STUDENT ACCEPTANCE ON ELEARNING SYSTEM USAGE DURING AND POST COVID-19 IN TANZANIA: A CASE OF UDOM ECLASSROOM OF THE UNIVERSITY OF DODOMA

Mustafa Habibu Mohsin
Department of Electronics and Telecommunication Engineering,
The University of Dodoma, Dodoma, Tanzania.
muky4us@gmail.com

Hamadi Mtani
Department of Information Systems and Technology, The University of Dodoma, Dodoma, Tanzania.
hamadimtani@gmail.com

Florence Rashidi
Department of Electronics and Telecommunication Engineering,
The University of Dodoma, Dodoma, Tanzania.

ABSTRACT
The present study aimed to identify factors influencing students' acceptance of the UDOM eClassroom system at the University of Dodoma. The paper covers the pandemic situation during and after the COVID-19 impacts in Tanzania. The research model used the Technological Acceptance Model (TAM) as the theoretical framework and extends it by adding construct such as Management support, Facilitating conditions and Subjective norms from the other models. The model was tested using responses from 101 students (n=101) taking diplomas and bachelor's degrees from various programs at the College of Informatics and Virtual Education (CIVE) through survey data. After the quantitative analysis, the results revealed that perceived usefulness, ease of use, management support, facilitating condition, student attitude and subjective norm significantly influence the students' UDOM eClassroom acceptance. The study's findings will support educational institutions in identifying the strategies needed to boost learning platform usage and produce the intended outcomes.
Keywords: *Student acceptance, eLearning system, COVID-19, UDOM eClassroom*

1. INTRODUCTION

The COVID-19 outbreak has caused a paradigmatic digital shift in education, particularly in higher learning institutions worldwide (Angiolini et al., 2020). This pandemic disease has significantly impacted the education sector worldwide, including universities in Tanzania. With the sudden shift to remote learning, the University of Dodoma was compelled to adopt digital platforms to facilitate teaching and learning. Such technology is the UDOM eClassroom system, which offers virtual classroom, online collaboration tools, and remote learning capabilities. There has been a significant increase in the use of this digital learning system by higher learning institutions in recent years after the outbreak of coronavirus disease (Al-Mamary, 2022).

These digital educational technologies were not strange to most educational institutions and were installed and used partially even before 2019. Through various educational technologies, the COVID-19 lockdown measures have provided an opportunity to observe digital technology's potential for sustaining education (Badaru & Adu, 2022). Using these digital educational tools has improved student learning performance and reduced student dropout rates in educational institutions in Europe and America (TCU, 2022). According to Noor-Ul-Amin (2013), using and integrating current digital technology in education will improve teaching, learning, and research. As a result, digital technology has the power to alter how learning occurs and provide accessibility for a larger audience. It will also give students more freedom by enabling them to access teaching and learning material at any time or location.

Learning Management Systems (LMS) are the digital educational platforms installed and used by most African universities, specifically Moodle and Blackboard (Marongwe & Garidzirai, 2021). Tanzania also has adopted the learning management system to enjoy the same benefits as others have continued to enjoy. Through its Tanzania Commission for University (TCU), the government of Tanzania has formulated guidelines for online and blended delivery modes of courses for university institutions to support and ensure the quality of instruction in the course's delivery (TCU, 2022). The University of Dodoma College of Informatics and Virtual Education (CIVE) developed an eLearning system called UDOM eClassroom system (UDOM eClassroom) which allows students and their instructors to be connected through electronic means for the delivery of teaching and learning material, allowing the avenue for discussion, making of the announcement and perform assessment activities such as quizzes and online tests by logging

 Copyright © The Online Journal of Distance Education and e-Learning

onto available digital devices such as smartphones, iPad, android phones, tablets, and laptops. During the pandemic, when face-to-face classes were disrupted, Tanzanian universities, including the University of Dodoma. They implemented UDOM systems to ensure the continuity of the provision of education. These systems allowed students to access learning materials, engage in virtual classrooms, interact with instructors and peers, submit assignments, and participate in online discussions. This technology enabled universities to overcome the physical limitations of the pandemic and continue delivering education remotely.

