

Exploring the General Extended Technology Acceptance Model for e-Learning Approach on Student's Usage Intention on e-Learning System in University of Dar es Salaam

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Abstract

Tanzania has successfully included modern information communication technology in the education system. The main concern is to raise the standard of education. The factors that influence university student's usage intention of e-learning for education goals in Tanzania are important to be studied. The study employed the empirical techniques with the General Extended Technology Acceptance Models for E-learning for the aim of determining the factors that affect undergraduate student's usage intention of e-learning system. Data collection lasted for one month with 172 undergraduate students and the Structural Equation Modeling (SEM) was employed for data analysis. The finding shows that subjective norm positively influences perceived usefulness and perceived ease of use, experience positively influences perceived ease of use and enjoyment positively influences perceived ease of use. Also, computer anxiety positively influences perceived usefulness and perceived ease of use and perceived usefulness positively influences intentions and perceived ease of use positively influences perceived usefulness. This study is also one of the very few studies that use the GETAMEL model for e-learning settings in developing countries. The results have significant practical implications for educational institutions as well as decision makers in terms of the design of the e-learning system in the university.

Keywords

GETAMEL Model, Interactive Learning Environments, Teaching Approaches, Tanzania

1. Introduction

A continuous development of information and communications technology (ICT) has brought advanced application in e-learning. The advantages of ICTs are to minimize time and cost limitation in the perspective of e-learning. In addition, ICT permits the accessibility of required information at any time and place without geographical boundaries. E-learning refers as an information system that integrates a wide variety of instructional material like audio, video, text media, online discussion and e-mail (Lee et al., 2013). On the side of students, e-learning advantages are more observed in career development, academic performance as well as social value (Divaris et al., 2008). E-learning system depends more on digital media and telecommunications therefore, shortcoming can negatively affect the satisfaction of users. Support is required from the university and institutions for involvement on intervening to address e-learning implementation challenges by ensuring an appropriate design before students arrive.

In 2007-2008 the ministry of education of Tanzania implemented the national programs for ICT provision for education sector. E-learning centers were established in several universities for the aim of helping learners in the e-learning method. Few universities like University of Dar es Salaam, Sokoine University of Agriculture, Open University of Tanzania and Mzumbe University were the initiators in building e-learning teams and vital institutional frameworks for the implementation of e-learning project. University of Dar es salaam is required developing an effective e-learning system through the UDSM e-Learning network experience, which shares the knowledge and expertise that has been amassed in term of e-learning design and the support of online teaching. In University of Dar es Salaam, based on e-learning, they are using 1 VLE system in delivering materials to students through internet. This platform uses student assessment and tracking elements and can be accessed on and off campus to provide help for learning to student in any place at any time (Tedre, 2008). There are many challenges in implementation of e-learning system in UDSM. But since the implementation of e-learning system, its usability is moving very slowly. Most of the learners seem to refuse to use the system. Therefore, in order to increase e-learning system acceptance and usage, the identification of the factors that determine the student's usage intention of e-learning for education purposes is required.

A lot of studies has been conducted based on the e-learning adoption, arguing on various external factors and extended TAM in the perspective of understanding e-learning adaptation; researcher found some essential factors in predicting e-learning adoption. Most of the studies confederated in developed or emerging economy countries but few studies were conducted in developing countries like South Africa (Ngai et al., 2007). Additionally, in predicting user's acceptance and success of e-learning system, Alsabawy et al. (2016) adopted TAM element in measuring the usage intention, but the evidence of subjective norm was not enough to support the findings. In order to increase understand-

ing of user usage intention toward e-learning, [Abdullah and Ward \(2016\)](#) developed the GETAMEL model by using Meta analysis; the authors tested the relationship between the external factors toward user intention. Again, [Abdullah and Ward \(2016\)](#) used the same model to predict the student intention on e-portfolios usage, even though the findings were not much satisfactory. Despite the fact that, up to this time there is no any empirical studies carried out based on GETAMEL model to evaluate the determinants that influence the student usage intentions towards learning system in Tanzania perspectives.

