

E-Training Integration In Organisation: Modeling Factors Predicting Employee's Acceptance In A Developing Country

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Abstract: Background: While factors influencing e-training use intention has been mostly investigated based on the experiences of the developed countries, such investigations in the in the developing countries have been largely overlooked by researchers. **Purpose:** This paper extends the technology acceptance model (TAM) by investigating the roles of computer/internet self-efficacy and organisational support on intention of employees to use e-training. **Methods:** Three hundred and one responses collected from five public universities were in the study. Structural equation modeling was applied in data analysis. **Results:** The findings show that computer/internet self-efficacy, organisational support and perceived usefulness have positive and significant effects on intention. Likewise, perceived usefulness was found to have influenced the effects of internet self-efficacy, organisational support, and perceived ease of on intention. In addition, importance-performance matrix analysis (IPMA) was performed and the results suggest that emphasis should be given to organisational support and perceived usefulness for successful implementation of e-training. The paper has established the applicability of the TAM in predicting e-training use intention and the significance of organisational support in implementing e-training. In addition, the paper provides a model for understanding employees' intention to use e-training which can be tested in other countries or in different contexts.

Keywords : Computer/Internet Self-Efficacy, E-Training, Organisational Support, Perceived Usefulness.

1. INTRODUCTION

In today's knowledge based economy, the influence of an organisation's human resource management (HRM) cannot be overemphasised as the success of the organisation mostly depends on its HRM [1]. To be competitive and fit into the demands of the evolving universal labour markets, organisations are required to devise a way that guarantees the accessibility of the desired workforce that can deliver within the prevailing challenges of the competitive world. According to Koontz and Weihrich [2], access to extensive training offers the employees the opportunity to enhance their knowledge of the new socio-economic and technological changes in the contemporary world of competition. Through training, employee' knowledge, skills and ability can be enhanced which could, in turn, improve job performance.

Developments in information technology (IT) have come with sophisticated technological tools and innovative training contents that stimulate organizations to adopt and utilize

technology in delivering training to their employees, a concept known as 'e-training'. E-training is defined as the type of training organisations provide to their staff with the aid of computers, laptops, the internet, previous reserved training sessions on storage devices such as flash drives, CD/DVD, and other electronic media, to enhance their job skills and knowledge for improved organisational performance. Prior studies have reported the benefits of e-training to include among others; saving costs relating to employees' travel time and expenditures, flexibility in training delivery, employee self-paced, availability of lifelong use of training resources within the company, and boosting the number of trained workers and productivity [3, 4]. On the other hand, e-training weaknesses such as lack of physical human interaction, eye contact, and that some forms of training will be difficult to be replaced by information technology also exist [5]. Notwithstanding these challenges, many organisations are adopting web-based forms of learning to provide employee training [6] indicating that organisations are gradually moving away from the traditional method of training and adopting electronic training as an alternative.

Technology integration in training in the Nigerian public organisations is in its early stage and not much has been investigated on it by researchers in Nigeria overlooked it. Specifically, it was reported that no empirical evidence to suggest what influences e-training use intention and or use within the context of Nigeria [3]. Meanwhile, appreciable progress has been achieved in integrating technology in the activities of governance in Nigeria. For instance, the establishment of National Information Technology Development Agency (NITDA), and general improvements in telecommunication services and provision of ICT facilities [7, 8], were meant to facilitate easy technology use. However, in spite of these measures, it has been argued that the public sector organisations, like the public universities in Nigeria, regardless of their large sizes, have been very slow in adopting technology [8]. Low ICT skills, resistance to technology integration, inadequate technical personnel, lack of awareness and motivation, negative attitude towards technology, low internet connectivity, and inadequate electricity supply were advanced as causes of the slow pace of technology integration in the universities [9, 10].

Public universities, being key for the social, economic, and technological development of Nigeria, operate in a globally competitive environment where education is no longer constrained by boundaries, a competent, highly skilful, and experienced workforce becomes indispensable. To have such a workforce, universities are expected to make adequate investment in training. Given the challenges of low funding, sustaining the traditional form of training methods in the public universities seems unsustainable. On the other hand, technology has provided these universities with the opportunity to use e-training as a viable option that has been established to be cost-effective, flexible, and competitive [4]. However, prior to implementation of e-training, apart from providing the required resources, organisations need to consider the ability and willingness of their employees to accept and use e-training systems in place of the traditional form of training which they are much familiar with.

Previous studies have confirmed that implementing a system could be delayed, suspended, or discarded before its completion and that many IS projects implementations were unsuccessful in the past [11-13]. Often, user resistance was attributed to such failures [14]. This is because introducing new systems will demand some changes be made to job processes and how employees performed them. Usually, the resulting responses by employees to change could be partial to complete acceptance, or utter rejection of the new system which, according to Nov and Ye [15] in many cases, cause project failure. It has been argued that user resistance primarily occurs as a result of individual or group factors such as traits, attitude, background, and experience towards technology [16]. Therefore, understanding the factors influencing e-training use intention among employees' prior to implementation is important for an

organisation.

Over time, researchers have investigated the factors influencing technology acceptance in organisations and the extent to which users accept and use technology driven systems in various fields [17-21]. Findings from prior research indicate that individual's intention to use technology is predicted by diverse factors depending on the type of study. However, factors including perceived ease of use and perceived usefulness [22], enjoyment [23], personal innovativeness [24, 25], social norms [26], internet self-efficacy [27], computer self-efficacy [28], trust [29], privacy and social influence [30], job opportunity [31], compatibility [20], management support [32], organisational support [33], computer anxiety [34], and perceived value [35] are among the most reported.