While there are benefits to adopting digital education tools properly and fully in classroom instruction, many other academic institutions that use eLearning systems face numerous difficulties. According to the literature, among the few things that prevent the best use of an eLearning system are a lack of technological skills, mistrust and anxiety, poor Internet infrastructure and personnel skill gaps (Ngeze, 2016; Yunusa et al., 2021; Al-Mamary 2022). Mtani Mbelwa (2022) have shown that self-efficacy is one factor that prevents instructors from using LMS. The first step in any educational institution's e-learning system success is the student acceptance of technology. This acceptability motivates and encourages students to utilize the eLearning system in their studies. In order to determine the performance of the eLearning system and enhance long-term eLearning system sage, it is necessary to examine the elements that influence students' intention to accept the system and use it for learning purposes. Therefore, this study aimed to examine factors that led to the acceptance of UDOM eClassroom in Tanzania.

1.1 UDOM ECLASSROOM SYSTEM

The UDOM eClassroom system, as shown in Figure 1 and Figure 2, is a learning platform developed by the experts from the CIVE. It is a web-based application (https://eclassroom.udom.ac.tz/) which can be accessed via different browsers. The platform formerly was CIVE eClassroom and was only used by the students at the CIVE. Currently the eClassroom is now being used bay all students from different colleagues at the UDOM The UDOM eClassroom system has many functionalities, including course monitoring and progress measuring, accessibility of course materials, allowing virtual classrooms, monitoring continuous assessments, making announcements, and allowing discussion and forums among students and instructors.

