



DETERMINANTS OF STUDENT'S PERCEPTIONS TOWARDS E-LEARNING ADOPTION DURING COVID-19 PANDEMIC: THE UNIVERSITY OF BAMENDA-CAMEROON EXPERIENCE

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Abstract

The COVID-19 outbreak partially or entirely interrupted effective face-to-face teaching and most universities all over the world were pushed to adopt other technology based learning approaches like e-learning. This change appeared to be too abrupt and challenging for most universities in developing countries as most students had little or no access to appropriate devices that could facilitate an effective switch to online learning. The primary objective of this study was to evaluate the perception of students towards e-learning as well as identify the factors affecting their adoption and usage of e-learning during COVID-19 period. The researchers employed a quantitative study with the help of a model with six exogenous and two endogenous variables adapted from the Unified Theory of Technology Acceptance and Use. Questionnaires were randomly administered online to 600 students of the different faculties and schools of the University of Bamenda (Cameroon). A total of 425 questionnaires were

completed. The results reveal that performance expectancy, effort expectancy, the facilitating conditions and social influence positively influenced the behavioural intentions to use the e-learning platform. However, effort expectancy appeared to be a dominant element while performance expectancy though positive, had an insignificant effect. Thus students had a positive perception on e-learning but the adoption and usage was affected by limited access to technology, cost of data and other facilitating conditions. Implying that subsidizing the access to resources and materials is critical for the effective adoption of e-learning. This study has significant practical and theoretical implications in the area of student's perceptions with respect to e-Learning adoption in higher learning institution in the context of developing country like Cameroon.

Keywords: COVID-19 pandemic, behavioral intentions, UTAUT, E-learning adoption

INTRODUCTION

December 2019 witnessed the outbreak of a new pandemic known as COVID-19 which scientist revealed severe acute respiratory syndrome Coronavirus 2 (SARSCoV-2) as the primary cause and this resulted to unprecedented disruptions in human activity, education not left out (Mouchantaf, 2020). Faced with this global shock, citizens in most countries including Cameroon were coerced by governments to adapt to and practice a new ways of life such as limited personal contact and to several restrictive measures, known as lockdowns. One of the contingent measures to contain its rapid spread was the closing of over 70% of educational institutions, from early childhood learning to higher learning institutions, and the suspension of face-to-face teaching, affecting over 1.5 billion learners (Gupta et al., 2020). A new portal for learning to counteract the effects of COVID-19 outbreak on education was therefore necessary making e-learning inevitable.

Cameroon observed its first cases of the COVID-19 virus infection in in February/March of 2020 and by April of 2020 it had become imperative for measures of public health and safety to be put in place to curb the infections and protect the citizens. Cameroon was among the topmost COVID- 19-affected countries in sub-Saharan Africa as the country registered more than 320 deaths and almost 15,000 officially confirmed cases as of 6 July 2020 (Coronavirus Statistiques, 2020). A research carried out by Nick Routley (2020) revealed Cameroon as the country with the highest weekly coronavirus infection rate in the world (12%) that as of 12 May 2020. The spread of COVID-19 in Cameroon began on 6 March 2020 and the government came out with imminent measures for this purpose which rather had adverse effects on education like bringing it to a complete halt while. There was therefore a need for the different

education stakeholders in the country to figure ways of ensuring the continuity of education in these trying times. According to UNSD, 2020, the pandemic resulted nationwide paralysis of the education sector with over 6 million learners in primary and secondary schools out of school. This was further aggravated by multiple crises affecting the education sector in many parts of the country such as the crisis in the English-speaking regions as observed by UNICEF and other humanitarian actors that displaced over half a million people and deprived 700,000 children of schooling (SODEI Report, 2021).

Since its outbreak, the educational sector has been at forefront of the contingent strategies designed by the government for responding to the COVID-19 pandemic. On the 17th of March 2020, a strategy was set out by the Prime Minister of Cameroon which consisted of placing the educational as a top priority. Schools and universities were ordered to lock down, face-to-face academic activities were suspended. The COVID-19 pandemic which occurred in the middle of the academic paralysed the education sector. A report by UNSDG, (2020) revealed that 40,000 learners in vocational training, and 347,000 in higher education were “involuntarily out of school”. To compensate for the cessation of face-to-face teaching, the Ministries of Basic Education, Secondary Education and Higher Education resolve on switching to distance teaching and learning tools after two weeks of hesitation, to ensure the continuity of education. The government also recommended the prioritization of the use of distance communication tools by school and university administrators for meetings, seminars and conferences (Béché, 2020). For the first time, higher education institutions in Cameroon, migrated to the online environment to protect staff and learners’ lives. However, it should be noted that this migration to the online world was not an easy task for the educational stakeholders. It was disruptive and had several limitations and difficulties for students. Students were forced to hurriedly leave their campuses, with little time to learn and adapt to the new norm; this demanded more financial resources for remote based learning. Given the fact that these students had no prior experience and had not received any formal training on technology-based learning this resulted in an unpleasant learning experience as most of the students and their lecturers experimented using technologies as they transitioned to a fully online environment. This sudden transition caused anxiety among students as most university curricula were designed for in-person learning, and the universities were unprepared for an abrupt shift due to a lack of resources to support emergency remote teaching.

