degenerate their performance ability and that their working place as well [7].

Performance of the individuals cannot be verified [8]. Yang [8] indicated that organizations can utilize coordinate rewards and rewards dependent on individual execution if worker performance is observable. In accordance with Yang [8], Bishop [9] revealed that acknowledgement, recognition, and reward of performance of employees direct the discrimination between worker productivity. The affirmation and viable utilization of new technologies and data frameworks by individuals and organizations are territories of research that have gotten centrality in later of years. The issue on absence of user acceptance and adoption

ICE-BEES 2020, July 22-23, Semarang, Indonesia

DOI 10.4108/eai.22-7-2020.2307899

of new innovations has for quite some time been a block to its usage achievement. Accordingly, analysts and professionals alike have made these issues a high need thing [10][11][12].

TAM has proven to be useful model in assisting to understand that user will accept the technology is useful for them by give specific benefits to boost their performance [13][14][15][16][17][18]. TAM has demonstrated that it is valid, robust and powerful model for predicting user acceptance [14][15][17][19][20]. The model prescribes that when users are given another product bundle, various components affect their decision about how and when they will use it. The basic TAM model included and tried two explicit convictions: perceived usefulness (PU) and perceived ease of use (PEU). Perceived usefulness is characterized as the potential user's emotional probability that the use of a specific framework will enhance his/her activity and perceived ease of use refers to how much the potential user anticipates that the objective system should be easy [14][15][16][17][21].

Information Technology (IT) adopt a huge impact and give competitive advantage on business productivity [15]. IT influences a lot of beneficial returns on firms' productivity. IT brings a lot of good feature that can help and assist employees to improve the organization's performance. Furthermore, the adoption of IT has received much attention given the increasing of competition and rapid exchange of information. The involvement of technology in the industry will influence job performance and enhance productivity [10][14][19]. Through an efficient system, IT applications are genuine concentrated with the emphasis on uncovering industry's impression of the dimension of selection and helpfulness of IT applications, and additionally facilitators and barriers to their adoption.

1.1 Profile Problem Statement

In a matter of couple of decades, Malaysia has changed its economy from agriculture based to an exchange driven one. Vital to drive the development of this economic change is its exchanging with other nation. It is hard to have successful communication in the present business world without the utilization of current IT [10][15][22]. According to Colley, Gale and Harris [23] most by far of research has focused on the phenomenon of a 'phobia' or anxiety making individuals abstain from utilizing ICT in settings, for example, the work environment, school or home [24]. The phenomenon of 'technophobia' is considered by social psychologists to encompass the fear and apprehension felt by an individual when considering the implications of using technology, even when it poses no real or immediate threat. In other words, technophobia clouds an individual's perception of the technology in question, making it appear somehow 'not for them'.

Based on the previous research conducted by Gould, Boeis and Lewis [25], user acceptance is often the essential factor in deciding the achievement or disappointment of information system and the research came about that numerous issues will happen on the off chance that IT isn't adequately actualized and acknowledged at the organization. It is important to look further on how dimension of user's acceptance by utilizing TAM model can be used to gauge the IT acceptance and its effects on employee performance This study is geared at answering the following research question: Are there any relationships between perceived usefulness, perceived ease of use and employee performance?

2 Literature Review

The definition of performance does not include the results of an employee's behavior, but only the behaviour themselves. Performance is about behaviour or what employees do, not about what employees produce or the outcomes of their work [1][2][3][4][5][26]. Perceived employee performance represents the general belief of the employee about his behavior and contributions in the success of organization. Employee performance may be taken in the perspective of three factors which makes possible to perform better than others, determinants of performance may be such as "declarative knowledge", "procedural knowledge" and "motivation" [1][4][5][27].

Accordingly, organizations put resources into technology with the desire that it will add to performance, and individuals from the organization must use technology for them to contribute. In any case, not all employees can adapt to fast changes of new technology in organization and it is expected that such conduct can impact job performance [15][17][28]. The study further expressed that the investigations of users' acceptance of IT were significant as the principal purpose of the technological creations was intended to help or upgrade an individual's task performance. Since research has demonstrated that employee performance is connected to the performance of an organization, it is vital to both the organization and additionally the employees to monitor their performance so as to guarantee that the targets of the organization are met.

2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was developed by Davis in 1989 [21]. TAM was acquainted with help in foreseeing technology use conduct. Theory of reasoned action (TRA) starts from learning theory and accept that behavior toward a specific object is approximated by an aim to perform that behavior.