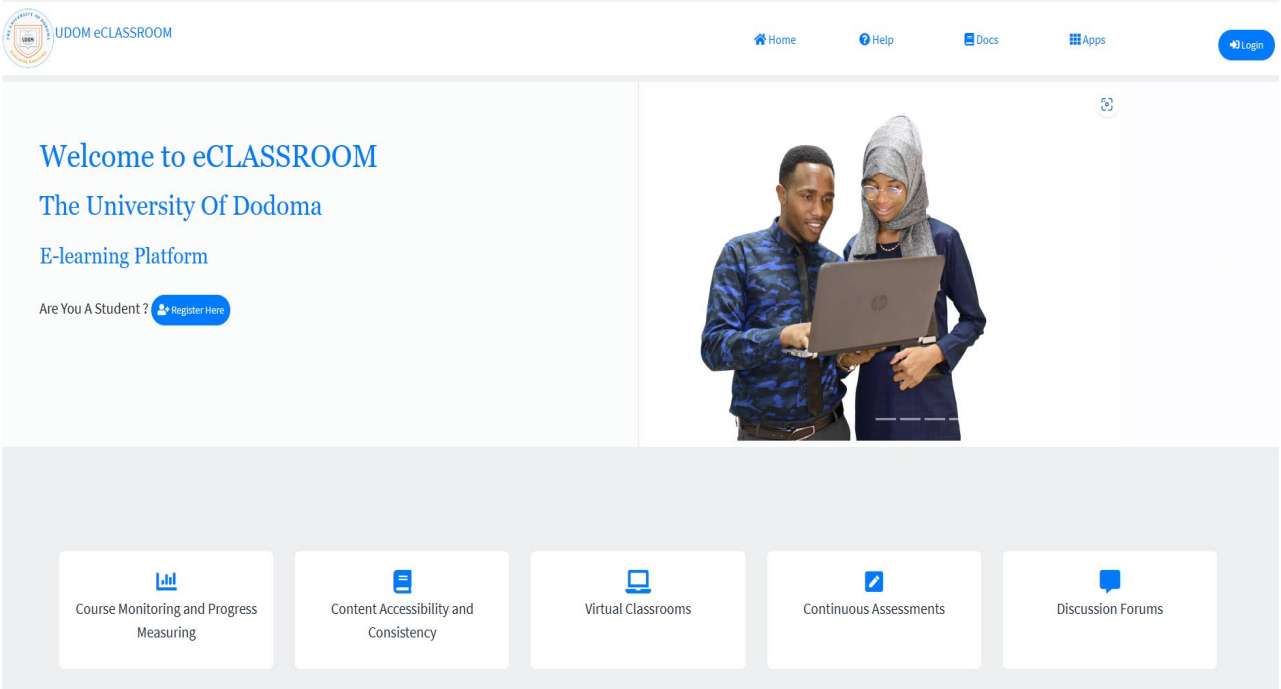

Figure 1: Home page UDOM eClassroom

Copyright © The Online Journal of Distance Education and e-Learning

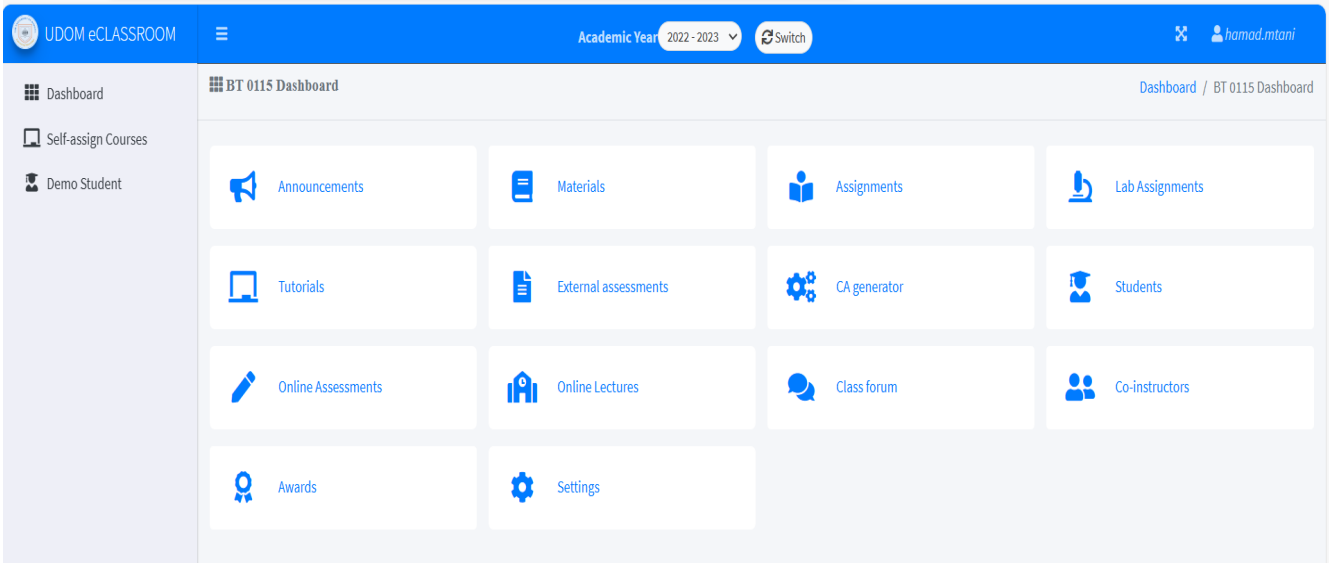

Figure 2: Dashboard of the UDOM eClassroom system.