Despite the efforts towards integrating ICT into education and enhancing digital access for learning in Cameroon, there have been challenges which became evident during the COVID-19 orchestrated school shut-down. Researchers outlined some major challenges such as the absence of a clear vision and planned strategy for ICT integration in Education, the lack of

technological resources, knowledge and skills (Nsolly N. and Charlotte N. 2016, Farinkia, N. and Tambi, A., 2018, Farinka, N. 2018, Njouny, M. E., 2021), not leaving out the attitudes and beliefs of teachers and parents (Haji S., Moluayonge, G. and Park, I., 2017, Mbakwa P. 2019, Farinkia, N. and Tambi, A., 2018, Nsolly N. et al, 2016, Njouny, M. E., 2021). Nsolly N. and Charlotte N., (2016) also stated that the focus of government and private sector initiatives has been seen to be more theoretical than practical due to the lack of ICT infrastructure. They also argued that the draw back in the adoption of e-learning in Cameroon is explained by the fact that the “Physical Integration Approach” to technology in education which consist of the introduction of technological equipment for use by students and teachers, outweighs the “Pedagogical Integration Approach” which is a more habitual and sustained use of ICT in education, oriented towards change in educational practices and the improvement of teaching and learning experiences. The university of Bamenda, which had earlier designed its learning management system (LMS) propagated the effective adoption and use of this e-learning platform by its students and lecturers. However, the successes of this innovation has been limited by the problem of connectivity.

The World Bank report (2020) identified Connectivity as a significant setback in developing countries. According to this report, about 35% of the population having access to the internet compared to 80% in developed. Tam & El-Azar, (2020) also stated that schools are employing several solutions to ensure that teaching and learning continue, and this is due to limitations in digital access, as only 60% of the world’s population is online. The World Bank, (2020) Report also revealed that more than 50% of the schools in Africa have no access to electricity, and over 60% of the population has no access to broadband Internet. In January 2020, Cameroon had 7.8 million people connected to the internet, according to a report published by Hootsuite and We Are Social, two organisations with platforms for monitoring flows on social networks and the internet. With this number of internet users, it is reported, the internet penetration rate in Cameroon reached 30% in January 2020. A 2021 report by Digital in Cameroon stated that there were 9.15 million internet users in Cameroon in January 2021. The number of internet users in Cameroon increased by 1.3 million (+16%) between 2020 and 2021. Internet penetration in Cameroon stood at 34.0% in January 2021. A report by Global Market Insights, (2019) revealed that till 2015, global contribution of the e-learning industry was estimated at 300 Billion USD. However, this market has profited from higher education sector throughout the world (Palvia et al., 2018). The study of Tarhini et al., (2017) in the United Kingdom revealed an adoption rate of e-learning of more than 95 % for all higher educational institutes in their major programs. Even though many educational institutions had started using e-learning, most Cameroonian educational institutions lagged in adopting e-learning and making

its use mandatory. It is only now, after the COVID-19 pandemic outbreak, that institutions realise how e-learning has become the only feasible and practical solution for continued learning.

Before the outbreak of the covid-19 pandemic, Cameroonian universities relied on traditional face to face learning, and academic staff had no experience in teaching online. The pandemic thus negatively affected them because they had to redesign the content, lesson plans, and activities. Cameroonian universities also rely on face-to-face examinations, and students still suffer due to lack of access to teaching and learning devices, high cost of data, and limited support from institutions. This is the contrary with institutions that had adopted e-learning platforms before the lockdown as they found it easy to migrate into the online world (Maphosa, 2021). Very few studies have been undertaken to evaluate students' perceptions regarding the implementation of remote-based teaching in a developing country such as Cameroon during the COVID-19 pandemic. The paper aims to contribute literature on students' perceptions, which may provide insight for other developing countries. The study examines university students' perceptions and establishes the main factors that affected and limited the successful usage of "UBa LMS" after its launch during COVID 19.

