
User Acceptance and Adoption of the Digital Management Information System by focusing on E-Learning System in Institute of Distance Education (IDE) at the University of Zambia (UNZA)

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ABSTRACT: *Digital transformation is conquering the world with a tremendous speed in every aspect of society and education is one important area. This fast advancement in technology is occurring in both the developed and developing societies. As a result, we see e-learning platforms extensively used and make the learning process continue in universities and education institutions almost uninterrupted, despite the restrictions of social interaction by governments during the covid-19 pandemic. The purpose of the study was to evaluate the User Acceptance and Adoption of the Digital Management Information System by focusing on E-Learning System in IDE at UNZA. The study was conducted on the students and lecturers who used the System at the IDE at UNZA. A google questionnaire was sent to the students in their groups and 271 participants answered the questionnaire successfully and this became the sample for the study. Data was analyzed using SPSS where the correlation and multi-variant Regression Analysis Model were used to help understand the data. The study found that the Social Influence ($\beta = .657$), was mostly significant in influencing User Acceptance Adoption of the System, seconded by Performance Expectancy ($\beta = .579$) and Effort Expectancy's ($\beta = .418$). The study concludes that all the constructs are positively related to the acceptance and adoption of the E-Learning System. However, Social Influence is the most influenced factor User Acceptance Adoption of the E-Learning System at the University of Zambia when compared to the other constructs. This conclusion has added to the arguments which have found other factors like PE and EE to be factors affecting BI for the adoption of IT systems in other countries. The study recommended that the University of Zambia should link E-Learning system with the online library to assist student get the recommended resources. This can be done by adding a fee to facilitate which will help cater for the running costs while students and lecturers maximize the use of the system.*

KEY WORDS: e-learning, UTAUT, effort expectancy, social influence, performance expectancy

INTRODUCTION

The two factors of TAM are the perceived usefulness and ease of use of the technology. TAM was later extended to the UTAUT model by Venkatesh (2003) and this model added two other factors, and these are Social Influence & Facilitating Conditions. Although there are other factors which are added by scholars conducting various similar research, the most standard factors of the UTAUT model are the 4-factors, perceived performance expectancy, perceived effort expectancy, perceived social influence & perceived facilitation conditions. The UTAUT model is hence used and tested in this research context, in the evaluation of the user's acceptance and adoption of the E-Learning system in the institution of Distance Education at the University of Zambia.

Today, the significance or positive impact of ICT in the development of a country or society is clear and undisputable. Due to this advantage, we see tremendous investment in ICT and because of this investment there is a need of increased research in the field, a rigorous implementation strategy and crafting and enhancing of policies that encourage the investments and deal with other related issues on the subject. Moreover, these Investments in technologies cannot render the desired or expected results unless they are accompanied by a thorough understanding and knowledge which includes ICT literacy of the individual and the society at large.

Furthermore, United Nations Educational, Scientific and Cultural Organization (UNESCO, 2012) observed that in today's world, education systems must constantly evolve to effectively respond to the rapidly changing demands of the societies they serve. To reach a common understanding of how both the physical and the social dimensions of learning environments affect the quality of learning processes, the relationship between place and process is needed and the teaching-learning process cannot take place in a vacuum in formal education settings. It occurs because of the interaction among components of the learning environment.

Other studies too demonstrate the relationships that exist between the UAA theory and the variables like Performance Expectance, Effort Expectancy and Social Influence among others. Tan (2013) show that performance expectations and user adoption have positive effects on behavior intentions and effects on use behavior. Meanwhile, Palau-Saumell, Forgas-Coll, and Sanchez (2019) showed that clients will have positive intentions for adopting applications if it is easy to use and help them achieve the task they want. If students can navigate through the learning process easily and make gains on time, resources and maximize the potential to make the students interact, then, they will come to like the platforms and make use of them than seeking the physical ones.

Others like Venkatesh, et al., (2003) argued that UTAUT, performance expectancy, effort expectancy, and social influence were found to influence behavioral intention to use a technology, while behavioral intention determine' technology use. In addition, Kurfalı, Arifoğlu, Tokdemir and Paçin (2017) added that the facilitating condition and behavioral

intention to use new technologies were salient constructs for current use of new technologies in rehabilitation, with facilitating condition the strongest salient for current use of new technologies in rehabilitation. Sykes et al., (2019) contended that the “valued network density” and “valued network centrality” considers the extent of the resources, information and knowledge available in the system is used to create positive attitudes on users and influence their performance on the system.