Therefore, the current study is going to bridge the gap as explained above by identifying the factors that determine the student's usage intention of e-learning for educational aims. Again, the study assesses the subjective norm role in increasing student usage intention toward e-learning system. Lastly, the study applied GETAMEL model to the University of Dar es Salaam e-learning system in order to overcome the challenge of implementation and acceptance of e-learning system.

The remaining paper is prepared as follows: the following part 2 is a brief discussion on the research model development and hypotheses. The next Section 3 follows a brief description on research methodology used for this research. Data analysis and results are presented in Section 4. Finally, discussion, implications for practice and limitations are presented in the last Section 5.

2. Theoretical Framework and Hypothesis Development

E-learning market trend and forecast on report of 2016 indicated that most of developed countries are leading on growth rate of e-learning. These developed countries have experience the 30% of the growth which is more than four times the average worldwide growth rate. Tanzania as developing country is trying to copy up with new technology in education sectors with the usage of new technology to improve education quality. Understanding the user behavior on the usage of new technology is very important so as to facilitate it is development. Prior study discovered that there are some external variables which can be added to TAM for more predicting the user intention of technology system. [Abdullah and Ward \(2016\)](#) discovered social norm, perceived enjoyment, self efficacy, computer anxiety and experience to be common used confirmed external factors for the TAM. As suggested by [Davis \(1989\)](#), addition of external variables to TAM is very importance base on the situation and increase behavior of human toward technology usage. This study uses these five well known and confirmed external factors as external variables for the suggested GETAMEL.

2.1. Subjective Norm

Subjective norm has be used from many prior studies and found to have a strong relationship with TAM ([Abdullah & Ward, 2016](#)). Subjective norm is explained as an individual perception that most people who are very significant to the individual influence the individual to execute or not to execute a particular behavior

(Ajzen & Fishbein, 1977). In this study subjective norm is defined as the degree to which a student perceived pressure from her/his members to use e-learning system in the e-learning context (Agudo-Peregrina et al., 2014). Prior study also indicates that subjective norm can predict and influence perceived usefulness (Davis et al., 1989). In his study on e-portfolio adaptation among the students (Teo & Zhou, 2014) found the subjective norm to be significant in predicting the perceived usefulness and ease of use. Therefore, this study hypothesized that:

H1: Subjective norm positive and significant influences perceived usefulness on usage intention of e-learning.

H2: Subjective norm positive and significant influences perceived ease of use on usage intention of e-learning.

2.2. Experience

According to Abdullah and Ward (2016), experience is the most well known external variable for TAM in the context of predicting e-learning acceptance. The literature also realized experience influence individual in e-learning on perceived ease of use and perceived usefulness (De Smet et al., 2012). For the individual who have experience on using internet, computer and email tend to have more favorable perception toward the ease of use and usefulness of an e-learning system (Lee et al., 2013). In their study, Williams and Williams (2010) also show computer experience influence intention of learners in using different e-learning systems. Therefore this study suggested that:

H3: Experience positively and significantly influences perceived usefulness on usage intention of e-learning.

H4: Experience positively and significantly influences perceived ease of use on usage intention of e-learning.

2.3. Enjoyment

Enjoyment it is clarified as the level to which the activities of using certain information system is perceived to be enjoyable in its own right away from any execution consequences leading from system use (Park et al., 2012). In explaining e-learning adaptation, it is essential to study perceived enjoyment. Abdullah and Ward (2016) conducted study and pointed out that perceive enjoyment significantly influence perceived usefulness and perceived ease of use in e-learning. When enjoyment increases, the student usage intention of e-learning also rise (Zare & Yazdanparast, 2013). Therefore this study posited that:

H5: Enjoyment has a positive and significant influence on perceived usefulness of e-learning.

H6: Enjoyment has a positive and significant influence on perceived ease of use of e-learning.