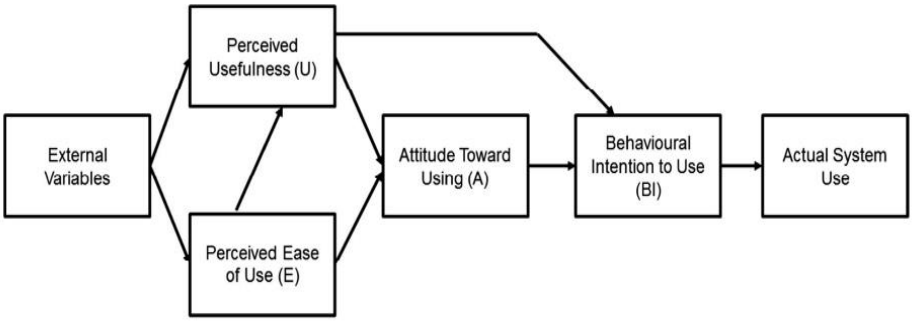

Fig. 1. Technology Acceptance Model (TAM).

TAM as shown in Figure 1, was an adaption of the TRA and explicitly customized for modeling user acceptance of Information system (IS) by providing clarification of the builds of computer acceptance which is commonly likewise equipped for clarifying user conduct over a broad range of end-user computing advances and the population.

2.2 Perceived Usefulness

Perceived usefulness is defined here as “the degree to which a person believes that using a particular system would enhance his or her job performance”. This follows from the definition of the word useful: “capable of being used advantageously”. Within an organizational context, people are generally reinforced for good performance by raises, promotions, bonuses, and other rewards [29]. Within the organizational context, a system that is high in perceived usefulness is one that the user believes will have a positive use performance relationship [30].

Individuals will in general use or not to use a system application to the degree they trust it will enable them to perform their task better [10][12][14][18][19]. Usefulness can likewise be characterized as the forthcoming adopter's abstract likelihood that applying the new technology from outside sources will be advantageous to his own and/or the receiving organization's well-being. Or on the other hand that utilizing the technology would enhance the manner in which a user could finish a given task. Perceived usefulness discloses the user's recognition to the degree that the technology will enhance the user's work environment performance [10][12][19]. This implies the user has an impression of how useful the technology is in playing out his job task. This includes diminishing the ideal opportunity for carrying out the responsibility, more productivity and accuracy.

2.3 Perceived Ease of Use

Perceived ease of use is defined as “the degree to which an individual; believes that using a particular system would be free from physical and mental effort” [21]. It has also been defined as a user’s subjective perception of the effortlessness of a computer system. This follows from the definition of the word “ease”: “freedom from difficulty or great effort.” Effort is a limited asset that an individual may apportion to the different exercises for which he or she is capable [31].

Perceived ease of use clarifies the user's impression of the measure of effort required to use the system or degree to which a user trusts that utilizing a specific technology will be easy [10][12][14][19]. Perceived ease of use has been built up from past research to be an essential factor impacting user acceptance and utilization conduct of IT [32]. Perceived ease of use comprises of the accompanying determinants: simple to use, easy to read, utilizing understandable terms, ready to connection to scan for related data and simple to come back to past page. This includes support, complexity and change the management. Venkatesh [11] detailed perceived ease of use portrays the person's impression of how simple the innovation is to learn and to use.

Given that some fraction of a user's total job content is committed to physically utilizing the system as such, if the user turns out to be progressively profitable in that fraction of his or her job by means of more prominent ease of use, at that point the person ought to end up increasingly beneficial generally speaking. Users trust that a given application might be fruitful, yet they may, in the meantime, trust that the technology is too difficult to even consider using and that the performance advantages of utilization are exceeded by the effort of application [19][21].

3 Conceptual Framework

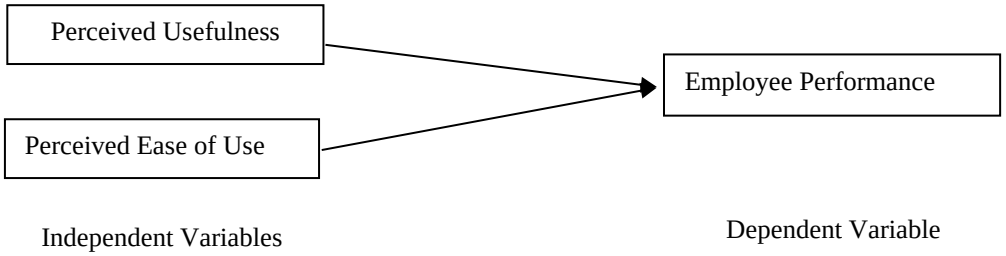

Fig. 2. Conceptual Framework**.**
Source: Technology Acceptance Model [21].