Liu, Cruz, Rincon, Buttar, Ranson and Goertzen (2015) established that performance expectancy was the strongest salient construct for behavioral intention to use new technologies in rehabilitation. In addition, Kurfalı, Arifoğlu, Tokdemir and Paçin (2017) noted that performance expectancy and Trust of internet were found to have a positive effect on behavioral intention to use e-government services. Further, Chan, et al., (2011) stated that the Information System (IS) discipline is at a crossroads regarding what the future holds for UTAUT and, the possible theoretical contributions from further research into technology acceptance and use.

Others argue that effort expectancy and social influence lead to an increase in students’ adoption of e-learning systems in developing countries but not in developed countries El-Masri & Tarhini (2017). Nonetheless, Hao (2019) notes that the factors for (UTAUT) model were mobile self-efficacy had a significantly positive effect on perceived enjoyment. (Durodolu, 2016) supports the idea that TAM as an information system theory propagates stages to be followed by information seekers or learners in the acceptance and use of new technology to achieve information literacy skills.

With regards to performance expectancy, Holzmann, Schwarz and Audretsch (2020) show that performance expectancy, facilitating conditions, anxiety, and attitude toward using technology significantly affect the adoption of novel technology and later found no empirical support that effort expectancy (H2) and social influence (H3) have a significant impact on the behavioral intention to adopt novel technology. They further add that EE influences UAA of the E-Learning System. From these scholars, it can be argued that perhaps the system under which their study was conducted was not as good as the E-Learning System and the intervening variables were not related to learning in the university which this study considered.

In comparing the relationship, Jain, Bhaskar and Jain (2022) found that there was a strong relationship between Effort Expectancy and the Usage of the ICT platforms in learning institutions especially if both the stakeholders and the beneficiaries can share better experiences. To this, Tubaishat and Lansari (2013) supports that there was a high acceptance level of e-learning adoption at Zayed University while Palau-Saumell, Forgas-Coll and Sanchez (2019) stated that the social influence construct was expanded by using the SNA and outperformed the relationship between social influence and intentions to use.

Recent studies by Lai (2017) found that a simpler version of the technology to performance model, referred to as the TTF model, found moderate empirical support for the direct links between task and technology characteristics and user perceived TTF. Hao (2019) said that social influence significantly and positively influenced by satisfaction, trust, performance

expectancy, and effort expectancy. In addition, Fagan (2019) claimed that enjoyment and performance expectations were important factors of SI which influence the acceptance of mobile learning in this context.

From the foregoing arguments, the technology acceptance theory/ model was considered as the most appropriate to use and one of the most widely used technology acceptance models is the Unified Theory of acceptance and Use of Technology (UTAUT). As the UTAUT model is an extended version of the TAM model but integration of so many other models. Some of the research studies which used the UTAUT model include the readiness and acceptance of e-learning in Thailand Ngampornchai and Adams (2016), the intention of using e-learning in Croatia Babie, Čičin-Šain, & Bubaš (2016) and the model of e-learning acceptance Kocalev, Stojanovic and Zdravev (2015). All these studies were not conducted in Zambia hence they add value to the global understanding of the PE, EE and SI of the learning system.

Performance expectancy is defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003). Performance expectancy is based on the constructs from Technology Acceptance Model (TAM), TAM2, Combined TAM and the Theory of Planned Behavior (CTAMTPB), Motivational Model (MM), the model of PC utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) (i.e., perceived usefulness, extrinsic motivation, job-fit, relative advantage and outcome expectations). It is the strongest predictor of use intention and is significant in both voluntary and mandatory settings (Zhou, Lu & Wang, 2010; Venkatesh, Thong & Xu, 2016).

Effort expectancy is defined as "the degree of ease associated with the use of the system" (Venkatesh, 2003). Effort Expectancy is constructed from perceived ease of use and complexity driven from TAM, MPCU, IDT, which share a similarity in definitions and scales. The effect of the construct becomes nonsignificant after extended usage of technology (Gupta, Dasgupta, & Gupta, 2008; Chauhan & Jaiswal, 2016). Meanwhile, Social Influence, SI, is defined as "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh, 2003). Social influence is similar to the subjective norms, social factors and image constructs used in

TRA, TAM2, TPB, CTAMTPB, MPCU, IDT in the way that they denote that the behavior of people is adjusted to the perception of others about them. The effect of social influence is significant when the use of technology is mandated (Venkatesh, 2003). In the mandatory context, individuals might use technology due to compliance requirement, but not personal preferences (Venkatesh, Davis, Morris, 2007). This might explain the inconsistent effect that the construct demonstrated across further studies validating the model (Zhou, Lu, & Wang, 2010), (Chauhan & Jaiswal, 2016).