Although the extant literature on information systems (IS) does address the importance of the above factors leading to employees' acceptance and use of various aspects of technology systems, few empirical studies have investigated the influence of the above-mentioned factors in investigating employees e-training use intention. Looking at the nature of e-training, which is provided through the mediation of technology, it could be logical to opine that employees will require some knowledge and experience of using a computer and the internet. According to Chen, Sok [36], self-efficacy is among the critical factors influencing employee training effectiveness. To avoid e-training use resistance among the employees, being the main target for e-training, some form of organisational support to facilitate and encourage its usage should also be put in place. Sánchez and Hueros [37] have confirmed the influence of organisational support in stimulating that positively led acceptance and success of personal computing systems. The relevance and importance of computer/internet self-efficacy, organisational support, perceived ease of use, and perceived usefulness in influencing intention to use technology have been previously reported in IS literature. For instance, studies have demonstrated the influence of computer/internet self-efficacy on behavioural intention towards technology use [28, 38-41]. Likewise, the effects of organisational support on behavioural intention towards technology usage have been demonstrated in earlier studies [42-44].

On the other hand, although prior studies have reported the influence of perceived ease of use on intention [45, 46], recent studies have questioned the effectiveness of perceived ease of use in influencing technology use intention. It has been argued that empirical evidence supporting perceived ease of use as a predictor of behavioural use intention in both early and recent studies have been highly inconsistent. The construct was reported to have had insignificance or no significance, compared to the effects of perceived usefulness on behavioural intention [47-51]. For instance, effects of perceived ease of use were demonstrated to be insignificant in previous studies [27, 52-55]. Meanwhile, contrary, most studies have reported strong effects of perceived ease of use exerted on perceived usefulness [56, 57].

Despite the above-cited evidences supporting the direct and indirect influences of computer/internet self-efficacy, organisational support, and perceived ease of use, no empirical evidence to demonstrate their combined effects on intention towards e-training use. In addition, no study has attempted to investigate their combined influences in predicting intention towards e-training use within the context of developing countries, like Nigeria. These could be attributed to the general scarcity of empirical studies on e-training reported in the extant literature [3, 58]. Accordingly, the present study, investigated the combined effects of computer/internet self-efficacy, organisational support and perceived ease of use to explain e-training use intention among employees in Nigerian public universities using the technology acceptance model (TAM) developed by [59].

2. THEORETICAL UNDERPINNING

To understand and explain the perceptions and reactions of individuals to information technology system, researchers have developed and applied theories and models. Some of which include the Theory of Reason Action by Fishbein and Ajzen [60], Theory of Planned Behaviour by Ajzen [61], Technology Acceptance Model [59], Perceived Characteristics of Innovations (PCI) by Moore and Benbasat (1991), Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, Morris [18], etc. However, the TAM [59], has been reported as one of the most influential models used by researchers in explaining the motivational factors underlying users' technology acceptance or use intention behaviour in diverse fields and contexts [62]. According to Davis [59], new and emerging technologies could not be effective if they are not accepted, supported and used by prospective users. The TAM (Figure 1) was developed based on the TRA [60]. The Model postulates that system use by an individual is influenced by his/her behavioural intention (BI), which is determined by the individual's attitude, which is consequently influenced by belief factors of perceived ease of use (PEOU) and perceived usefulness (PU). Perceived usefulness means the extent an individual believes that using a technology will enhance his/her work performance while perceived ease of use (PEOU) refers to the extent to which a person believes that using the system will be free of effort [63].

The TAM has been used in determining intention towards use of various types of IS such e-commerce [64], web-based training [22, 23], e-learning system [65], e-government system [66]; electronic banking [17]; and teleconferencing [67]. According to Yousafzai, Foxall [68], most of the commonly used variables used while applying the TAM are either referring to the system, organization, and or personal characteristics of the users of technology. In addition, many studies that conducted meta-analysis on the TAM have highlighted its reliability and applicability as a robust theoretical framework for predicting and explaining behaviour in a wide-range of technologies and usage in different fields and contexts [69-72]. Likewise, the Model has been effectively extended by incorporating other constructs such as trust [48], enjoyment [22], organisational policy and incentive [73], social norms [52] etc. These justify the use of TAM as the theoretical framework for the present study.

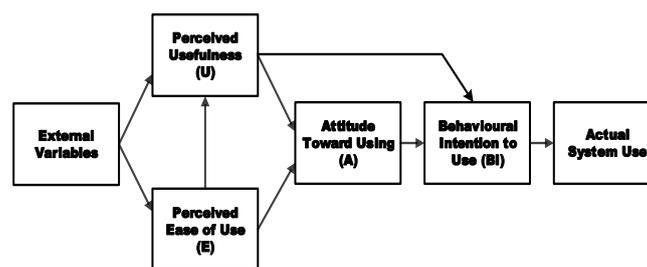


Figure 1: Technology Acceptance Model (TAM) [63]