Based on the conceptual framework, this study aimed at examining the following hypotheses:

H_1: Perceived usefulness has a positive effect on employee performance.

H_2: Perceived ease of use has a positive effect on employee performance.

4 Methodology

The purpose of this research is to investigate the relationship between IT acceptance and employee performance using the TAM. This study will apply a quantitative approach as the research design to gather data and information about this study. Questionnaire will be use in collecting and gathering data. The type of research that used is correlational research that is directed to discover vital components related with the factors of interest [33].

Consequently, this study was led to discover whether the imperative variables had positively or negatively influenced each other. The study will be conducted in a non-contrived setting which is likewise implied the study had no plans to hinder nor control all variables and make up a counterfeit setting for its respondents to accomplish the research objectives. This study is cross-sectional in nature where data will be gathered just at one point in time. For this investigation, the specific questionnaire was distributed amid work hours, and put together by the respondents after they have finished noting the questionnaire and at a convenient time. The unit of analysis will be individuals.

4.1 Population and Sampling

Population can be expressed as a gathering of things, occasions, or individuals that the study needs to consider or explore [33]. In this study, the referred population are employees from TLP Terminal Sdn. Bhd. which situated at Tanjung Langsat, Pasir Gudang, Johor, Malaysia. This study was purposely conducted among the port employees, whose work are largely depending on technology, consist of 190 employees. The selection of the population is based on the accessibility in conducting this study and availability of samples. This study will apply the convenience sampling technique under the non-probability sampling design. Convenience sampling technique is deemed to be more appropriate because the data or

information can be obtained easily at a lower cost and faster. Based on Krejcie & Morgan [34], for the given population the proper sample size for this study is at least 127 respondents.

4.2 Instrument and Measurement

Data for the study will be collected using a self-administered questionnaire. The questionnaire consisted of a set of items which was segregated to 3 sections were presented to the respondents for them to answer. The questionnaire is divided into Part A (independent variables) Part B (dependent variable) and Part C (demographic). Five points Likert Scale are applied to determine respondent answers from "strongly disagree, disagree, neutral, agree and strongly agree".

4.3 Data Analysis

All the data collected from the survey will be analyzed using the Statistical Package for Social Science (SPSS). Data will undergo the frequency analysis (demographic), descriptive analysis, reliability analysis, correlational analysis (Person correlations) and multiple regression analysis. Multiple regression analysis will define the relationship whether the independent variables are able to influence the dependent variable. In this research, employee performance will act as the dependent variable, meanwhile perceived usefulness and perceived ease of use will act as independent variables.

5 Result and Discussion

A total 150 questionnaires were distributed, and 144 questionnaires were returned recording a response rate of 96 percent. The purpose of this study is to examine the relationship between Information Technology (IT) acceptance, using Technology Acceptance Model (TAM), and employee performance. Table 1 shows the frequency analysis of respondent's demographic characteristics. Out of 144 respondents, 78.5% are males and 21.5% are females. The outcomes had demonstrated that the respondent who answer the questionnaire is generally 31-35 years old which aggregated 28.5% which is a total of 41 respondents out of 144.

Table 1. Demographic Profile of the Respondents

	Frequency	**Percentage**
Gender		
1. Male	113	78.5
2. Female	31	21.5
Age		
1. Below 25 years old	13	9.0
2. 26-30 years old	39	27.1
3. 31-35 years old	41	28.5
4. 36-40 years old	23	16.0
5. 41-50 years old	13	9.0
6. Above 50 years old	15	10.4
Education Background		
1. SPM	79	54.9
2. Diploma	43	29.9

3. Bachelor's de	21	14.6
4. Master's degree	1	.7
Work Section		
1. Operation	106	73.6
2. Non-Operation	38	26.4
Year of Service		
1. Not more than 5 years	53	36.8
2. 5-10 years	83	57.6
3. 10-15 years	3	2.1
4. 15-20 years	1	.7
5. 21-25 years	0	0
6. More than 25 years	4	2.8
Position Group		
1. Top Management	13	9.0
2. Executive	26	18.1
3. Non-Executive	105	72.9

Out of 144 of the respondents, greater part of the respondents has SPM background which aggregated to 54.9% and pursued by the minor respondents that have Master Degree which indicates 0.7%. Most of the respondent has been in service for 5-10 years which accounted at 57.6% and the least percentage is 15-20 years with 0.7%.