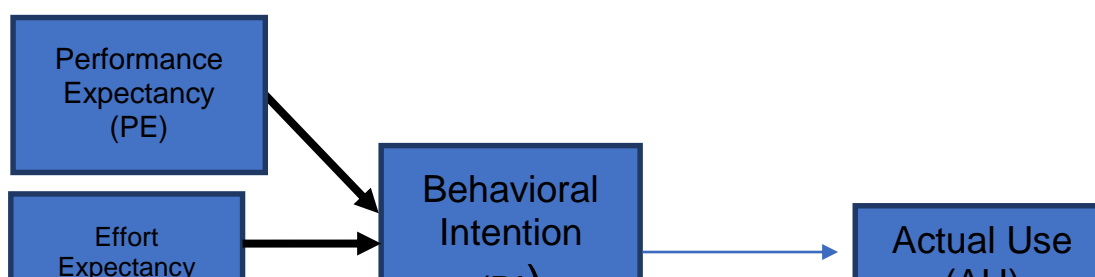


Figure 1: The Utaut Conceptual Model

The problem which this study assessed if the integration of the system in the management of distance education is associated with performance and customer satisfaction improvement. The study, therefore, looked to answer the problem by conducting an inquiry to evaluate the User Acceptance and Adoption of the Digital Management Information System by focusing on E-Learning System in IDE at UNZA.

Research objectives

- i. To determine stakeholder's Perceived Performance Expectancy of the E-Learning Management Information System in IDE at UNZA
- ii. To ascertain stakeholder's Perceived Effort Expectancy of the E-Learning Digital Management Information System in IDE at UNZA
- iii. To evaluate the Stakeholders Perceived Social Influence of using the E-Learning Digital Management Information System in IDE at UNZA.

METHODOLOGY

The study used the quantitative approach and adopted a survey research design to evaluate the User Acceptance and Adoption of the Digital Management Information System by focusing on E-Learning System in IDE at UNZA. The study was conducted on the students and lecturers who used the E-Learning System at the IDE at UNZA. A google questionnaire was sent to the students in their groups and 271 participants answered the questionnaire successfully and this became the sample for the study. Data was analyzed using SPSS where the correlation and multi-variant Regression Analysis Model were used to help understand the data. The study was ethically approved and consent from the participants was gotten online using a separate link. Data privacy and participants' safety was guaranteed as no name of the place, course and individual was mentioned in this study.

FINDINGS AND DISCUSSION

The study findings are presented using the set objectives and the subthemes are the hypothesis which were tested in this study. On all the objectives and hypothesis, correlation and multi-variant Regression Analysis results are presented and discussed in this section.

Stakeholder's Perceived Performance Expectancy of the E-Learning Management Information System in IDE at UNZA**Hypothesis one**

There is no significant relationship between performance expectancy and User Acceptance and adoption of the E-Learning System by the stakeholders at UNZA.

TABLE 1: RELATIONSHIP BETWEEN PERFORMANCE EXPECTANCY AND USER ACCEPTANCE AND ADOPTION OF E-LEARNING SYSTEM

Variables	N	r	Sig.
Performance Expectancy	271	.547**	.000
User Acceptance and Adoption of E-Learning System	271		

The first objective was to assess the stakeholders perceived performance expectancy in the acceptance and adoption of the E-Learning System. And the study findings presented in Table 1 shows that there is a moderate positive significant relationship between performance expectancy and User Acceptance and Adoption of the System ($r = .547 **$; $p < 0.05$). This means that the more the stakeholders perceive the User Acceptance and Adoption of the System as beneficial for their academic activities, the more they use them. The results bring about the rejection of the null hypothesis set in this study which stated that there is no significant relationship between performance expectancy and User Acceptance and adoption of the System by the stakeholders at UNZA. The findings are in line with (Tan, 2013) whose study results demonstrate that performance expectations and user adoption have positive effects on behavior intentions and effects on use behavior. The study results are also supported by (Palau-Saumell, Forgas-Coll and Sanchez, 2019) whose study results showed that clients will have positive intentions for adopting applications if it is easy to use and help them achieve the task they want. If students can navigate through the learning process easily and make gains on time, resources and maximize the potential to make the students interact, then, they will come to like the platforms and make use of them than seeking the physical ones. Any application and system can only be liked if its performance is as expected by its users, and this makes them influenced positively in their academic use of a given platform. The foregoing means that the users of a given technology would be happy if there do not find challenges in such technology and this led to accepting such and making it relevant to the people around the targeted community. This applies to the System. The performance expectancy found to be related to the User Acceptance and adoption brings much hope that the system was received and used as planned by the institution and its users. In doing so, a well performing program will be received and used better by the clients than a none performing program which can even turn out to be rejected by

the users. The User of the E-Learning System in this case was adopted because was relevant to the university community and their work.