3. RESEARCH MODEL AND HYPOTHESES

3.1 Computer/Internet Self-Efficacy

Generally, self-efficacy is considered as self-confidence of an individual about performing certain tasks, challenges, and contexts [74]. The concept of self-efficacy was also referred to individual's belief of his/her ability to perform a specific function [75]. Chen, Sok [36] have argued that self-efficacy is one of the important factors affecting the effectiveness of employee's training. In an e-training environment, employees' level of self-efficacy in

computer/internet use could provide an explanation on their intention to use an e-training system which is provided through the mediation of technology. For example, it was previously reported that computer/internet use experience and anxiety related to computer usage constitute user traits influencing IS use and new technology use [52]. According to Compeau and Higgins [75], user's advanced level of computer self-efficacy is associated with higher ICT engagement. Past studies have reported some factors as antecedents of computer self-efficacy. Among which are, encouragement from user's reference group, management support, basic computer knowledge and previous computer experience [75-77]. Previous studies have demonstrated the impacts of computer self-efficacy on intention to use technology. Particularly, a study by Alenezi, Karim [28] has established the positive influence of computer self-efficacy on e-learning use intention among students. Other studies have confirmed computer self-efficacy as an important determinant of diverse beliefs and attitudes relating to computing [34, 78].

The concept of internet self-efficacy (ISE) is defined as the extent of users' self-confidence in their knowledge and skills of using the internet functions and other applications in an online environment [79]. According to Eastin and LaRose [80], internet self-efficacy rather than referring to the mere performance of some internet based tasks, for instance downloading or up loading a file, it is an individuals' ability to use higher-level of skills, for instance, troubleshooting problems. Internet self-efficacy may be different from computer self-efficacy and could require different behaviours for setting, using, and maintaining the internet. Learners having high internet knowledge and skills were found to prefer online environments for learning (Liang [81]. Similarly, a study by Liang and Wu [40] has shown that internet self-efficacy was related to learner's positive attitudes towards web-based learning programs in nurses. Furthermore, it was opined that user's positive disposition towards internet and preferences for online environments is influenced by internet self-efficacy [82]. Similarly, students with high self-efficacy relating to the internet were found to have superior information searching skills and have learned better compared to those with low internet self-efficacy [83]. Although, the insignificant effects of ISE on use of virtual learning environment (VLE) or attitudes towards its components [84], previous findings have also recognised the influence of computer/internet self-efficacy on user intention [38, 85]. Equally, a direct relationship has been established between computer/internet self-efficacy and perceived usefulness [86]. Given these evidences, the researcher includes computer/internet self-efficacy as a predictor of e-training use intention which is consistent with previous studies [38, 87]. Accordingly, the following hypotheses are proposed.

H1 Computer/internet self-efficacy has positive and significant influence on perceived usefulness

H2 Computer/internet self-efficacy has positive and significant influence on intention to use e-training

3.2 Organisational Support

In this study, organisational support refers to the organisation's commitment towards encouraging the optimal use of the e-training system by providing resources, guidance, and assistance to employees in order to improve the system and training goals achievement. Management support is critical for the implementation of a new system in every organisation and the more users of a technology hold a firm belief about the ability of their organisation to deliver essential support, the more the probability that it influences adoption [88]. Giving the necessary support for e-training use to employees, most importantly to those having inadequate computer/internet skills or knowledge could enhance their chances of usage. To employees

within this group, providing technical support and general guidance before and during e-training program could be perceived as important. In the view of Venkatesh, Morris [18], the reason why organisations make investments in technology to support learning can only yield positive impacts when those it's meant for (i.e. the staff) accept and make good use of. It was argued that providing necessary resources, training to employees, creating positive feedback mechanism, designing policies on incentives and goals attainment could assist employees in reaching organizational goals and strengthen technology use [89].

Past studies have demonstrated the link between organisational support and intention to use and actual usage [90]. Similarly, Liang, Saraf [32] have reported a significant influence of management support on intention to adopt and actual use. Likewise, Sánchez and Hueros [37] have revealed that organizational support creates a positive attitude that leads to acceptance and success of personal computing systems. Likewise, university support was reported as a significant predictor of e-learning adoption [91]. It was argued that the more the users of a technology have confidence in their organisation's desire to provide the necessary support, the more likely they will adopt it [92]. Prior studies have equally established the influence of support to use intention [90], and perceived usefulness [93]. Likewise, the influence of organisational support on perceived ease of use has been demonstrated in the extant literature [94, 95]. Thus, the hypotheses below are postulated for testing.

H3 Organisation support has positive and significant influences on intention to use e-training

H4 Organisation support has positive and significant influences on perceived usefulness

3.3 Perceived Ease of Use

According to Mbarek and Zaddem [96], perceived ease of use reflects ease of learning and ease of interaction between learners and e-learning materials. The extant literature on IS suggests that perceived ease of use is one of the important factors considered by researchers when investigating user behaviour towards technology usage. For example, Montazemi and Saremi [45], have found both perceived ease of use and perceived usefulness as strong predictors of consumers' initial intention. Again, it was reported that many studies have established a strong and positive link existing among perceived ease of use, attitude and e-learning use intention [46]. Similarly, Revels, Tojib [97] have argued that perceived ease of use in an important motivational factor influencing consumers' technology use intention.