2 LITERATURE REVIEW

2.1 Covid-19 and eLearning system use in education institutions.

The global outbreak of COVID-19 has had both positive and negative effects on the delivery of education. The positive effects of COVID-19 include a shift toward blended learning, enhanced digital literacy, and the rise in eLearning systems (Buluma et al., 2023). Educational institutions have adopted the eLearning system to support the teaching and learning process. Using eLearning systems in HLIs and well-connected computers facilitates broad access to electronic teaching and learning materials to the students through their devices such as smartphones, laptops, tablets and other digital devices. The COVID-19 pandemic has impacted education systems worldwide, leading to a rapid shift towards technology use in education. This transition has been a critical response to the challenges posed by the pandemic, enabling educational institutions to continue delivering learning experiences while ensuring the safety of both students and instructors. Technology integration in education has taken various forms, including online learning platforms, video conferencing tools, digital educational resources, and learning management systems. Based on available data, the global closure has affected over 1.7 billion students, with 160 countries having imposed closures due to the pandemic (UNESCO, 2023). Research has shown that COVID-19 has impacted at least 91% of the learners worldwide (Sukendro et al., 2020;). Table 1 below shows the UNESCO data on school closures from February 2020 to June 2022 in various countries after the COVID-19 impacts. Tanzania is one of the countries in which educational institutions were fully open during and after the COVID-19 impacts.

Table 1: Data on school closures from February 2020 to June 2022 across the world

Country's' status	Total number of schools in various countries	Percent
Full open	81102	45
Closed due to COVID-19	29385	16
Academic break	29385	22
Partially open	31604	17

Source:(UNESCO, 2023)

2.2 eLearning system in education institutions

Munir et al., 2021 researched in Malaysia and Pakistan about Online Learning and Students' Fear of COVID-19. This study investigated the association between students' social presence in online learning and their fear of COVID-19 and

 Copyright © The Online Journal of Distance Education and e-Learning

the moderating roles of students' psychological motivation and cognitive problem-solving abilities in this relationship. Four hundred seventy-two (472) university students from Pakistan and Malaysia participated in the study. A Google Forms-based online data-gathering method was used. The research discovered that training in cognitive problem-solving abilities and providing psychological encouragement may increase their interest in online learning; the study did not consider many perceptions of the technical aspects of the online learning tool to see whether it affected the social presence online among students during the pandemic. Instead, it focused much on the students' psychological traits.

Similarly, Mtani & Mbelwa (2022) investigated the factors affecting the instructor's use of the Leaning Management System (LMS) at the University of Dodoma (UDOM) in Tanzania. His study looked into the variables that affect LMS use in HLIs. The constructs from the D&M success models, UTAUT2 and TAM, were used to achieve the study's objectives. The data was gathered by employing surveys and then interviews with UDOM Instructors. The information gathered from 92 individuals was examined using a mixed-method sequential explanatory approach. The findings showed that perceived usefulness, instructors' self-efficacy, and intrinsic motivation impacted how often instructors in HLIs used their learning management systems. The results of this study will aid HLIs and LMS implementers in determining the best methods for boosting LMS usage and achieving desired outcomes. The study was based on the instructors' challenging experience, and perceptions of using the online system may not necessarily be the same as the students.

Yunusa et al. (2021) researched the impact of the COVID-19 Pandemic on university institutions. The study employed a qualitative design, and seven lecturers were interviewed across five universities in Nigeria. The data were gathered through various online platforms such as Skype and Zoom cloud meetings. The results revealed that COVID-19 impacted many universities. This study recommends opportunities for responding to various issues that are currently arising and possibly will arise in the future in the Nigerian higher education system due to the COVID-19 pandemic impact. The study was mainly based on the impact of COVID-19 in universities among lecturers.

2.3 Theories of technology adoption and usage

Several frameworks, theories and models have been applied in various studies to investigate and explore the factors contributing to the acceptance and usage of eLearning systems in education institutions. These include Reasoned Action (TRA) by Fishbein & Ajzen (1975), Technology Acceptance Model (TAM) by Davis (1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003), which focuses on individual; and Technology Organization Environment (TOE) (Tornatzky & Fleischer, 1990) that focuses on firm or organization.