2.4. Computer Anxiety

Computer anxiety is explained as the new information system determinant in

identifying new information system usage. Venkatesh et al. (2003) defined computer anxiety as emotional reactions when it comes to execution of particular behavior. Computer anxiety is an emotional reaction, which usually results from a fear of having a negative outcome after using the computer (Igbaria & Parasuraman, 2016). In adaptation of e-learning, Alenezi (2012) explained that computer anxiety plays a big role. Prior study found that computer anxiety has positive influence on perceived ease of use in e-learning perspective (Abdullah & Ward, 2016). This study includes the relationship between computer anxiety and perceived usefulness because of some little evidence based on the relationship. Even though computer anxiety plays a role in the mobile technology adaptation, but its role has not yet been empirically tested (Chu et al., 2008). Hence:

H7: Computer anxiety positive and significant influences perceived usefulness of e-learning.

H8: Computer anxiety positive and significant influences perceived ease of use of e-learning.

2.5. Self Efficacy

Self efficacy is defined as the beliefs in individual capabilities to organize and perform the course of action required to generate given attainments (Bandura, 1997). Self efficacy is the well known external factor in the TAM model. Self efficacy is about learner's belief that they can do with under a variety of situations (Bandura, 1997). Prior studies indicated that advanced self efficacy is correlated with the perceived usefulness for learning technology usage (Chu et al., 2008). Also, Igbaria and Parasuraman (2016) found a positive relationship between self efficacy and perceived ease of use but negative effect on perceived usefulness. Hence, this study posited that:

H9: Self efficacies have significantly and positively influences on perceived usefulness of e-learning.

H10: Self efficacies have significantly and positively influences on perceived ease of use of e-learning.

The TAM variables

According to Agarwal and Prasad (1998), individual user behavior to accept and use or reject the new technology influence with verities of belief factors. Technology acceptance theory which has been confirmed to be used in predicting user acceptance of technology is pointed as a strong theory in predicting the intention to use various technologies in different organization as well as personal situation (Davis, 1989). TAM includes perceived usefulness and perceived ease of use to predict an individual intention to use an IS. Perceived usefulness is explained as the degree to which a person believes that using a particular technology would facilitate his or her job performance. Prior studies in e-learning also found perceived usefulness to be an important determinant of e-learning intention (Al-Gahtani, 2016; Hsia et al., 2012; Tarhini et al., 2013). Perceived ease of

use also explained as the degree to which an individual believes that using a technology would be free from effort (Davis, 1989). In their study on e-learning usage (Al-Gahtani, 2016; Hsia et al., 2012; Tarhini et al., 2013) found that perceived ease of use influence e-learning intention. In addition, perceived ease of use can also have influence on perceived usefulness as founded in the study of (Park et al., 2012). Since this study is build upon the acceptance framework suggested by GETAMEL, accepting it to the case of education technology, and following the beliefs relation between usage intentions in GETAMEL. Therefore this study hypothesis that:

H1: Perceived usefulness positively and significantly influence usage intention of e-learning.

H2: Perceived ease of use positively and significantly influences perceived usefulness of e-learning.

H3: Perceived ease of use positive and significantly influences usage intention of e-learning (Figure 1).

3. Research Methodology

This study developed by critical reviewing the prior studies with meticulous reference to the current studies (Abdullah & Ward, 2016). The external variables identified by (Abdullah & Ward, 2016) were included (five variable). In this study usage intention of e-learning is employed to indicate the actual influence on the use of e-learning. Previous studies also emphases that usage intention might be combine with use behavior and named usage intention, the reason behind this is that, these factors have been confirmed to be similar (Alshehri et al., 2013). Kurfali et al. (2017) also combined usage intention and actual use in their Unified Theory of Acceptance and Use of Technology model in predicting e-government use behavior.