The paper's remaining sections are as follows: Review of related studies regarding e-learning. theoretical framework, methodology and data collection procedure, presentation of results and discussion follows. The paper then presents policy recommendations and conclusions.

LITERATURE REVIEW

E-learning system (ELS)

It should be noted that the COVID-19 is not the only element that has triggered developments in the education sector. Other advancements in technologies such as e-learning have also triggered the switch from traditional learning methods to modern ways like learning by artificial intelligence (Di Vaio et al., 2020). E-learning which constitutes one of the modern way of learning consist of technology-based learning done via different learning portals such as websites, mobile apps, video conferencing, YouTube, or other similar online learning platforms. Besides enhancing students' knowledge, e-learning has been identified as "one of the best ways" of facilitating the academic professionals and acquisition of skills by the people working in industries via the internet (Adams et al., 2018). Maphosa, (2021) defined e-learning as the integration of ICT tools to support educational services. E-learning is ubiquitous, allowing access anywhere and anytime, very cheap to set up, and offers excellent flexibility and interactivity.

Presently, the e-learning system is supposedly the most prevalent Internet based learning setting which aids in efficient time usage and boundary less learning (Martin, Modi & Feldman, 2021). Nevertheless, the success of these systems depends on user acceptance and satisfaction. ELS permit different system users to have the flexibility of direct or indirect interactions with their peers during the learning process (Alhomod & Shafi, 2013; Yakubu & Dasuki, 2018; Sabri, 2016; Opoku, Pobee & Owusu Okyireh, 2020) users of ELS can access the system via Internet portals which opens them to benefits of the information, lessons learned, knowledge, and skills. ELS permit earners to access the courses either directly (live) or by the uploaded and posted content on the portal (accessed offline at a later time). This justifies the assertion that ELS proves to be the best effective milieu for learning. Al-shargabi, Sabri and Aljawarneh (2021), asserted that in the learning context, students and universities combined have several added advantages with the ELS service offerings. They summarized the following advantages: Faster web access to information, Enhanced upload and download contents, Content standardization and accountability, Availability, Interactivity, Confidence, Higher user satisfaction, Improved opportunities for career growth and flexible learning for students, Increased innovation, Superior operational efficiency and Cost savings. They however stipulated that the advantages of ELS are dependent on users' satisfaction, incessant system use, and intent to use.

Gamage et al., (2020) stipulated that the online environment offers students virtual labs and simulation tools that allow students to use video-based tools to access the labs and perform real-time experiments. E-learning systems have achieved global recognition as it due to their ability to allow learners to access a vast educational content pool, to enable learners to create content, learn independently, collaborate amongst themselves, and to permit them create new knowledge (Hoque & Alam, 2010). It is therefore highly imperative to understand users' adoption to use ELS with reference to the predictive factors of behavioral intention theories (Selim, 2007; Sabri, 2016). Understanding these will help universities to benefit from the advantages and become more efficient in optimizing their academic business procedures and operating costs.

Students Intention to Adopt E-Learning

A body of literature exists with regards to e-learning adoption. Most antecedent studies such as the works of Abdullah & Ward, (2016) and Martin, (2012) based on the technology acceptance model (TAM) to adapt models predicting intention the use of e-learning by elaborating the technological acceptance model (TAM). These studies have identified several external determinant factors for e-learning adoption. The studies conducted by Alenezi and Karim (2010); Abdullah, Ward and Ahmed (2016) explained intention to use e-learning systems through factors such as perceived self-efficacy, social influence, perceived enjoyment, computer

anxiety and experience in engaging e-learning. Another study by Alsabawy et al. (2016) rather identified perceived usefulness as the dominant element for understanding the failure and success of e-learning adoption. Furthermore, a previous study by Al-Gahtani, (2016) confirmed the validity and importance of TAM to predict technological acceptance behavior. A recent study conducted by Maphosa ,(2021) revealed that that performance expectancy, effort expectancy, and the facilitating conditions positively influenced the students' behavioural intentions to use Moodle. Thus, the students had a positive perception of online learning. Results also indicated a significant loss of learning due to the unavailability of technology and the cost of data; nevertheless, students agreed that online learning represents the future of teaching and learning. The findings also show that subsidised access to resources and materials is critical for the effective adoption of e-learning. Anderson (2005) on his part noted that communities facing equity challenges with traditional educational resources were the most vulnerable to face more challenges moving into the online environment. This was supported by Reglitz, (2020) whose study revealed an unequal access to the internet globally, with about 19% access in the developing world, and these inequalities has been magnified by the pandemic with commentators arguing that access should be universal. The study of Tam and El-Azar, (2020) further revealed unreliable internet access in most developing countries as the primordial cause of their struggle to participate online.