In addition, perceived ease of use has been demonstrated as a good predictor of perceived usefulness [49, 98-100]. Moreover, perceived ease of use has been shown to be a key predictor of learners' intention and positively impacted on perceived usefulness [56, 57]. Another study reveals that perceived ease of use and perceived usefulness had significantly affected attitude towards e-HRM use [101]. Furthermore, perceived ease of use has been established to have directly determined attitude [71] and has indirect effects on intention [54]. In contrast to these studies, a study by Chesney [102] did not establish any significant influence of perceived ease of use on behavioural intention. Similarly, it has been previously reported that perceived ease of use did not predict student intention [52]. Based on the preceding discussion, perceived ease of use is thus considered an important construct likely to influence e-training use intention, and the following hypotheses are proposed.

H5 Perceived ease of use has positive and significant influences on perceived usefulness

3.4 Perceived Usefulness

Another important construct of the TAM is perceived usefulness which has been subjected to wide use among researchers in investigating technology acceptance among individuals [103].

According to TAM, perceived usefulness and perceived ease of use constitute the two antecedents of predicting behavioural intention to use a new technology, which then affects actual user behaviour [104]. Prior studies have identified several factors as antecedents of perceived usefulness in an online environment. These antecedents, also called external factors, do perform the important role of providing explanation toward technology adoption behaviour [63]. For example, Demoulin and Djelassi [105] have reported include reliability, social norm, and the need for interaction as determinants of perceived usefulness. Similarly, subjective norm, perceived ease of use, results demonstrability, image, output quality, and job relevance, were found to be the antecedents of perceived usefulness [92]. In addition, Abdullah, Ward [106] have opined that PEOU is the strongest predictor of perceived usefulness which is followed by enjoyment. In a study by Lee, Hsieh [44], found that perceived usefulness was influenced by task equivocality, prior experience, and organisation support.

Previous studies have established the influence of perceived usefulness on behavioural intention to use technology. For instance, perceived usefulness was reported as an important predictor of technology acceptance among individuals [59, 63]. Likewise, positive effects of perceived usefulness on user's behavioural intention towards system usage have been previously established [107]. In addition, the impact of perceived usefulness and perceived ease of use on attitude towards intention to use social networking media has been reported [108]. According to Weng, Tsai [109], perceived usefulness is the strongest determinant of both user satisfaction and continuous usage intention. Likewise, in the area of web-based training, perceived usefulness was found to have direct effects on employees' intention [23]. Again, perceived usefulness was reported to have predicted intention and actual usage of Web 2.0 tools [110]. In relation to e-training, it was opined that employees are most likely to perceive e-training as useful if it can be easily used and is capable of proving more rewards [3]. On the other hand, Brown, Murphy [111] have argued that perceived usefulness may not have an influence on technology use. Giving these evidence, this study considers perceived usefulness as an important factor that is likely to influence intention to use e-training in a university environment. Thus, the following hypothesis is formulated.

H6 Perceived usefulness has positive and significant influence on intention to use e-training

Based on the conceptual background above, a conceptual framework for the study is proposed for the study (see Figure 2). The framework is basically an extension of the TAM where external variables of computer/internal self-efficacy and organisational support are incorporated based on the review of literature. The framework postulates that computer and internet self-efficacy organisational support will have positive effects on perceived usefulness and perceived ease of use which in turn will positively affect intention to use e-training.

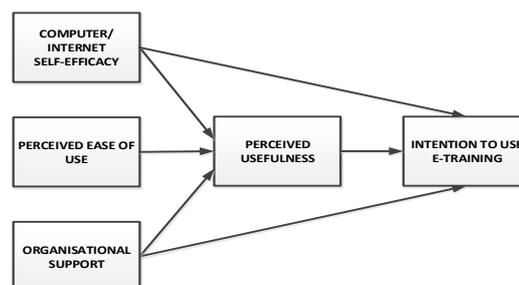


Figure 2: Conceptual Framework

4. METHODOLOGY

4.1 Sampling and Data Collection

The population of the study is made of employees of some selected universities in Nigeria. The choice of employees is necessary being the main target of every training program whose knowledge and skills are expected to be enhanced through such training. Meanwhile, 301 responses used in analysis are enough for performing PLS-SEM analysis for the model of the study. The respondents were asked to answer questions pertaining to their demographics, their computer/internet self-efficacy, organisational support, and their perceptions about e-training based on its usefulness and ease of use, and their intention to use e-training. The measures for the constructs were developed using validated and reliable items obtained from previous empirical studies with some modifications made to fit into the present study (See Appendix A). Perceived Usefulness (PU) refers to the degree to which an employee believes that using e-training would enhance his/her skills, task accomplishment, productivity, and make work easy and useful. PU has 5 items with a Cronbach's Alpha of 0.94 adapted from Davis [59]. Perceived Ease of Use (PEOU) refers to the degree to which an employee believes that using e-training system will be easy to operate, understandable and flexible. PEOU was adapted from Davis, Bagozzi [63] and has 6 items with an Alpha value of 0.95. Computer/Internet Self-Efficacy (CISE) refers to the extent to which an employee possesses the knowledge, skills, and confidence to perform the basic functions of computer applications like MS Word, Excel, and capacity to use the Internet. The items of CISE with 6 items and Alpha value of 0.74 and 0.93 were adapted from Hung, Chou [38] and Kuo, Walker [112]. It should be noted that Organisational Support (OS) is seen from the individual's level instead of organisational level and thus refers to organisation or its management commitments towards encouraging the optimal use of e-training system by providing guidance, assistance, and encouragement to employees in order to improve e-training systems use. OS has 6 items with a Cronbach's Alpha value of 0.91 and was adapted from Joo, Lim [89]. Intention (INT) to use e-training is refers to the extent at which the employees intend to use e-training systems. The INT construct has 5 items and was adapted from Chatzoglou, Sarigiannidis [23].