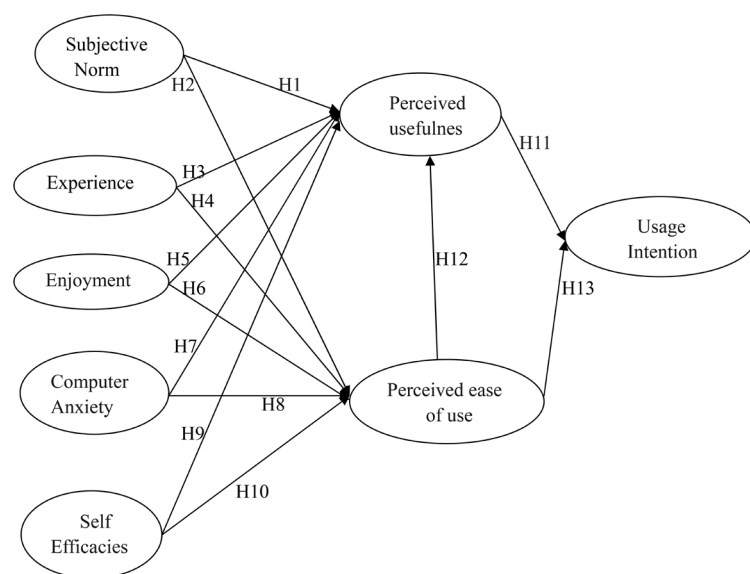


Figure 1. Conceptual model.

Since this was the first time that this type of study had been conducted in University of Dar es Salaam by employing the TAM, the initial questionnaire based on previous studies was created and translated into Swahili and then refined using the resulted of the pre test, which had 13 respondents from another university which was not a part of this study. The pre testing results allowed the construction of the final version of questionnaire. The final questions comprised 28 questions which 4 questions were related to demographic characteristics of the respondent.

This study focused on the TAM for e-learning acceptance among undergraduate students so the wording for items was changed to ensure relevance to this study. A 5-point Likert scale—(1) strongly disagree to (5) strongly agree was used to measure the responses. Cronbach's Alpha was used for reliability analysis and the results show that alpha values for variables exceed 0.7, so the final questionnaire is reliable. AMOS 23 software was used to analyze the data using the SEM technique. This study initially evaluated the measurement model which was followed by the structural model in the second stage. The analysis comprised of an analysis of construct validity (convergent and discriminant validity), model testing with model fitting and hypothesis testing.

3.1. Survey

To establish the determinant factors that influence usage intention of e-learning among the students in University of Dar es salaam, online survey was employed. The survey items were adopted from various prior studies, items for the external factors of TAM were adopted from (Abdullah & Ward, 2016), because this study validated the items for e-portfolio adaptation, which is strongly related to the e-learning perspective. The items for TAM variables were taken from (Davis, 1989; Venkatesh & Davis, 2000). Random sampling technique was employed for the survey process, for the universities that had successfully implementation of e-learning system in the education units.

3.2. Data Collection

In total there were 206 respondents to the online survey. Due to unfinished responses, 34 questionnaires were discarded. 172 complete questionnaires (84.3%) were used for the analysis of the conceptual model. In **Table 1** indicated that (68.1%) of the students who participated in this study were male. The majority of the respondents were 23 to 25 years old and in the second year of study at university. 63.4% had 4 to 7 years of computer literacy which allows confidence in the response to the use of e-learning in education.

4. Data analysis and Results

4.1. Reliability and Validity

This study performed both principal component factor analysis and confirmatory factor analysis (CFA) to assess the reliability of the scales. The Kais-

er-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.82 and Bartlett's Test of Sphericity was significant ($P < 0.001$) suggesting that, this data was adequate for factor analysis and correlations existed among the observed items. Kaiser Criterion of eigenvalues greater than 1.0, the Cattell scree plot test, parallel analyses were used to determine the number of factors to be retained. Cattell's scree test and parallel analysis suggested eight factor structures to be retained, as these factors contributed most to the explanation of the variance in the data set.