Table 2. Descriptive Analysis for Each Variable

Variables	Total Mean	Standard Deviation
Perceived Usefulness	4.2490	0.37
Perceived Ease of Use	4.0486	0.48
Employee Performance	4.2252	0.36

Table 2 shows the descriptive statistics of the variables in the study. The highest mean is the perceived usefulness with the value of 4.2490. Followed by employee performance with the value of 4.2252 and perceived ease of use with value of 4.0486. Based on the results, most respondents agree with the statements where it can be proven the value of mean is more than 3.

Table 3. Cronbach's Alpha Reliability Test

Variables	Cronbach's Alpha	Number of Items	Verdict
Perceived Usefulness	0.790	7	Acceptable
Perceived Ease of Use	0.788	7	Acceptable
Employee Performance	0.791	7	Acceptable

The reliability analysis in table 3 shows that all variables recorded a Cronbach's alpha above 0.70 that is acceptable. The highest value of Cronbach's Alpha was 0.791 represented by employee performance with 7 items, followed by perceived usefulness with a value at 0.790 and perceived ease of use which valued at 0.788. Henceforth, through this reliability testing result, it had demonstrated the item used in the study for every variable were in actuality consistent.

Table 4. Pearson Correlation Analysis

		Perceived Usefulness	Perceived Ease of Use	Employee Performance
Perceived Usefulness	Pearson Correlation	1		
	Sig. (2tailed)			
	N	144		
Perceived Ease of Use	Pearson Correlation	.405**	1	
	Sig. (2tailed)	.000		
	N	144	144	
Employee Performance	Pearson Correlation	.627**	.395**	1
	Sig. (2tailed)	.000	.000	
	N	144	144	144

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

Based on the result in table 4 above, there is a significant, moderate correlations with; substantial relationship between perceived usefulness and employee performance ($r = 0.627$, $P < 0.01$). While, there is a significant but low correlation; definite but small relationship between perceived ease of use and employee performance ($r = 0.395$, $P < 0.01$).

The table 5 demonstrated the coefficient of determination or R square is .417 which mean 41.7 percent of the difference in dependent variable which is employee performance is clarified by the variety of the independent variable which are perceived usefulness and perceived ease of use. Subsequently, there are 58.3 percent of other independent variables that were excluded in this research.

Table 5. Multiple Regression Analysis

Dependent Variable: Employee Performance					
Independent Variables	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
Perceived Usefulness	.541	.068	.559	7.953	.000
Perceived Ease of Use	.126	.053	.168	2.392	.018
F – Value			50.499		
Sig			.000		
Adjusted R-square			.409		
R – Square			.417		

The result of the analysis also showed that the F value had introduced at F= 50.499 (p=0.000). It clarified that all the variables have significant relationship with employee performance and implies that the model is fit and factually significant. Moreover, the significance of every independent variables towards the dependent variables were analyzed. It demonstrated the two variables were significance, which perceived usefulness and perceived ease of use. Also, the variables will significant if the significance value were less than $p < 0.01$ and $p < 0.05$. The table demonstrated that perceived usefulness was significance towards employee performance. This is because the significant value for perceived usefulness is 0.000, $p > 0.01$. The beta value for perceived usefulness is 0.559. In this way, it tends to be clarified that increase by 1% of perceived usefulness, the employee performance will increase by 0.559. Second variable is perceived ease of use additionally indicated significant value of 0.018, $p <$

0.05 and a beta value of 0.168. This implies the increase of perceived ease of use by 1%, the employee performance will increase by 0.168.

Table 6. Hypothesis Testing

	Hypothesis	Remarks
H_1	Perceived usefulness has a positive effect on employee performance.	Supported
H_2	Perceived ease of use has a positive effect on employee performance.	Supported

Based on the studies, it showed that perceived usefulness has a significant relationship with employee performance ($\beta = 0.559$, $p = 0.000 < 0.01$). Perceived ease of use also has a significant relationship with employee performance ($\beta = 0.168$, $p = 0.018 < 0.05$). Therefore, both hypotheses are accepted.