TABLE 2: LINEAR REGRESSION BETWEEN PERFORMANCE EXPECTANCY AND UAA OF THE E-LEARNING SYSTEM

Variables	UAA of the E-Learning System				
	Unstandardized Coefficient	Std. Error	t-Statistic	Standardized Coefficients	Sig.
(Constant)	1.296	.158	8.200		.000
PE	.541	.050	10.714	.547	.000
R	.547				
R Square	.299				
Adjusted R Square	.296				
F-Statistics	114.794				
Sig.	.0000				
Df1, Df2	1, 269				
a. Dependent Variable: UAA of the E-Learning System					
b. Predictors: (Constant), PE					

Significant at the 0.05 level (2-tailed).

Further findings of the study in Table 2 show a linear regression analysis between the independent variable (PE) and the dependent variable (UAA of the System). The overall regression model is statistically significant ($F(1, 269) = 114.794$, $p - value = .0000 < 0.05$, $t = 8.200$). Since the p-value is less than 0.05, this indicates that PE influences UAA of the System. From the results, it can be argued that performance expectancy was a determining factor to the User Acceptance and Adoption of the System amongst the users at the university of Zambia. Venkatesh, et al., (2003) agree with the findings of the UTAUT, performance expectancy, effort expectancy, and social influence were found to influence behavioral intention to use a technology, while behavioral intention and facilitating conditions determine technology use. The findings are further supported by (Kurfalı, Arifoğlu, Tokdemir, & Paçin, 2017) who also added that the facilitating condition and behavioral intention to use new technologies were salient constructs for current use of new technologies in rehabilitation, with facilitating condition the strongest salient for current use of new technologies in rehabilitation. Sykes et al., (2019) also noted that the “valued network density” and “valued network centrality” considers the extent of the resources, information and knowledge available in the system is used to create positive attitudes on users and influence their performance on the system. Moreover, various combinations of the four moderators (gender, age, experience and Voluntariness of Use) were theorized too and found to moderate various UTAUT relationships. In this study, the variables like gender and experience were not hindering factors as the students and lecturers were of varying age but were able to use the system responsibly and developed

positive attitudes towards its use. Change is usually not accepted by most people in the community, but this learning platform was easily accepted as it provided a better experience to both lecturers and students than before.

The results of the regression model in table 2 show that the overall model is significant ($F(1,269) = 114.794, p - value = .0000 < 0.05, t = 8.200, Adjusted R^2 = .296, R = .547$). The model explains 29.6% of variance accounted for by the predictor variable (PE). Results indicate that there is a positive relationship between PE and UAA of the System (.597). Results indicate that SI ($\beta = .547, (p - value = .0000 < 0.05, t = 10.714)$) influences UAA of the System. Therefore, the result shows satisfactory goodness of fit between the independent Sykes et al., (2019) variable (PE) and the dependent variable (UAA of the System). These findings are in line with Liu, Cruz, Rincon, Buttar, Ranson and Goertzen (2015) whose study also established that performance expectancy was the strongest salient construct for behavioral intention to use new technologies in rehabilitation. In addition, Kurfalı, Arifoğlu, Tokdemir, & Paçin (2017) found that performance expectancy and Trust of internet were found to have a positive effect on behavioral intention to use e-government services. In this context, a system which is IT related becomes accepted by the users if it is user friendly and if its performance is not challenging to the users and the target group. The E-Learning System was accepted, and its performance was perceived good because it was performing according to expectations as per intended use. It reduced the costs which the users used to incur and reduced the time of accomplishing tasks hence they accepted the system with ease. In this case, there was no system rejection from the users since the advantages outweighed the disadvantages.

3.2 Stakeholder's Perceived Effort Expectancy of the E-Learning Digital Management Information System in IDE at UNZA

Hypothesis

There is no significant relationship between Effort Expectancy and User Acceptance and adoption of the System by the stakeholders at UNZA.