4.2 Data Analysis Technique

Structural Equation Modeling (SEM) technique was used in data analysis. According to Hair Jr, Hult [113], SEM is a class of multivariate techniques that has combined factor analysis and regression, which enables the researcher to investigate relationships among the measured constructs and as well as the latent constructs simultaneously. SEM allows the model fit to be tested and provides inclusive statistical indicators used in assessing and modifying the models (Kline, 2015). In particular, this study used partial least squares structural equation modeling (PLS-SEM) which has been very popular in the social sciences and has been widely utilised especially by studies in the business disciplines (Hair, Sarstedt, Pieper, and Ringle, 2012). Specifically, SmartPLS 3.0 was used to evaluate the relationships between the independent variables (computer/internet self-efficacy and organisational support) and the dependent variable (intention). Also, it was used in estimating both the measurement and structural parameters of the model, and the mediation effects of perceived usefulness and perceived ease of use in the conceptual framework. In addition, SPSS 21.0 was utilised in the analysis.

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4.3 Respondents' Demographic Profile

An indicative sample of characteristics drawn from the profiles of the respondents is presented in Table 1. Participants' responses to items in this part of the questionnaire were examined, using frequency and percentage. Analysis of the results indicates that majority of the respondents were male (54.9%). The largest group of respondents were in the age range 30 to 39 years (32.9%). As for the level of education, 117 (38.9%) of the respondents held a master's degree. This could therefore, be referred to as a well-educated population. The results also show that 167 (55.5%) of the respondents are non-academic staff. It was also revealed that most staff of the universities are computer literates with 106 (35.2%) having between 1 – 3 years of experience. Next stage of the study discusses the measurement models of the study.

Table 1: Demographic Profile of Respondents

Demographic	Features	Frequency	Percentage
Gender	Male	166	55.1
	Female	135	44.9
	Total	301	100
Age	Below 29	60	19.9
	30 to 39	98	32.6
	40 to 49	91	30.2
	50 and above	52	17.3
	Total	301	100
Education	Secondary	13	4.3
	Diploma	30	10.0
	B.Sc	57	18.9
	M.Sc/MBA	117	38.9
	PhD	84	27.9
	Total	301	100
CIE	Less than 1 year	39	13.0
	1 to 3 years	106	35.2
	4 to 7	95	31.6

Demographic	Features	Frequency	Percentage
	years		
	8 to 11 years	41	13.6
	12 years and above	20	6.6
	Total	301	100.0

5. DATA ANALYSIS

5.1. Measurement Model Evaluation

To assess the measurement model, items loadings, items reliability, convergent validity and discriminant validity were used. The outer loadings of the indicators were first examined based on the recommendation of Ramayah, Cheah [114] that loadings with 0.7, 0.6, 0.5 or 0.4 are adequate when outer loadings have high scores of loadings to complement average variance extracted (AVE) and composite reliability (CR). After analysing the data, CISE4, CISE6, and PEOU5 with loadings of 0.585, 0.643, and 0.647 were removed to meet the minimum requirement of 5.0 for AVE. All the remaining items have met the requirement of AVE and were retained after meeting the requirement as shown in Table 2.

Table 2: Items Loadings

	CISE	IN	OS	PEOU	PU
CISE1	0.745				
CISE2	0.753				
CISE3	0.755				
CISE5	0.686				
IN1		0.667			
IN2		0.791			
IN3		0.834			
IN4		0.848			
IN5		0.844			
OS1			0.702		
OS2			0.758		
OS3			0.761		
OS4			0.719		
OS5			0.744		
OS6			0.674		
PEOU1				0.691	
PEOU2				0.729	
PEOU3				0.763	
PEOU4				0.692	
PEOU6				0.710	
PU1					0.710
PU2					0.812
PU3					0.833
PU4					0.813

PU5					0.815
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5.1.1 Reliability and Convergent Validity

To determine the reliability of the measures, CR and Cronbach’s Alpha were assessed. The rule of thumb for CR is that the values should be at least 0.7 [115]. Similar to CR, Cronbach’s alpha values are required to be ≥ 0.7 [116]. To determine the convergent validity, average variance extracted (AVE) was used. According to Fornell and Lacker’s (1981), AVE must be 0.5 and above. The results in Table 3 show that AVEs for all the constructs are above 0.5 indicating the sufficient convergent validity of the measurement model has been achieved. Likewise, the CR values for the individual constructs fall within the recommended minimum of 0.7. Equally, all Cronbach’s Alpha reliabilities have met the threshold of 0.7 showing appropriate internal consistency amongst the items. Therefore, the measurement model has met the three conditions required for convergent validity.

Table 3: Measurement Model’s Results

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
CISE	0.719	0.825	0.541
IN	0.857	0.898	0.640
OS	0.822	0.870	0.528
PEOU	0.766	0.841	0.515
PU	0.856	0.897	0.636

5.1.2 Discriminant Validity

To determine discriminant validity, HTMT criterion was used. To meet the requirement of HTMT, the values between two constructs should be less than 0.85 [117] or value of 0.90 [118]. The HTMT results in Table 4 indicate that none of the values are more than the maximum value of 0.90 [118].