6 Conclusion

The aim for this study is to examine the relationship between information technology acceptance and employee performance using Technology Acceptance Model (TAM). Based on the past studies, there are several factors that have relationship between IT and employee performance but this study, will only focus on the perceived usefulness and perceived ease of use. From the result, it showed that perceived usefulness has a positive relationship with employee performance. The result showed that employees were satisfied with perceived usefulness of information technology (IT) that they have in their workplace. This meant that users are likely to form a positive attitude toward using the system when it is proven as a useful utility to the practice and vice versa.

This finding is line with Ho et al. [14], which indicated that perceived usefulness has both direct and indirect influences on the attitude towards using the system [13][15][17], Taylor and Todd 1995). The usefulness construct may reflect considerations of both the "benefits" and the "costs" of using the target system. Ease of use may be seen as part of the cost of using the system from the user's perspective [13][14][15][17]. There are also several studies had highlighted the importance of perceived usefulness relating with a person's behavior [13][14][15][16].

The result also showed that perceived ease of use has a positive relationship with employee performance. Findings showed that employees were satisfied with perceived ease of use of Information Technology (IT) that they have in their workplace. In general, a system or technology that is perceived to be easy to use or learn would be anticipated to be more useful to the user and this statement was first supported by Davis [21].

The major limitation for this research is the size of samples. The size of samples is limited to the employees at TLP terminal and only represent as respondent for shipping logistics industry. Therefore, the findings cannot represent general population in all shipping logistics industry. Future research should include other variables that may affect employee performance. It is significance to identify any factors that might influence an employee to increase their performance on their job.

References

[1] A. D. Diamantidis and P. Chatzoglou, "Factors affecting employee performance: an empirical approach," *Int. J. Product. Perform. Manag.*, 2019.

[2] A. Mahadevan and M. H. Yap, "Impact of Training Methods on Employee Performance in a

Direct Selling Organization, Malaysia," *IOSR J. Bus. Manag.*, vol. 21, no. 10, pp. 7–14, 2019.
[3] M. Abuhashesh, R. Al-Dmour, and R. Masa'deh, "Factors that affect employees job satisfaction and performance to increase customers' satisfactions," *J. Hum. Resour. Manag. Res.*, vol. 2019, pp. 1–23, 2019.
[4] K. Sendawula, S. N. Kimuli, J. Bananuka, and G. N. Muganga, "Training, employee engagement and employee performance: Evidence from Uganda's health sector," *Cogent Bus. Manag.*, vol. 5, no. 1, p. 1470891, 2018.
[5] I. Muda, A. Rafiki, and M. R. Harahap, "Factors influencing employees' performance: a study on the Islamic Banks in Indonesia," *Int. J. Bus. Soc. Sci.*, vol. 5, no. 2, 2014.
[6] M.-Y. Wu and Y.-R. Lee, "The effects of internal marketing, job satisfaction and service attitude on job performance among high-tech firm," *African J. Bus. Manag.*, vol. 5, no. 32, pp. 12551–12562, 2011.
[7] R. T. Mowday, L. W. Porter, and R. M. Steers, *Employee—organization linkages: The psychology of commitment, absenteeism, and turnover*. Academic press, 2013.
[8] H. Yang, "Efficiency wages and subjective performance pay," *Econ. Inq.*, vol. 46, no. 2, pp. 179–196, 2008.
[9] J. Bishop, "The recognition and reward of employee performance," *J. Labor Econ.*, vol. 5, no. 4, Part 2, pp. S36–S56, 1987.
[10] P. C. Lai, "The literature review of technology adoption models and theories for the novelty technology," *JISTEM-Journal Inf. Syst. Technol. Manag.*, vol. 14, no. 1, pp. 21–38, 2017.
[11] V. Venkatesh, "Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model," *Inf. Syst. Res.*, vol. 11, no. 4, pp. 342–365, 2000.
[12] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "User acceptance of computer technology: a comparison of two theoretical models," *Manage. Sci.*, vol. 35, no. 8, pp. 982–1003, 1989.
[13] J. D. Portz *et al.*, "Using the technology acceptance model to explore user experience, intent to use, and use behavior of a patient portal among older adults with multiple chronic conditions: descriptive qualitative study," *J. Med. Internet Res.*, vol. 21, no. 4, p. e11604, 2019.
[14] K.-F. Ho, C.-H. Ho, and M.-H. Chung, "Theoretical integration of user satisfaction and technology acceptance of the nursing process information system," *PLoS One*, vol. 14, no. 6, p. e0217622, 2019.
[15] S. Liao, J.-C. Hong, M.-H. Wen, and Y.-C. Pan, "Applying technology acceptance model (TAM) to explore users' behavioral intention to adopt a performance assessment system for E-book production," *EURASIA J. Math. Sci. Technol. Educ.*, vol. 14, no. 10, p. em1601, 2018.
[16] L. Amadu, S. S. Muhammad, A. S. Mohammed, G. Owusu, and S. Lukman, "Using technology acceptance model to measure the ese of social media for collaborative learning in Ghana," *JOTSE*, vol. 8, no. 4, pp. 321–336, 2018.
[17] D. Z. Dumpit and C. J. Fernandez, "Analysis of the use of social media in Higher Education Institutions (HEIs) using the Technology Acceptance Model," *Int. J. Educ. Technol. High. Educ.*, vol. 14, no. 1, pp. 1–16, 2017.
[18] M. A. Imtiaz and N. Maarop, "A review of technology acceptance studies in the field of education," *J. Teknol.*, vol. 69, no. 2, 2014.
[19] H. Taherdoost, "A review of technology acceptance and adoption models and theories," *Procedia Manuf.*, vol. 22, pp. 960–967, 2018.
[20] B. Hernandez, J. Jimenez, and M. J. Martín, "Extending the technology acceptance model to include the IT decision-maker: A study of business management software," *Technovation*, vol. 28, no. 3, pp. 112–121, 2008.
[21] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Q.*, pp. 319–340, 1989.
[22] L. Louw and P. Venter, "Strategic management: Winning in the Southern African workplace," *Cape T. Oxford Univ. Press South. Africa*, 2006.
[23] A. M. Colley, M. T. Gale, and T. A. Harris, "Effects of gender role identity and experience on computer attitude components," *J. Educ. Comput. Res.*, vol. 10, no. 2, pp. 129–137, 1994.