In addition, Promax rotation was performed to interpret these eight factors. The factor one loaded as perceived ease of use towards usage intention with 20.1% variance explained. Factor two and three loaded as enjoyment and perceived usefulness with 12.4 and 10.12 respectively. Computer anxiety and subjective norms loaded as four and five factors with explained variance of 9.7 and 8.6 respectively. Then the factor six and seven loaded as experience and Self efficacies which accounted for 7.5 and 5.8. Last factor loaded as usage intention with 3.8 variances respectively. In total, the eight factors accounted for 76.26% explained variance. The results indicated that, the factor structure has satisfactory item loadings, and acceptable internal consistency coefficients (see **Table 2**).

Construct reliability and validity were further examined through CFA. As shown in **Table 3**, the Cronbach's α and composite reliability (CR) values for each construct ranged from 0.70 to 0.94, both of which were above the suggested threshold of 0.7 (Hair et al., 2010) and exhibited a satisfactory level of reliability. For construct validity, both convergent validity and discriminant validity were examined. Convergent validity was confirmed by examining both the average variance extracted (AVE) and indicator loadings. As shown in **Table 3**, all AVE values were higher than the recommended level of 0.5 (Hair et al., 2010). The standard loadings of all items were above the desired threshold of 0.5 and significant at 0.001. This indicated good convergent validity. The standard factor loadings indicated in **Table 3**.

Discriminant validity was assessed using two approaches. First, discriminant validity was assessed by comparing the square root of AVE for each construct with the correlations between that construct and other constructs (Anderson & Gerbing, 1988). **Table 4** indicates that the square roots of the AVEs with bold front (diagonal elements) were larger than the inter-construct correlations depicted in the off-diagonal entries, suggesting adequate discriminant validity.

4.2. Testing the Measurement Model

Table 5 illustrates the overall model fit for the structural model testing. The test of overall model fit resulted in a probability value of less than 0.001. The significant p-value indicates that the absolute fit of the model is less than desirable. However, as the χ^2 test of model fit is absolute to sample size and non-normality, a better measure of fit is χ^2 over degrees of freedom (Hayduk, 1987). The ratio of χ^2 over degrees of freedom is close to the suggested 3 to 1 bracket (Hayduk, 1987). Typically, researchers also report a number of fit-statistics to examine the

relative fit of the data to the model. This study reports the comparative fit index (CFI), Normed Fit Index (NFI), Goodness-of-Fit Index (GFI) and Adjusted Goodness of Fit (AGFI) (Hair et al., 2006). This study also reported RMSEA (root mean square error of approximation), which measures the discrepancy per degree of freedom (Bagozzi & Fornell, 1982) and found it very close to the suggested bracket of values. Table 5 indicated all the measurement model fits.

4.3. Hypothesis Testing

After establishing the relative adequacy of the model fit, it is appropriate to assess the individual path coefficients corresponding to our hypotheses. The analysis is presented in Table 6 indicated ten out of thirteen hypothesized relationships were supported. Figure 2 presents the validated research model using structural equation modeling technique with AMOS technique. The path coefficient for each relationship was found significant at the level of 0.05, 0.01 and 0.001 for the supported hypothesis. The variance explained on perceived usefulness, perceived ease of use and usage intention was found as 12%, 34%, and 45% respectively.