Oyediran et al. (2020) on their part conducted a study Nigerian students and the revealed that there was a negative effect of the high cost of ICT devices on e-learning adoption. This was supported by Hurlbut (2018) who noted that instructor feedback was one of the top predictors of adoption highlighted by students who successfully embraced an online course. Another study by Akuratiya and Meddage (2020) revealed that most students preferred blended learning, while less than 5% opted for traditional face-to-face learning. Another study in Malaysia by Ramli et al., (2020) also revealed that the main factor that hindered learners from fully participating in online learning was high data costs. The research of Sintema (2020) equally revealed that students from developing countries with limited infrastructure found it challenging to migrate into the online environment fully. The movement from face-to-face to online learning was initially resisted as educators felt that in-class students performed better than the online ones. The study of Gelles et al. (2020) supported that most students felt unprepared to transition into the online based learning and felt that the communication they experienced with their lecturers was impersonal.

It should be noted other governments assisted students in reducing the financial burden of going online. For in Malaysia, students were provided with free 30GB of data per month to support remote-based learning (Ramli, Majid, & Badyalina, 2020). In South Africa, the

government provided over 700 000 new laptops for university students to support learning during the COVID-19 pandemic (businessstech, 2020). Equally, all university websites in South Africa were zero-rated to ensure that university students access-learning content at zero cost (universityworldnews, 2020). In the Cameroonian context the government through the initiative of the president of the republic, H.E. Paul Biya had earlier started the distribution of free laptops to students in all higher institutions with the goal of digitalizing the higher education sector.

Another study by Siron, Wibowo, & Narmaditya, (2020) explained students' intention in using e-learning system was through determinant variables such as perceived enjoyment, students experience, computer anxiety, and perceived self-efficacy. These findings also confirmed that both perceived ease of use and perceived usefulness can explain the students' intention in adopting e-learning systems. A study by Mailizar et al. (2021) in Indonesia showed that attitude toward E-learning use and E-learning experience were the two most significant constructs in predicting E-learning use. That of Qiao et al., (2021) indicate that the moderating results of technology evolution are proposed and evaluated under the UTAUT model before the COVID-19 outbreak. However, it should be studies after the corona virus pandemic outbreak were more centered on technology efficiency rather than effectiveness, they focused more on the infrastructure to reach more users after the COVID-19 outbreak since e-learning appeared as the only option to continue education. As such COVID-19 fears moderated the relationship between the external factors and the behavioral intention of e-learning users

Other studies were equally criticized the credibility of e-learning systems and outlined its disadvantages (Jefferson & Arnold, 2009; Radović-Marković, 2010; Alexander, Truell, & Zhao, 2012; Dumford & Miller, 2018; Hiranrithikorn, 2019; Salleh et al. 2020; and Bączek et al. 2021). Despite the importance of online learning and the fact that it offers more benefits to learners, there has been a slow adoption of online-based learning systems in most developing countries, and the COVID-19 pandemic has catapult institutions into adopting more sustainable and innovative learning solutions including online based teaching (Li & Lalani, 2020). Some key themes can be identified from the literature, they include: infrastructural and device deficiencies, rapid migration, data costs, and communication with students. The contribution of this study is that first, it aims to identify the principal factors determining the adoption of e-learning systems by students during the Covid-19 pandemic. Secondly as seen above little attention has been given to conducting such as a study in a developing country setting like Cameroon, particularly during pandemic. The focus on the University of Bamenda (Cameroon) is underlying as e-learning has been one of the contingent measures adopted during Covid-19 pandemic. Third, this present study highlights the literature review on the factors affecting students intention to use e-learning systems as an impact from the Covid-19 pandemic.