[24] L. Shashaani, “Gender-based differences in attitudes toward computers,” *Comput. Educ.*, vol. 20, no. 2, pp. 169–181, 1993.
[25] J. D. Gould, S. J. Boies, and C. Lewis, “Making usable, useful, productivity-enhancing computer applications,” *Commun. ACM*, vol. 34, no. 1, pp. 74–85, 1991.
[26] H. Aguinis and C. A. Henle, “Effects of nonverbal behavior on perceptions of a female employee’s power bases,” *J. Soc. Psychol.*, vol. 141, no. 4, pp. 537–549, 2001.
[27] R. A. McCloy, J. P. Campbell, and R. Cudeck, “A confirmatory test of a model of performance determinants.,” *J. Appl. Psychol.*, vol. 79, no. 4, p. 493, 1994.
[28] M. J. Gallivan, “Examining IT professionals’ adaptation to technological change: The influence of gender and personal attributes,” *ACM SIGMIS Database DATABASE Adv. Inf. Syst.*, vol. 35, no. 3, pp. 28–49, 2004.
[29] J. Pfeffer, *Organizations and organization theory*. Pitman Boston, 1982.
[30] Y. M. Yusoff, Z. Muhammad, M. S. M. Zahari, E. S. Pasah, and E. Robert, “Individual differences, perceived ease of use, and perceived usefulness in the e-library usage,” *Comput. Inf. Sci.*, vol. 2, no. 1, pp. 76–83, 2009.
[31] R. Radner and M. Rothschild, “On the allocation of effort,” *J. Econ. Theory*, vol. 10, no. 3, pp. 358–376, 1975.
[32] M. Igbaria, J. Iivari, and H. Maragahh, “Why do individuals use computer technology? A Finnish case study,” *Inf. Manag.*, vol. 29, no. 5, pp. 227–238, 1995.
[33] U. Sekaran and R. Bougie, *Research methods for business: A skill building approach*. John Wiley & Sons, 2016.
[34] R. V Krejcie and D. W. Morgan, “Determining sample size for research activities,” *Educ. Psychol. Meas.*, vol. 30, no. 3, pp. 607–610, 1970.