TABLE 3: Relationship between Effort Expectancy and User Acceptance and Adoption of the E-Learning System

Variables	N	r	Sig.
Effort Expectancy	271	.572**	.000
User Acceptance and Adoption of the System	271		

The Table 3 presents the result of the correlation analysis, and findings revealed that there is a strong positive significant relationship between Effort Expectancy and User Acceptance and Adoption of the System ($r = .572^{**}; p < 0.05$). This means that the more the System is accepted and adopted for academic activities, the more stakeholders at UNZA will use them for such. With this, the null hypothesis is rejected which means that the factors which lead to the adoption of the System were many. Overall findings from stakeholders revealed that the system was easier to use as it only needed the user to have a gadget which can go online, and the tasks could be performed with ease. The findings are supported by Lai (2017) who also assumed that the good fit between task and technology will increase the likelihood of utilization and to

increase the performance impact since the technology meets the task needs and wants of users to be more closely. El-Masri & Tarhini (2017) also found that effort expectancy and social influence lead to an increase in students' adoption of e-learning systems in developing countries but not in developed countries. The platform and system to say, reduced the physical interaction between the lecturers and students in the classroom but they were able to interact virtually in the online class just like in the physical class. Moreover, facilitating conditions increase e-learning adoption in developed countries which is not the case in developing countries. Zambia being a developing country, it is also confirming that the adopting of the System was because of it being easier to use in the institution by both the students and the lecturers. From this, we can then argue that the System was accepted by the users at the University of Zambia because it required less effort for the users to use the system. In doing so, it was easily adopted and accepted by the users.

TABLE 4: SIMPLE LINEAR REGRESSION ANALYSIS BETWEEN PERCEIVED EFFORT EXPECTANCY'S (EE) AND USER ACCEPTANCE AND ADOPTION

Variables	UAA of the E-Learning System				
	Unstandardized Coefficient	Std. Error	t-Statistic	Standardized Coefficients	Sig.
(Constant)	1.262	.152	8.303		.000
EE	.534	.047	11.441	.572	.000
R	.572				
R Square	.327				
Adjusted R Square	.325				
F-Statistics	130.907				
Sig.	.0000				
Df1, Df2	1, 269				
a. Dependent Variable: UAA of the System					
b. Predictors: (Constant), EE					

Significant at the 0.05 level (2-tailed).

The findings of the study in Table 4 on the one hand show a simple linear regression analysis between the independent variable (EE) and the dependent variable (UAA of the System). The overall regression model is statistically significant ($F(1, 269) = 130.907$, $p - value = .0000 < 0.05$, $t = 8.303$). Since the p-value is less than 0.05, this indicates that EE influences UAA of the System. The results of this study are in tandem with Hao (2019) who also found that the factors for (UTAUT) model were mobile self-efficacy had a significantly positive effect on perceived enjoyment. Durodolu (2016) supports the idea that TAM as an information system theory propagates stages to be followed by information seekers or learners in the acceptance, inculcation and utilization of new technology to achieve information literacy skills. The study findings are not isolated as they are supported by Holzmann, Schwarz, & Audretsch

(2020) whose results show that performance expectancy, facilitating conditions, anxiety, and attitude toward using technology significantly affect the adoption of novel technology and later found no empirical support that effort expectancy (H2) and social influence (H3) have a significant impact on the behavioral intention to adopt novel technology. This study refutes the results of earlier studies by Holzmann, Schwarz, & Audretsch (2020) and states that EE influences UAA of the System. It can be argued that perhaps the system under which their study was conducted was not as good as the System and the intervening variables were not related to learning in the university which this study considered. This study proves that EE influences UAA of the System in the Zambian higher education institutions which is new to the academic world. Therefore, perceived risk had a significantly negative moderating effect on the relationship between performance expectancy and behavioral intention. The E-Learning platform was easy to operate hence students and lecturers had a positive perception and usually used the platform for their academic interaction. If it was not relevant, they would not have been using it regularly. Therefore, users of the E-Learning system were able to continue using it because it was easy to use and apply in their learning and teaching interactions.