Theoretical Framework

This study draws inspiration from the unified theory of acceptance and use of technology (UTAUT). The unified theory of acceptance and use of technology comprises of three updated versions of the TAM (UTAUT, UTAUT 2, and UTAUT 3) which was one of the pioneer models to present the determinants of behavioral intentions towards technology adoption (Akbar, 2021). Venkatesh et al. (2003) developed the UTAUT theory. The primary objective was to assess technology adoption in the workplace, mobile services and technologies, social influence, social media, and use of computers in education (Koivumäki, Ristola, & Kesti, 2008; Eckhardt, Laumer, & Weitzel, 2009; Curtis et al. 2010; Verhoeven, Heerwegh, & De Wit, 2010). The study of Huang & Kao, (2015) revealed the UTAUT2 as effective model for explaining and analyzing the behaviors towards the acceptance of new information technology products. According to Farooq et al., (2017) and Gunasinghe et al., (2019), the UTAUT3 theory highlighted the technology adoption with reference to e-learning in the context of teaching sector, a sector in which technology adoption was mostly ignored. However, the technology adoption or familiarity with technology in the teaching sector boomed in this era of COVID-19. This study emphasizes the importance of e-learning by mixing the concepts of UTAUT and UTAUT 3 theory. To investigate the determinant factors of the actual use of university of Bamenda e-learning management system, this study adapted a model with four determinants of the Behavioural Intention (BI) to actual use of an e-learning system as seen in Fig 1: Performance Expectancy (PE), Effort Expectancy (EE), Facilitating Condition (FC) and social influence (CI). The facilitating conditions have three constructs (Support, Access, and Efficacy). The facilitating conditions construct directly determine usage behaviour. The model has five exogenous (PE, EE, FC-Support, FC-Access, FC-Efficacy) and two endogenous (BI and Actual Use) variables.

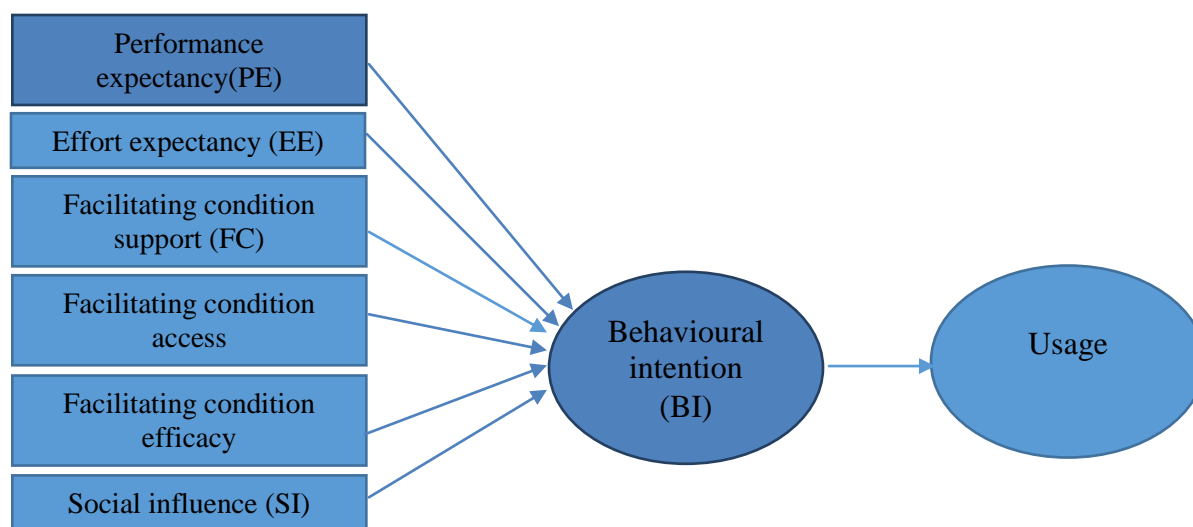


Figure 1. Adapted from UTAUT model (Venkatesh et al., 2003)

Hypotheses

The following hypotheses, as outlined in Figure 1:

H1: PE will significantly influence UBa students' BI toward using the e-learning platform.

H2: EE will significantly influence UBa students' BI toward using online learning.

H3: FC Support will significantly influence UBa students' BI toward using the e-learning platform.

H4: FC Access will significantly influence UBa students' BI toward using the e-learning platform.

H5: FC Efficacy will significantly influence UBa students' BI toward using the e-learning platform.

H6: SI will significantly influence UBa students' BI toward using the e-learning platform.

Venkatesh et al. (2003) defined performance expectancy as how users perceive that adopting the new system will help them perform specific tasks. According to them, performance expectancy refers to the extent to which a person believes that by adopting and using a given technology will provide an added advantage in undertaking certain activities. According to them, Effort expectancy is the extent of ease derived while using a particular system in place, that is to say the ease with which the users will find the new system, or the required effort they need to supply to use the new system; facilitating conditions on the other hand refer to the perceptions of the users with respect to the availability of support and resources needed to assist in the use of the new system or technology. It refers to the degree to which a person considers that a technical and organizational framework exists to facilitate the use of the system. Ajzen (1991) on his part defined social influence as pressure exerted by the society on an individual that pushes him/her to perform or not to perform an action. This pressure can come from peers, colleagues etc. These influence the behavioural intentions of the user to use the system or not. Venkatesh et al. (2003, 2012), defined behavioural intention as the tendency of a user to adopt and use self-service technologies (SSTs).