Table 4: Results of Discriminant Validity Testing

Heterotrait–monotrait ratio (HTMT)					
	CISE	IN	OS	PEOU	PU
CISE					
IN	0.719				
OS	0.450	0.711			
PEOU	0.289	0.277	0.154		
PU	0.715	0.876	0.713	0.245	

Additionally, 5000 bootstrap random subsamples were run and none of the correlations in the bootstrapping 95% confidence interval included a value of 1 using HTMT inference (Table 5). So, this result suggests that all the variables are empirically distinct [119]. Therefore, given the

results in Tables 4 and 5, the measurement model for this study has met discriminant validity.

Table 5: HTMT Inference

	CISE	IN	OS	PEOU	PU
CISE					
IN	0.719 CI.90 (0.657, 0.771)				
OS	0.450 CI.90 (0.361, 0.533)	0.711 CI.90 (0.647, 0.767)			
PEOU	0.289 (0.205, 0.350)	0.277 CI.90 (0.195, 0.354)	0.154 CI.90 (0.107, 0.161)		
PU	0.715 CI.90 (0.656, 0.767)	0.876 CI.90 (0.835, 0.907)	0.713 CI.90 (0.659, 0.763)	0.245 CI.90 (0.170, 0.313)	

5.2. Structural Model Evaluation

In assessing the structural model, the researchers conducted a collinearity assessment first to ensure that the path coefficients, which are estimated by regressing independent variables on the attached dependent variables, are not biased. The results of the collinearity assessment as presented in Table 6 show multicollinearity statistics output from SPSS. According to Hair, Ringle [120], if a variance inflation factors (VIF) value of 5.0 or higher were obtained, then there is a potential collinearity issue in the data set. The statistics indicate that all VIF values <5 suggesting s that multicollinearity among any set of independent constructs that are directly connected to the same dependent construct should not be a concern.

Table 6: Collinearity Assessment (Inner VIF Values)

	INT	PU
CISE	1.479	1.189
OS	1.611	1.144
PEOU	-	1.044
PU	2.082	-

5.2.1. Relationships among Constructs

To determine the relationships among constructs, PLS-SEM algorithm was run and the obtained estimates represent the path coefficients which in addition represent the hypothesized

relationships among the constructs of the study. Path coefficients have standardized values between -1 and +1 indicating a strong negative and a strong positive relationships respectively [113] and the values should be significant, and at least at the 0.05 level [33]. The PLS-SEM algorithm results of the structural model are presented in Figure 3. Based on the results R^2 values for INT is 0.631 (substantial) and 0.528 (moderate) for PU. This implies that PU, PEOU, and OS explain 63% of the variance in INT while PEOU and OS explain 53% of the variance in PU. Therefore, the model provides an adequate predictive power for intention to use e-training by considering latent variables of computer/internet self-efficacy, organisational support, perceived ease of use, and perceived usefulness.

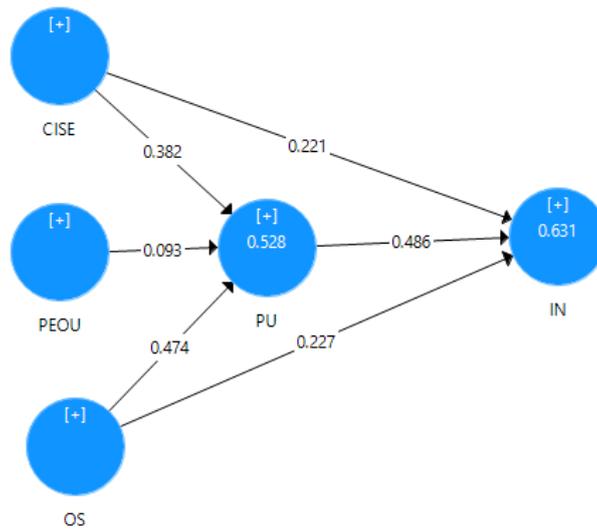


Figure 3: Results of PLS Algorithm

To find out the significance of the path coefficients, recommended bootstrapping employing 5000 sub-samples was conducted to assess the statistical significance of each path coefficient [121]. The results are shown in Figure 4 and Table 8.

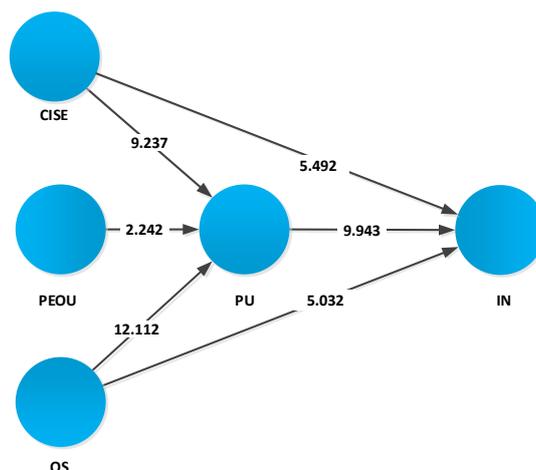


Figure 4: Results of Bootstrapping

5.2.2 Hypotheses Testing

The results as shown in Table 7 indicate computer and internet self-efficacy ($t = 5.492$, $\beta = 0.221$, $p < 0.01$) has significantly influenced intention and perceived usefulness ($t = 9.237$, $\beta =$

0.382, $p < 0.01$). Organisational support has the strongest direct positive effects on intention ($t = 5.032$, $\beta = 0.227$, $p < 0.01$) and on perceived usefulness ($t = 12.112$, $\beta = 0.474$, $p < 0.01$). Likewise, perceived ease of use had a significant influence on perceived usefulness ($t = 2.242$, $\beta = 0.093$, $p < 0.01$). Moreover, perceived usefulness has exhibited a strong positive effect on intention ($t = 9.943$, $\beta = 0.486$, $p < 0.01$).