The results of the regression model show that the overall model is significant ($F(1, 269) = 130.907$, $p - value = .0000 < 0.05$, $t = 8.303$, $Adjusted R^2 = .327$, $R = .572$). The model explains 32.7% of variance accounted for by the predictor variable (EE). Results indicate that there is a positive relationship between EE and UAA of the System (.572). Results indicate that EE ($\beta = .572$, $p - value = .0000 < 0.05$, $t = 11.441$) influences UAA of the System. Therefore, the result shows satisfactory goodness of fit between the independent variable (EE) and the dependent variable (UAA of the System). The relationship found in this study between EE and UAA of the System is supported by Jain, Bhaskar and Jain (2022) whose study there was a strong relationship between Effort Expectancy and the Usage of the ICT platforms in learning institutions especially if both the stakeholders and the beneficiaries can share better experiences. This also agrees with the Unified Theory of Acceptance and Use of Technology, or UTAUT, which states that on an individual level, the adoption of new technologies will be predicated on interconnected factors such as performance expectancy, effort expectancy, and other facilitating conditions. With the use of less effort in the provision of the necessary information by the university, it was the more reason the students and the lecturers were able to find it easy to use the system.

3.3 Stakeholders Perceived Social Influence of using the E-Learning Digital Management Information System in IDE

Correlation result of Hypothesis Three

There is no significant relationship between Social Influence and User Acceptance and adoption of the System by the stakeholders at UNZA.

TABLE 5: Relationship between Social Influence and User Acceptance and Adoption of the E-Learning System

Variables	N	r	Sig.
Social Influence	271	.517**	.000
User Acceptance and Adoption of the System	271		

The third objective was to determine the stakeholders perceived social influence and the study established in Table 5 revealed that there is a moderate positive significant relationship between Social Influence and User Acceptance and Adoption of the System ($r = .517 **$; $p < 0.05$). This means that the more the social influence of the System increases, the more User Acceptancy and Adoption of the System by the stakeholders at UNZA. With this, the null hypothesis is rejected. From the findings, Tubaishat & Lansari (2013) support that there was a high acceptance level of e-learning adoption at Zayed University. The findings are also supported by Palau-Saumell, Forgas-Coll, Javier Sanchez (2019) who stated that the social influence construct was expanded by using the SNA and outperformed the relationship between social influence and intentions to use. Unexpectedly, the estimated β parameter for the above-mentioned relationship represented one of the least powerful drivers of intentions to use, in contrast to more specialized apps. This proves that the System which looks to be more specialized provided better influence on the user acceptance to that effect. Therefore, it should be realized that there is a positive relationship between Social Influence and User Acceptance and Adoption of the System in the Zambian higher learning institution which should be supported due to the various advantages.

TABLE 6: SIMPLE LINEAR REGRESSION ANALYSIS BETWEEN PERCEIVED SOCIAL INFLUENCE'S (SI) AND UAA OF THE E-LEARNING SYSTEM

Variables	UAA of the E-Learning System				
	Unstandardized Coefficient	Std. Error	t-Statistic	Standardized Coefficients	Sig.
(Constant)	1.235	.175	7.064		.000
SI	.500	.051	9.897	.517	.000
R	.517				
R Square	.267				
Adjusted R Square	.264				
F-Statistics	97.955				
Sig.	.0000				
Df1, Df2	1, 269				
a. Dependent Variable: UAA of the System					
b. Predictors: (Constant), SI					

Significant at the 0.05 level (2-tailed).

The study findings in Table 6 show a simple linear regression analysis between the independent variable (EE) and the dependent variable (UAA of E-Learning System). The overall regression model is statistically significant ($F(1, 269) = 97.955$, $p - value = .0000 < 0.05$, $t = 7.064$). Since the p-value is less than 0.05, this indicates that SI influences UAA of the System. The results are also supported by Lai (2017) Lai (who found that a simpler version of the technology-to performance model, referred to as the TTF model, found moderate empirical

support for the direct links between task and technology characteristics and user-perceived TTF. The findings are also in line with Hao (2019) who indicated that social influence was significantly and positively influenced by satisfaction, trust, performance expectancy, and effort expectancy. It was also influenced by perceived enjoyment, performance expectancy, and effort expectancy had positive associations with behavioral intention. The social influence of the use of a learning platform is because of the way others talk about a program with regards to the experience they have had. Since the students and lecturers had positive perceptions on the system, it can be appreciated here that this influenced its users positively hence they also adopted the platform in their universities. The foregoing results of this study confirm that TTF and usage together better explained the impact of information technology on individual performance (user-perceived accomplishment of individual tasks) than usage alone.