METHODOLOGY

This study adopted a cross-sectional descriptive approach and focused on students' perception regarding e-learning. The quantitative study employed an adapted UTAUT model to guide the research process. The study's population will consist of sample of 600 students that were registered for the 2019-2020 academic year. The researchers demanded permission to conduct the research from the University. The questionnaire was imputed into "formsapp" an online survey application and a link was generated and shared to participants who were invited to take part in the study, and a total of 600 questionnaires were shared via the link. The researched ensured that participation in the study was voluntary, the responses of students

were kept confidential, and also their identities were kept anonymous. Those who indicated their willingness to participate in the study were shared the questionnaires for completion. The number of completed questionnaires upon immediate filling and strict follow up of respondents summed up to 425 (see table 1 below). The study used a 42-item questionnaire with six thematic areas: demographics and personal characteristics; performance expectancy, effort expectancy, facilitating conditions (support, access and efficacy) and social influence as well as behavioral intentions of usage. The instrument will use Likert scale. A Likert scale of 1-5 was used where 1 represents Strongly Disagree, and 5 represents Strongly Agree. Data analyses which involved computing percentages, frequencies and correlations between the constructs was done using the Statistical Package of Social Science (SPSS version 22).

Analysis of the Measurement Instrument

The six variables of the model were used to examine the 425 responses using a Cronbach's α . The reliability test was used to determine the internal consistency of the constructs in the model. In an attempt to perform this, the Cronbach's Alpha was used with an accepted threshold of at least 0.7 as shown on Table 2. The internal consistency of the participants was not violated for any of the variables as Cronbach Alpha coefficients values ranged between 0.720 to 0.826 were obtained. These exceeded Chua (2006)'s recommended threshold of 0.60. The instrument's validity is confirmed when Cronbach Alpha values are more than 0.6 (Chua, 2006). A high value depicts the correlation of variables within a single factor. In this study, the Cronbach Alpha value indicates that the instrument measured a common factor related to the student's perceptions towards e-learning adoption. The overall reliability of the instrument (integrated value mapping) is 0.803 which was above the recommended threshold of 0.7. Judging from the coefficient values, it was concluded that the indicators were consistent in their responses for all the variables. In the nutshell, because of the satisfactory coefficient values which are above 0.7. Thus, the instrument and constructs were valid and reliable for the study.

RESULTS AND DISCUSSION

Presentation of the Results

Results from descriptive statistics showed that More than half (58.6%) of the 425 participants were females, while males constituted 41.4%. The ages of the participants were as follows: below years (32.5%), 20 to 30 years (50.1%), above 30 years (17.4%). Concerning the test for multi-collinearity (see Table 3), from findings, it can be seen several eigenvalues close to zero (0) are an indication for multi-collinearity (IBM, 2005). Since "close to" is somewhat imprecise, it is better to use the next column with conditional index for diagnosis. There are

calculated from the eigenvalues. The condition index for a dimension is derived from square root of the ratio of the largest eigenvalue (dimension 1) to the eigenvalue of the dimension. In table 3, to get the condition index for example for dimension 2 (Square root of Eigenvalue 1/Eigenvalue 2) = $\sqrt{4.841/0.063} = 8.757$. Values above 15 can indicate multi-collinearity problems, values above 30 are a very strong sign for problems with multi-collinearity (IBM, 2005). For all lines in which correspondingly high values occur for the condition index, one should then consider the next section with variance proportions (Table 3.). Table 3 also shows the collinearity diagnostics statistics to determine if there is the presence of multi-collinearity.

Table 1. Response Rate of Questionnaires

Number of Questionnaires	Total Number	Percentage
Questionnaires Given Out	600	100%
Questionnaires Returned	425	70.83%
Questionnaires Not Received	175	29.17%

Table 2. Cronbach's Value

Constructs	Cronbach's Alpha Value	No. of Items Returned
Performance Expectancy	0.720	6
Effort Expectancy	0.819	5
Facilitating Condition Support	0.709	4
Facilitating Condition Access	0.703	7
Facilitating Condition Efficacy	0.826	4
Social Influence	0.746	5
Behavioral Intention and Adoption (dependent variable)	0.875	7