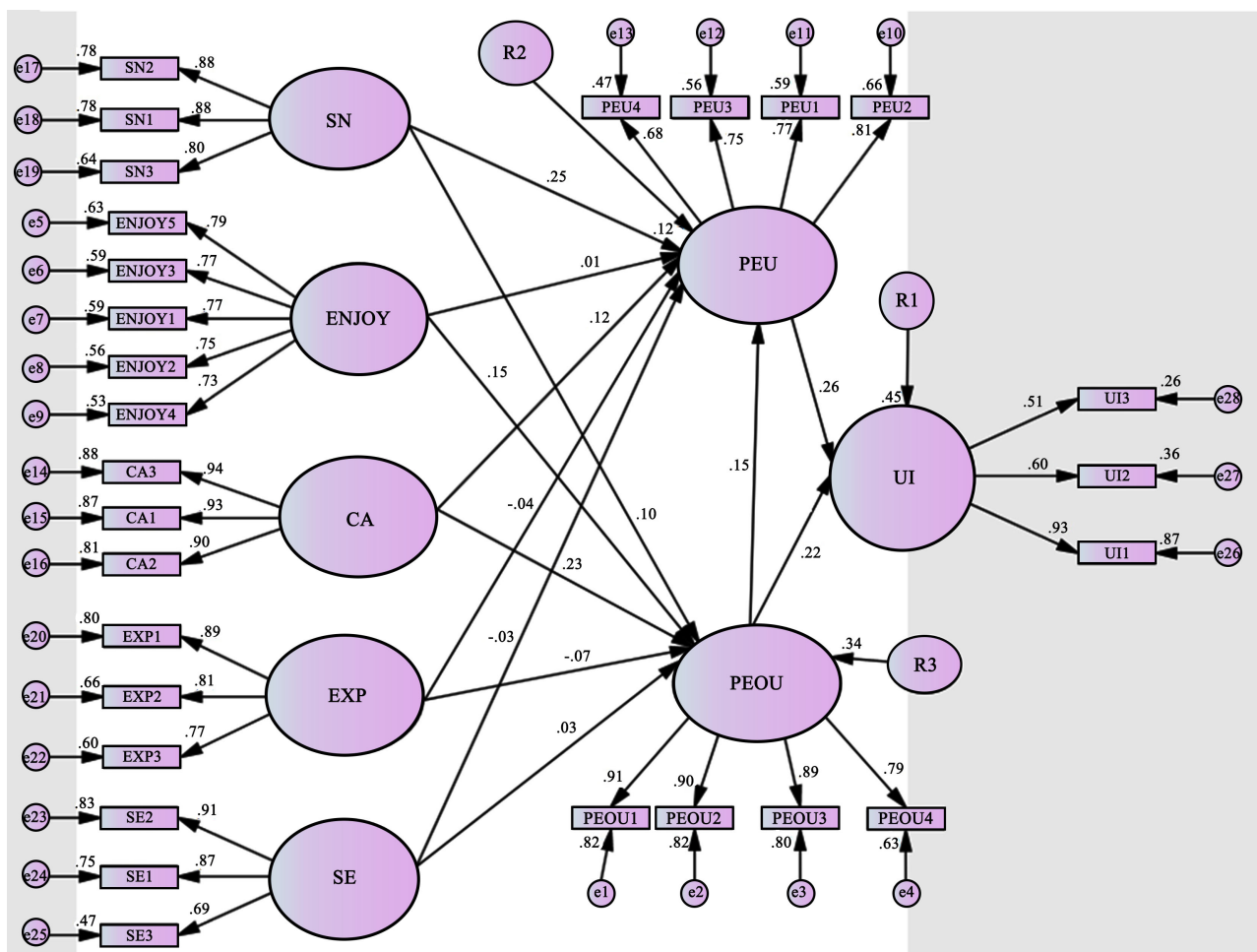


Figure 2. Hypothesis testing for research model.

Table 1. Demographic profile of respondents.

Demographic profile (N = 172)	Frequency	Percentage (%)
Gender		
Male	117	68.1
Female	55	31.9
Age		
18 - 23 years old	26	15.2
23 - 25 years old	99	57.5
26+ years old	47	27.3
Year of study		
Year 1	27	15.7
Year 2	101	58.7
Year 3	44	25.6
Experience in using mobile devices		
Less than 1 year	19	11.1
1 to 4 years	44	25.5
4 to 7 years	109	63.4

Table 2. Exploratory factor analysis.