The study results of the regression model show that the overall model is significant ($F(1, 269) = 97.955$, $p - value = .0000 < 0.05$, $t = 7.064$, $Adjusted R^2 = .264$, $R = .517$). The model explains 26.4% of variance accounted for by the predictor variable (SI). Results indicate that there is a positive relationship between SI and UCA (.517). Results indicate that SI ($\beta = .517$, $p - value = .0000 < 0.05$, $t = 9.897$) influences UAA of System. Therefore, the result shows satisfactory goodness of fit between the independent variable (SI) and the dependent variable (UAA of the System). The results are supported by Fagan (2019) who indicated that enjoyment and performance expectations were important factors of SI which influence the acceptance of mobile learning in this context. For those engaged in the mobile learning pilot project upon which this study was based, the use of the UTAUT and the results provided a theory-based empirical approach to support an assessment that the pilot project goals were achieved. Overall, the study concluded that students perceived iPads to be useful and enjoyable tools for accomplishing educational tasks and improving learning outcomes. The social use of the E-Learning system can also be connected to the way the users feel happy to use the platform due to its flexibility. A better platform becomes more useful than a rigid one hence it is important to state here that people's perceptions are usually positive when a platform is easy like the learning system.

Multiple Regression Analysis of the constructs

A Multiple Linear Regression Analysis was performed to assess if perceived performance expectancy's (PE), perceived effort expectancy's (EE) and perceived social influence's (SI) influence User Acceptance and Adoption (UAA) of the System holding the other constructs constant. The results are shown in Table 7.

TABLE 7 MULTIPLE REGRESSION ANALYSIS AMONG PE, EE, SI AND UAA

Variables	User Acceptance and Adoption (UAA)				
	Unstandardized Coefficient	Std. Error	t-Statistic	Standardized Coefficients	Sig.
(Constant)	.488	.135	3.625		.000
PE	.594	.80	2.430	.597	.016
EE	.417	.93	.184	.418	.004
SI	.652	.071	2.149	.657	.033
R	.799	R Square		.638	
Adjusted R Square	0.630	R Square Change		.638	
F-Statistics	77.649	Prob(F-statistic)		0.000	
Df1, Df2	6, 264	Std. Error of Estimate		.85745	
a. Dependent Variable: UAA of the System					
b. Predictors: (Constant), PE, EE, SI					

Table 7 shows the results shows a multiple regression analysis between the independent variables (PE, EE and SI) and the dependent variable (UAA of E-Learning System). The overall regression model is statistically significant ($F(6, 264) = 77.649$, $p - value = .000 < 0.05$, $t = 3.473$). Since the p-value is less than 0.05, this indicates that PE, EE and SI influence UAA of E-Learning System.

Results from Table 7 show R value for PE, EE and SI is .799. The value of R indicates a strong positive correlation between the independent variables i.e., PE, EE and SI and the dependent variable i.e., UAA. In other words, PE, EE and SI influence UAA of the System.

The results also in Table 4 show that the adjusted R^2 for PE, EE and SI is .630. The value of adjusted R^2 mean that 63.0% of variation in User Acceptance and Adoption is influenced by PE,EE and SI included in this regression model. This further mean that the regression model is significant to predict the effect of PE, EE and SI on UAA of the System.

Also, results from Table 4 show that R squared R^2 for PE, EE and SI to measure User Acceptance and Adoption (UAA) of the System is .638. The value of R^2 mean that 63.8% of variance in UAA of E-Learning System is influenced by PE, EE and SI included in this regression model. This further mean that the regression model is significant to predict the effect of PE, EE and SI on UAA of the System.

For clarifying the relationship between PE and UAA of the System, the regression results in Table 4 indicate a positive statistically significant relationship ($p - value = .016 < 0.05$, $t = 2.42$). These results indicate that PE influences UAA of the System (.579). This further indicate that when PE increase, User Acceptance and Adoption (UAA) of the System also

increase. However, the coefficient from the model output tells that a one unit increase in PE is associated with a .597-unit increase, on average, assuming EE, SI, BI are held constant. This further indicates that an average change in UAA of the System is associated with a one unit increase in PE.

To explain the relationship between EE and UAA of E-Learning System, the results in Table 7 for the regression model reveal a statistically significant relationship ($p - value = .004 < 0.05, t = .171$). These results indicate that there is a positive effect between EE and UAA of E-Learning System (.418). This further indicate that when EE increase, UAA of the System also increase. However, the coefficient from the model output tells that a one unit increase in EE is associated with a .418-unit increase, on average, assuming PE, SI, and all others are held constant. This further indicates that an average change in UAA of the System is associated with a one unit increase in EE.