Table 3 Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	PE	EE	FCS	FCA	FCE	SI
1	1	4.841	1.000	.00	.00	.00	.00	.00	.00	.00
	2	.063	8.757	.43	.00	.11	.14	.08	.00	.13
	3	.051	9.736	.22	.00	.15	.15	.31	.00	.17
	4	.030	12.630	.34	.18	.03	.62	.17	.17	.02
	5	.014	18.611	.01	.81	.70	.09	.43	.84	.80

a. Dependent Variable: Behavioral Intention toward using online learning

Table 4. Regression analysis (Dependent variable: BI)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error				
	(Constant)	1.278	.573		2.229	.028
	PE	.109	.106	.106	1.029	.306
	EE	.298	.152	.262	1.961	.003
1	FCS	-.016	.143	-.014	-.110	.000
	FCA	5.354	.128	.177	41.852	.000
	FCE	4.621	.066	.443	70.310	.000
	SI	.280	.103	.262	2.717	.008

a. Dependent Variable: Behavioral Intention toward using online learning

Note PE – Performance Expectancy, EE – Effort Expectancy, FCS - Facilitating Condition Support, FCA - Facilitating Condition Access, FCE - Facilitating Condition Efficacy, BI- Behavioral intentions.

Table 5. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	8.865	5	1.773	6,472	.000
1	Residual	114.806	419	.274		
	Total	123.671	424			

a. Dependent Variable: Behavioral intention toward using online learning

b. Predictors: (Constant), Performance Expectancy, Effort Expectancy, Facilitating Condition Support, Facilitating Condition Access, Facilitating Condition Efficacy, Social Influence

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.453 ^a	.206	.174	.52334

a. Predictors: (Constant), Performance Expectancy, Effort Expectancy, Facilitating Condition Support, Facilitating Condition Access, Facilitating Condition Efficacy, Social Influence

Testing the Model

The coefficient of performance expectancy (PE) is positive ($\beta = 0.109$, $p > .001$) and it has a positive influence on the behavioral intention toward using online learning. These findings confirm the validity of the H1 hypothesis. With a t-statistics value of 1.029, performance expectancy results to be insignificant with a probability value of 0.306. Thus, performance

expectancy will not be effective for policy decision making. The results showed that Effort Expectancy ($\beta=0.298$, $p>.001$) positively affects the student' behavioural intention to adopt and use e-learning, thereby supporting the validity of H2. Effort expectancy is statistically significant at 1% with t-statistics of 1.961 and probability value of 0.003. This implies that students expect the e-learning platform to be easy to use, increasing their behavioural intention to use the university of Bamenda LMS. In a different magnitude, facilitating condition support resulted negative (-0.016) in determining the behavioral intention toward using online learning.

The effect of facilitating conditions on students to use e-learning was evaluated with the following results: Facilitating Condition Support ($\beta = -.016$, $p < .001$), Facilitating Condition Access ($\beta = 5,354$, $p < .001$) and Facilitating Condition Efficacy ($\beta=4,621$, $p<.001$). The findings support the validity of the three hypotheses H3-H5. The results showed that two of the three Facilitating Conditions constructs (Access and efficacy) positively affected the student's behavioral intention to use e-learning while facilitating conditioning support showed a negative effect. It is therefore evident that students are likely to use the e-learning platform if they perceive that there is adequate organisational, technical support, and conducive policies to support online learning. The coefficient of social influence (SI) is positive ($\beta = 0.280$, $p > .001$) and this has a significant influence on the behavioral intention toward using e-learning, therefore students are likely to adopt e-learning if their peers adopt it. From table 5 above, the F-statistics is 6.472 with a probability value of 0.000. This shows that the overall study is significant at 1% level of significance. Hence the study is 99% reliable and highly recommended for policy decision making. For the test of multiple determination, this study adopts the adjusted R-squared value as seen on table 4.10. From findings, it can be seen on Table 6 that the value of adjusted R-squared is 0.174. This implies that there are other factors that have a greater influence that are not highlighted in the model. Thus, change in the behavioral intention toward using online learning is influence by 17.4% combined change in all the independent variables used and 82.6% change in behavioral intention toward using online learning is caused by other variables not indicated in the model.

Discussion

The results show that 5 of the 6 constructs of the adapted model have a significant influence on the behavioural intention of students to adopt and use the University of Bamenda e-learning platform. Results show that effort expectancy is the dominant determinant of e-learning usage. Higher e-learning adoption rates are achieved when the students believe that less effort will be required to use the e-learning platform. This results contradict some previous findings, such as those of Abu-Al-Aish and Love (2013); Kurt and Tingöy (2017); Nistor et al.