Table 7: Hypotheses Testing

No	Hypotheses	Beta	S.E	T-Statistics	P-Values	5.00%	95.00%	Decision
H1	CISE → IN	0.221	0.040	5.492	0.000	15.40%	28.50%	<i>Supported</i>
H2	CISE → PU	0.382	0.041	9.237	0.000	0.313	0.447	<i>Supported</i>
H3	OS → IN	0.227	0.045	5.032	0.000	0.151	0.299	<i>Supported</i>
H4	OS → PU	0.474	0.039	12.112	0.000	0.405	0.534	<i>Supported</i>
H5	PEOU → PU	0.093	0.042	2.242	0.013	0.013	0.150	<i>Supported</i>
H6	PU → IN	0.486	0.049	9.943	0.000	0.405	0.566	<i>Supported</i>

5.2.3 Mediation

The indirect effects results in Table 8 indicate that computer/internet self-efficacy, organisational support, and perceived ease of use have each, indirectly influenced intention to use e-training through perceived usefulness (all p-values < 0.01). This implies that perceived usefulness is a good mediator and predictor of e-training use intention.

Table 8: Indirect effects

Relationships	Path Coefficient	S. E	T-Statistics	P-Values	2.50%	97.50%	Decision
CISE → PU → IN	0.186	0.028	6.570	0.000	0.134	0.245	Supported
OS → PU → IN	0.230	0.030	7.643	0.000	0.176	0.293	Supported
PEOU → PU → IN	0.045	0.021	2.192	0.028	0.003	0.084	Supported

6. DISCUSSION AND CONTRIBUTIONS

6.1. Discussions

The first hypothesis, H1 which proposes that computer/internet self-efficacy will have positive and significant effects on employees' intention to use e-training, has been supported. This finding conforms with prior studies that have demonstrated the significant influence of computer/internet self-efficacy on intention [40, 122]. The finding implies that the employees have possessed the prerequisite ability and confidence in their skills and knowledge to use computer/internet or applications relating to the e-training system environment. This finding is further supported by the fact that majority of the employees have more than 3 years' experience of using a computer and the internet where they spend 3 hours and above using

computer/internet daily. This underscores the employees' competence to embrace e-training in the universities as past studies have established that people with good internet self-efficacy favoured online based environments [81]. Likewise, the results show that computer/internet self-efficacy has a direct positive and significant influence on perceived usefulness. This finding not only supports H2, but is in line with the findings of previous studies [123, 124]. The implication is that employees with better computer/internet self-efficacy are most likely to be positively disposed towards e-training which is provided through the mediation of technology, as useful. It has been reported that users' computer self-efficacy affect their perception of their capacity to successfully operate a computer [75] which influence their future computer and internet behaviour, resulting in important decisions shaping their personal feelings and actions [125].

It has been argued that investments made in technology by organisations will not produce any meaningful impact unless the users (i.e. employees) accept and utilise the technology in the organisation [18]. Accordingly, H3 proposes a significant and direct influence of organisational support on intention. Organisational support also has positive and significant affects intention which is consistent with findings of previous studies [42, 43, 90, 126]. Also, the results supported H4 which proposes that organisation support has positive and significant influences on perceived usefulness. This finding confirms a previous finding [93]. In essence, the results imply that providing guidance, training, access, and encouragement will most probably lead to the acceptance and use of e-training. It has been previously established that increasing access to equipment, providing adequate support and training are vital to e-learning acceptance [53, 127]. Likewise, employees' conviction that the organisation meant well by introducing e-training and that the system is for their personal and professional development, will most likely lead to positive perceptions of its benefits and create positive feelings among employees.

Also, results of the analysis have supported H5 which proposes that perceived ease of use has a positive and significant influence on intention to use e-training. The finding is consistent with the relationships proposed by the TAM which equally confirms previous findings [56, 57]. This suggests that employees are most likely to see e-training as important for their job and personal development. It is also an indication that the ease at which e-training system is, the more the employees believe in its ability to enhance their knowledge and skills which could lead to higher job performance and career development. Equally, perceived ease of use will most probably eliminate the fear that usually accompanies the introduction of change and strengthen employees' confidence towards using e-training system.

Additionally, findings of this study have supported H6 which postulates that perceived usefulness will have positive and significant influence on employees' intention to use e-training which is consistent with prior findings [58, 110, 128]. The findings, as can be construed from this hypothesis, suggest that employees will most probably use e-training in the future having seen it as a means of improving skills and performance. Likewise, since successful implementation of an e-training will require full support and commitment of the employees, they may limit their usage of e-training unless they are assured that it is in their best interest. According to [129], the difference between employees' attitude and their actual usage behaviour constitutes an increased dissonance capable of leading to unwanted outcomes such as avoiding the system use to its fullest potential and decreased job satisfaction and performance; in extreme situations, employees might engage in destructive behaviours that will affect the organizational bottom line.