Indicator	1	2	3	4	5	6	7	8
PEOU1	.942							
PEOU2	.924							
PEOU3	.918							
PEOU4	.851							
ENJOY5		.834						
ENJOY3		.826						
ENJOY1		.807						
ENJOY2		.804						
ENJOY4		.799						
PEU2			.932					
PEU1			.870					
PEU3			.783					
PEU4			.691					
CA3				.946				
CA1				.922				
CA2				.910				
SN2					.901			
SN1					.879			
SN3					.867			
EXP1						.897		

Continued

EXP2	.887	
EXP3	.873	
SE2		.919
SE1		.912
SE3		.816
UI1		.865
UI2		.820
UI3		.689

Note: Suppress absolute value < .30.

Table 3. The measurement model.

Construct	Mean	STD	Factor Loading	α	C.R	AVE
PEOU1	3.59	1.57	.91			
PEOU2	3.57	1.66	.90	.92	.92	.77
PEOU3	3.56	1.68	.89			
PEOU4	4.08	1.19	.79			
ENJOY5	4.95	1.04	.79			
ENJOY3	4.75	1.04	.77	.87	.87	.58
ENJOY1	4.96	1.05	.77			
ENJOY2	5.00	1.07	.75			
ENJOY4	5.06	1.10	.73			
PEU1	4.28	1.22	.77			
PEU2	4.33	1.18	.81	.84	.87	.57
PEU3	4.49	.91	.75			
PEU4	4.52	.97	.68			
CA3	4.47	1.13	.94			
CA1	4.46	1.14	.93			
CA2	4.49	1.17	.90	.94	.93	.78
SN2	4.74	1.06	.88			
SN1	4.59	1.05	.88	.89	.90	.64
SN3	4.63	1.08	.80			
EXP1	4.73	1.20	.89			
EXP2	4.52	1.16	.80	.86	.89	.61
EXP3	4.76	1.23	.77			
SE2	4.84	1.06	.91			
SE1	4.80	1.11	.87	.85	.89	.60
SE3	4.88	1.10	.69			
UI1	3.85	.74	.93			
UI2	3.80	.90	.60	.70	.85	.54
UI3	3.98	.70	.51			

Table 4. Discriminant validity.

Construct	PEOU	ENJOY	PEU	CA	SN	EXP	SE	UI
PEOU	.87							
ENJOY	-.142	.76						
PEU	.235	-.025	.75					
CA	.276	-.027	.275	.88				
SN	.226	-.035	.313	.548	.80			
EXP	-.062	.022	-.046	.053	-.006	.78		
SE	-.021	.059	-.034	-.086	-.016	-.060	.77	
UI	-.014	.075	.037	.021	-.018	.168	.036	.73

Note: SN = Subjective norm, EXP = Experience, ENJOY = Enjoyment, CA = Computer anxiety, SE = Self efficacy, PU = Perceived usefulness, PEOU = Perceive ease of use and UI= Usage intention.

Table 5. Measurement model fit indices.

Fit Index	Model	Recommended Values	Recommended by Authors
p	.001	>.05	(Hayduk, 1987)
Chi-square/DF	2.6	<3.00	(Hayduk, 1987)
CFI	.91	≥.90	(Hair et al., 2006)
NFI	.93	≥.90	(Hair et al., 2006)
GFI	.92	≥.90	(Hair et al., 2006)
AGFI	.84	≥.80	(Hair et al., 2006)
RMSEA	.064	<.08	(Bagozzi & Fornell, 1982)

Table 6. Description of hypothesis.

Hypothesis	Description of Hypothesis	Estimate	P	Results
H1	Subjective Norm--->Perceived usefulness	.25	***	Supported
H2	Subjective Norm--->Perceived ease of use	.10	**	Supported
H3	Experience--->Perceived usefulness	-.04	.170	Not supported
H4	Experience--->Perceived ease of use	.07	*	Supported
H5	Enjoyment--->Perceived usefulness	.01	.412	Not supported
H6	Enjoyment--->Perceived ease of use	.15	**	Supported
H7	Computer Anxiety--->Perceived usefulness	.12	***	Supported
H8	Computer Anxiety--->Perceived ease of use	.23	***	Supported
H9	Self Efficacies--->Perceived usefulness	-.03	-.534	Not supported
H10	Self Efficacies--->Perceived ease of use	.03	.575	Not supported
H11	Perceived usefulness--->Usage Intention	.26	***	Supported
H12	Perceived ease of use--->Perceived usefulness	.15	**	Supported
H13	Perceived ease of use--->Usage Intention	.22	**	Supported

Note: * $P < .05$, ** $P < .01$, *** $P < .001$.