(2014); Magsamen-Conrad et al. (2015); Tan (2013), Attuquayefio and Addo (2014); Raman, et al., 2014; Hsu, 2013; Olatunbosun, et al., 2015 and Maphosa (2021) whose investigations rather revealed performance expectancy as a dominant factor of e-learning usage and that higher e-learning adoption rates are achieved when the students believe that its usage will improve their performance. Results also revealed the facilitating conditions constructs as significant determinants of the behavioural intention of students to use e-learning platforms. Thus, the usage of the University of Bamenda e-learning platform by the students was affected by facilitating conditions such as access to devices, lack of support, low efficacy, high data costs just to name a few and these results on the other hand are consistent with the works of studies such as Kurt and Tingöy (2017); Nistor et al. (2014); Magsamen-Conrad et al. (2015); Tan (2013), Attuquayefio and Addo (2014); Raman, et al., 2014; Hsu, 2013; Olatunbosun, et al., 2015 and Maphosa (2021) whose studies revealed facilitating conditions as significant determinants. It is equally in line with the studies of Lee (2008), Aboagye et al. (2020), and Tanveer et al. (2020) whose studies noted that most students did not have access to devices such as computers and laptops and this made the shift to online learning challenging and argued that institutions should provide devices and training to support the usage of e-learning. This is very evident as access to appropriate devices that can facilitate effective learning by students in developing countries such as Cameroon is still a major challenge. Survey results confirmed this, as not all students could access a smartphone, a laptop, or Wi-Fi and even stable internet.

Equally effort expectancy (EE), which contrary to performance expectancy was found to have a positive and significant effect on BI indicates that the students of the University of Bamenda find the e-learning Platform complex to operate and use thereby influencing their behavioural intention to use the application. The majority of the participants thought that the platform was not easy to use. The positive significance is consistent with the original authors of UTAUT Model (Venkatesh, et al., 2003) and that of Hsu, 2013 and Olatunbosun, et al., 2015. However, the study of Raman et al., (2014) rather contradicted as it revealed EE to be statistically non-significant to BI.

Social influence also was found to have a positive and significant effect on BI implying that the usage of the University of Bamenda e-learning platform by students is dependent on referral by their colleagues, friends, class mates, peers or instructors. This is consistent with UTAUT model where SI is thought to be a significant influence on BI especially in a mandatory context. This is equally in line with the studies on the adoption of educational technologies of Raman, et al., 2014; Hsu, 2013 and Olatunbosun, et al., 2015) which all revealed SI to have a significant effect on BI.

CONCLUSION AND POLICY IMPLICATIONS

This study had as primary objective to investigate the determinant factors of student's behavioral intentions to use the University of Bamenda e-learning platform. To achieve this, the study adopted a cross-sectional descriptive approach and employed an adapted UTAUT model to guide the research process. The results showed that Performance Expectancy, Effort Expectancy, and Facilitating Condition positively influenced the student's intention to use the university e-learning platform. The result shows that students were students faced difficulties in the course of the migration to the digital environment due to a lack of access to learning resources such as laptops, smart phones and good internet connection. This resulted in a significant loss of learning and a draw back in the adoption of the e-learning platform. Another aspect identified from the results is the fact that the e-learning platform appears to be very complex to use and requires a lot of effort from both the lecturers and the students. This study has significant practical and theoretical implications in the area of eLearning adoption in the context of developing country like Cameroon. This study is therefore a major step in information system literature developing countries as it tests the applicability of the UTAUT model within an African context, considering the existence of societal peculiarities and cultural differences.

The Study recommends that the University of Bamenda should provide enough support and organise training for lecturers and students of the institution which will increase the adoption by the users. The institution should review its curriculum, which was developed entirely for face-to-face learning, adopt a multi-stakeholder approach involving other institutions, government, development partners, and telecommunications companies to build a resilient digital education system which will go a long way to solve some of the students' challenges, intensify the sharing of laptops donated president of the republic and create free internet zones in the University Campus. However, the study isn't void of limitations. The first limitation stems for the fact that the findings are based on a study conducted at one institution (The University of Bamenda). As such for the results to be generalised, a study including all universities in Cameroon study should be conducted. Equally, the moderating variables found in the original UTAUT model and others such as lecturer feedback were not used, and future studies could include these in their investigations. The study was conducted using a quantitative methodology. Hence, future studies could consider adopting a mixed method methodology which is likely to produce more insights on students' adoption of e-Learning tools in a developing country like Cameroon.

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