Therefore, this study has made some contributions from the perspective of theory-testing. The study extended the TAM with computer/internet self-efficacy and organisational support to investigate e-training use intention in a developing country. The study has validated prior research findings and contributes to the existing literature by providing empirical evidence

supporting the roles of computer/ internet self-efficacy, organisational support, perceived usefulness and perceived ease of use, in influencing intention towards e-training use. Findings of the study have recapped TAM's ability in explaining behaviour towards intention and thus, providing support to the existing literature [71, 130]. Likewise, the study has contributed to the extant literature on intention to use e-training by evaluating TAM's applicability within the context of developing country. Conceptualised as external variables modelled within the TAM, this study investigated the influences of computer/internet self-efficacy, organisational support, and perceived ease of use on intention to use e-training through perceived usefulness. This has further confirmed the strength of perceived usefulness construct as a determinant of behavioural intention as established in the IS literature [71]. Essentially, this study has provided a model for assessing employees' intention to use e-training in a developing country which could be applied in other countries similar to Nigeria to establish its applicability and validity. Nonetheless, situating the present study in Nigerian context has offered a valuable extension of research understandings in the field of e-training in particular, and information systems in general.

6.2. Managerial Implications

Assessing employees' willingness to use e-training prior to its implementation has offered several practical implications to Federal Ministry of Education (FMoE), National Universities Commission (NUC), e-training providers, university administrators, and employees on how to improve training through technology integration in universities. Being a strong predictor of perceived usefulness and intention to use e-training, computer/internet self-efficacy had direct and indirect influences on intention. This indicates that employees are most likely to have the desired technical knowledge, skills, skills and competence to facilitate ease of use of an e-training system. Managerially, a strategy on ensuring that employees deploy, and manage complex, advanced, and incomparable knowledge and technical skills in supporting the e-training plans of the training especially, to serve the specific needs of university employees. The NUC should also consider pegging a standard minimum qualification on computer/internet use in recruitment policies of the public universities. From the findings, organisational support had significant direct and indirect positive effects on intention to use e-training. This means that adequate tools and other resources for e-training system use should be adequately and carefully deployed prior to the implementation to ensure full participation of the employees. Employees with a low computer and internet self-efficacy may require specific training to facilitate all-inclusive participation that will guaranty successful implementation. This responsibility can be handled by a team of supervisors. The universities should also provide other supports in the form of change-readiness analysis, stakeholder engagement strategy, communications, and training. In addition, employees believe that the ease at which e-training is used will most probably enhance their perceptions of its benefits and importance suggests that universities ensure that aspects of the e-training use can be easily understood and used by all employees. Management's consideration should focus on ways to make navigation simple and easy, make instruction very clear, and the e-training system interface more attractive, interactive and easy to understand. Also, e-training services providers should focus more on improving e-training system aspects that make its usage simple and easy for all categories of users. Likewise, establishing the potential importance of perceived usefulness in e-training environment implies that priority should be given to promoting e-training benefits to employees. For example, management and immediate supervisors should communicate and provide a better understanding of the benefits of e-training especially on skills development, job performance, and career development. Employees' positive attitudes towards e-training can

also be boosted through special training designed to improve computer/internet self-efficacy among novice employees to positively influence their engagement in e-training.

7. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Although the theoretical and practical contributions of the present study have been recognized, the study is not devoid of limitations. Accordingly, some limitations inherent in the study have been identified which could be relevant for future investigations by other researchers interested in the field of e-training or IS in general. For example, the present study was limited by the fact the data used for analysis were collected from university employees and thus, caution thus is necessary for making a generalization of the findings to other organisations. In addition, the instrument used in the study was adapted based on its earlier established validity and reliability. Even though its validity of the instrument was subjected to further testing through a pilot study and in the main survey, there are a number of factors relating to intention that can be further investigated and included using more comprehensive theoretical models. Likewise, the population of this study is a well-educated one and as such, the results of the study could differ when different population or respondents are considered. Future research should consider longitudinal designs that capture temporal aspects. It is also recommended that researchers conduct qualitative interviews to triangulate findings. In addition, due to constraints relating to survey time, it became practically impossible to consider all other possible determinants of intention in the literature. According to Segars and Grover [131], no single study can sufficiently address the definitive completeness of a measure. Therefore, future research should investigate other dimensions of use intention that were not considered in the present study such as user readiness, risk, enjoyment, etc.

8. CONCLUSIONS

Using technology acceptance model, this study proposed a conceptual framework to investigate the influences of computer/internet self-efficacy, organisational support, perceived ease of use, and perceived usefulness on employees' intention to use e-training within the context of developing country. The framework postulates that computer/internet self-efficacy and organisational support will have direct and indirect effects through perceived usefulness while perceived ease of use will have indirect effects on intention. The findings of the study based on the results of structural equation modeling have supported these hypothesised relationships which further validate the TAM's predictive power and extended the current understandings on factors determining intention to use e-training by establishing a positive and significant effects of employee's self-efficacy in computer/internet use, organisational support for e-training, and perceived ease of use. Consequently, this study provides a model for understanding employees' intention to use e-training that can be tested in other countries and different contexts.

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