5. Discussions, Implications and Limitations

5.1. Discussion

This study validated GETAMEL model in the e-learning perspective for student's education purpose in the Dar es Salaam University. The study found that subjective norm positively and significantly influences the university student's beliefs in the usefulness and ease of use of e-learning. The findings are also in line with Lee (2006). Therefore, in Dar es Salaam University, if students perceive that influential individuals think that they should use e-learning system, they perceive the system to be more useful for educational purposes (Abdullah & Ward, 2016). Computer anxiety was found to positively influence perceived usefulness and perceived ease of use. These findings were different with Lin et al. (2010) who had found that computer anxiety does not influence students' e-learning. This study found that perceived usefulness positively influences student's intentions to use e-learning. This means that students believe that using e-learning allows students to accomplish their education task as well as enhance their effectiveness in learning. In addition, perceived ease of use is found to have a positive influence on students' usefulness of e-learning usage. This finding is in line with the prior studies on understanding college students' intentions to use multimedia e-learning systems (Lin et al., 2010). Furthermore, perceived usefulness and perceived ease of use was found to have significant relationship with intention to use e-learning. These findings are in line with that of Abdullah and Ward (2016). Also, the findings indicated that experience positively influences student's belief on ease of use of e-learning and enjoyment positively influences student's belief of ease of use of e-learning. Therefore, using these factors, the administration of Dar Es Salaam University can design an e-learning system that significantly increases student motivation to use the e-learning system for educational purposes.

Experience does not significantly influence perceived usefulness, which is not in agreement with the results of Abdullah and Ward (2016). Therefore, the plausible explanation for insignificant results is because students do not have much experience in using e-learning system that reduces significant influence. Also, self efficacies did not significantly influence perceived usefulness. The possible explanation of this insignificant is due to the reason that students may not have the confidence in using e-learning even if there is no someone around to guide them. Further, enjoyment was not significant influenced perceived usefulness. The simple explanation here is students do not had a liking for using e-learning system and even the system is not pleasant to them in the actual process of using. Therefore, students are not finding it easy to do what they want to do in the system and using e-learning is not easy for them.

5.2. Policy Implication

The results will allow the e-learning practitioners to realize the factors to give more attention for increasing the student's usage intentions of the system. The

current link of subjective norm on perceived usefulness and ease of use toward usage intention is significant. This indicates that the policy-makers need to give proper attention toward selecting some champions in this area and seek their support to convince their important ones around them. The policy maker can also take proper initiatives toward picking the young students and offering them not only the short-term computer training but also making them to be aware of the various e-learning systems (which are beneficial to the students). Also in order to increase the overall usage intentions of e-learning by students, the policy makers should develop changes in computer anxiety. Practical alternatives to usage mandates should be developed and tested, such as enhancing content quality and developing a simple and easy-to-use system so that potential users would have greater levels of computer anxiety once they found that the innovation was quite easy to operate. Additionally, promotion of the system, with a particular focus on emphasizing on the popularity of the system, as well as details of planned future e-learning products and services, is a requirement in order to create bandwagon effects with regard to the intention of e-learning usage. Such promotion activities may also have a positive influence on the adoption through perceived usefulness and perceived ease of use.

5.3. Limitations and Future Research

This study is cross-sectional in nature and was carried out within a short period of time. Therefore, a longitudinal study is required with the GETMAEL usage. The finding of this study might consider changes of student perception and behavior in different period. Four of our hypotheses did not support the research data, thus for future studies should consider these four hypotheses (such as experience and enjoyment).

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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