Results in Table 7 also reveal a positive and statistically significant relationship between SI and UAA of the System ($p - value = .033 < 0.05, t = 2.145$). These results indicate that there is a positive effect between SI and UAA (.657). This further indicates that when SI increases, UAA of the System also increases. However, the coefficient from the regression model tells that a one unit increase in education is associated with a .657-unit increase, on average, assuming PE, EE, BI is held constant. This further indicates that an average change in UAA of the System is associated with a one unit increase in SI.

In summary, the results of the regression model show that the overall model is significant ($F(5,265) = 93.528, p - value = .000 < 0.05, t = 3.625$, $Adjusted R^2 = .631, R = .638$). The model explains 63.1 % of variance accounted for by the predictor variables (PE, EE and SI). Results indicate that PE ($\beta = .579, p - value < 0.05$), EE ($\beta = .418, p - value = .004 < 0.05, t = .184$), SI ($\beta = .657, p - value = .033 < 0.05, t = 2.149$) have an effect on UAA of the System.

Specifically, the results suggest that there is a strong positive correlation between the independent variables (PE, EE and SI and the dependent variable (UAA of E-Learning System). In other words, PE, EE and SI influence UAA of the System. That is to imply that there is a strong positive relationship between DMIS (E-Learning System) and User Acceptance and Adoption (.799). Therefore, the result shows satisfactory goodness of fit between the independent variables (PE, EE, SI) and the dependent variable (UAA of the System) as presented in the multiple regression equation below:

$$Y = a + PEX_1 + EEX_2 + SIX_3$$

$$Y = .488 + (.579)X_1 + (.418)X_2 + (.657)X_3$$

Relative contribution of PE, EE and SI to the prediction of UAA of the E-Learning System

The study also sought to establish relative contribution of PE, EE and SI to the prediction of UAA of E-Learning System. The aim was to establish which among the independent variables i.e., PE, EE, SI influence UAA of the e-Learning System the most. To achieve this,

standardized coefficients from a multiple regression analysis output were used and the ranking of the standardized coefficients was performed as shown in Table 8 below:

TABLE 8 RELATIVE CONTRIBUTION OF PE, EE AND SI TO THE PREDICTION OF UAA OF THE E-LEARNING SYSTEM

Variables	User Acceptance and Adoption					Ranking
	Unstandardized Coefficient	Std. Error	t-Statistic	Standardized Coefficients	Sig.	
(Constant)	.488	.135	3.625		.000	
SI	.718	.081	.224	.657	.002	1
PE	.711	.072	9.917	.579	.000	2
EE	.604	.052	.079	.418	.037	3
a. Dependent Variable: User Acceptance and Adoption						
b. Predictors: (Constant), PE, EE, SI						

Significant at the 0.05 level (2-tailed).

Results in Table 8 shows that Social Influence's ($\beta = .657$) is mostly significant in influencing, the Behavioral Intention followed by Performance Expectancy's ($\beta = .579$), and Effort Expectancy's ($\beta = .418$).

CONCLUSION

Following the specific objectives in establishing the contribution of PE, EE and SI to the prediction of UAA of the E-Learning System. The study found that the Social Influence ($\beta = .657$), was mostly significant in influencing User Acceptance Adoption of the E-Learning System, seconded by ($\beta = .579$) and Effort Expectancy's ($\beta = .418$). The study concludes that all constructs are positively related to the acceptance and adoption of the E-Learning System. However, Social Influence is the most influenced User Acceptance Adoption of E-Learning System at the University of Zambia when compared to the other constructs. This conclusion has added to the arguments which have found other factors like PE and EE to be factors affecting BI for the adoption of IT systems in other countries. However, longitudinal research is needed to substantiate the finding. In short, that SI is an important factor which influences User Acceptance & Adoption of an ICT tool, program or system as in the context. However, again to substantiate the claim more rigorous research will be needed.

Recommendations

Arising from the presented conclusions of the study, the following recommendations are made:

- i. The University of Zambia to link E- Learning system with the online library to assist student get the recommended resources. This can be done by adding a fee to facilitate which will help cater for the running costs while students and lecturers maximize the use of the system.

- ii. The University of Zambia to buy the required electronic devices or gadgets for students by the ICT department so that students be helped to solve the accessibility challenges. This can be done by adding a fee to the students' overall school fees so that they can pay for the ICT tool at a slow pace as they learn and enjoy the facility.
- iii. Continues research studies on the subject is required and also with additional UTAUT constructs on the subject.

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