The TAM was introduced by Devis in 1989. This model consists of five components: perceived usefulness, attitudes, behavior intentions, perceived ease of use, and actual usage attempts to describe the conditions for the acceptance of technology in different practices. It (Alsamydai, 2014; Yucel & Gulbahar, 2013). TAM suggests that people use technologies based on two main factors: perceived usefulness and perceived ease of use. Perceived usefulness is referred as an individual perception toward technology use will enhance his or her ability to perform a particular job effectively. They perceive ease is described as an individual belief that using a technology will requires a minimal effort (Yucel & Gulbahar, 2013).

TRA is a psychological theory which is used to explain and predict human behavior based on individuals' attitudes and subjective norms (Shareef et al., 2009). The theory was developed by Martin Fishbein and Icek Ajzen around 1960s (Fishbein & Ajzen, 1975). According to the TRA, an individual behavior is determined by two factors which are attitudes and subjective norms. Attitudes refer to the individual belief of a particular behavior, while subjective norms is described as the individual perception on social pressure to perform or not perform a particular behavior (Otieno et al., 2016). According to this theory, people consider their attitudes toward behavior and the perceived social pressure or norms associated with it before making decision on engaging on a particular technology or not.

The UTAUT is a model which was developed by Venkatesh et al. (2003) which is used to understand and predict individuals' acceptance and use of technology. The UTAUT model combined various theories including TRA, TAM, and the Innovation Diffusion Theory (IDT), to provide a clear understanding of the acceptance and use technology. The model has four constructs which are social influence, facilitating conditions, performance expectancy and effort expectancy. The model included a moderating variables such as age, and experiences, voluntariness, which have impacts on the acceptance and use of technologies. Venkatesh et al. (2003) defined performance expectancy as the "degree to which an individual believes that using a particular technology will help improve their performance of their tasks easier."; social influence captures the impact of social factors on an individual's decision to use a particular technology.; effort expectancy as "assesses the extent to which an individual believes that using the technology will be free of effort" and facilitating conditions as "the extent to which an individual believes that technical infrastructure and support are in place to facilitate the use of the technology.".

 Copyright © The Online Journal of Distance Education and e-Learning

Even though many studies used the constructs from various models to predict the factors influencing eLearning acceptance, it was found that no single theory or model could accurately predict how instructors or students would use eLearning systems. While many studies have been focused on eLearning systems usage among instructors, most existing studies on students' acceptance of using eLearning systems have been done in developed countries with more developed technologies. Consequently, there is a different technological influence on students' use of eLearning systems than in developing countries, including Tanzania. This study developed a measurement model based on the literature to identify the variables influencing UDOM eClassroom usage among students at the University of Dodoma. Therefore, this study proposes a research model that aims to investigate the factors influencing student's acceptance of UDOM eClassroom based on their perceived usefulness of UDOM eClassroom, perceived ease of use, facilitating condition, management support, subjective norms and students' attitude to the use of UDOM eClassroom. The description of the research model and hypotheses is as follows:

2.4 The proposed research model

The proposed study model is only used with students to identify the variables influencing their use of the UDOM eClassroom system. Based on the objective of the study, a review of the literature, and technological acceptance models or frameworks, the research model shown in Figure 1 adopted and integrated constructs from TAM, TRA, and UTAUT2. The following is a description of each modified construct:

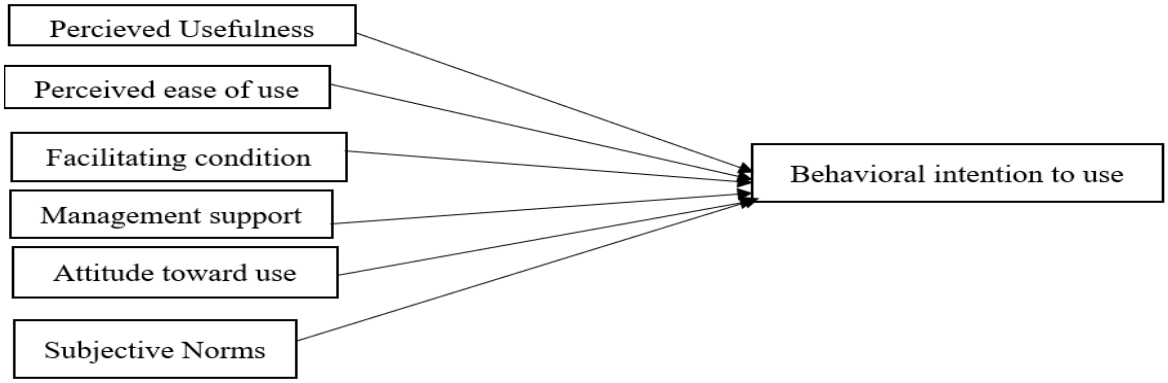

Figure 1: Research Model for Student Acceptance of UDOM eClassroom

Perceived Usefulness. In this study, perceived usefulness refers to the belief that a student has regarding how beneficial or advantageous it is to use a UDOM eClassroom system. It often relates to how students think using a UDOM eClassroom system will contribute positively to their learning (DeLone & McLean, 2003). If the student finds the UDOM eClassroom more functional, they will likely use it. Many studies have reported a direct relationship between perceived usefulness and eLearning system usage (Nanayakkara, 2007; Suhendro et al., 2020; Joo et al., 2018; Mtani & Mbelwa, 2022). The hypothesis for this factor is H1: *Perceived Usefulness has an effect on the students' UDOM eClassroom system usage*.

Perceived ease of use. Perceived ease of use refers to student perception of how effortless it is to use a UDOM eClassroom system. Previous studies have reported that perceived ease of use was significant to the eLearning system usage (DeLone & McLean, 2003; Sukendro et al., 2020; Al-Fraihat et al., 2020; Joo et al., 2018; Alturki & Aldraiweesh, 2021). The hypothesis for this factor is H2: *Perceived ease of use has an effect on students' UDOM eClassroom system usage.*

Facilitating Condition. This variable measured a people's beliefs about the technical infrastructure needed to operate and support the intended system is in place, so adopting new technologies should not be a problem (Kasse et al., 2015). Previous studies have reported that facilitating conditions significantly affect ICT use (Cabellos et al., 2023; Paul et al., 2015; Ambarwati et al., 2020). The hypothesis for this factor is H3: *Facilitating condition has a positive effect on students' UDOM eClassroom system usage.*

Management Support. In this study, Management Support is the extent to which an individual believes that there is a management in place to provide support in case of any challenges regarding using the eLearning system. Previous studies have reported that support from management significantly affects ICT use (Szyszka et al., 2022; Eze et al., 2021). The hypothesis for this factor is H4: *Management support LMS has a positive effect on students' UDOM eClassroom system usage.*

Subjective Norm. In this study, subjective norms and students' intention to use the UDOM eClassroom system are based on their beliefs about whether students should use it. According to TRA, the subjective norm was a social factor influencing an individual's belief in ICT use. Previous research has shown that subjective norm was a significant factor

 Copyright © The Online Journal of Distance Education and e-Learning

in using various systems (Hamid et al., 2020; Hussein, 2018). The hypothesis for this factor is H5: *Subjective norm has an effect on students' UDOM eClassroom system usage.*

Student' Attitude. This refers to students' perceptions of using a UDOM eClassroom system. This perception can be positive or negative about the usage of that system (Davis, 1989). students who have a positive attitude towards using UDOM eClassroom feel more comfortable using it, which affects the integration of the system usage (Mohebi & Bailey, 2020). Studies have shown that student attitude significantly affects eLearning system use (Chai et al., 2012; Mohebi & Bailey, 2020). The hypothesis for this factor is H6: *Student' attitude has an effect on students' UDOM eClassroom system usage.*

3.METHODOLOGY

3.1 Research design

This study adopted a survey research design and aimed at determining the factors contributing to the acceptance of the UDOM eClassroom system among students at the University of Dodoma. Using the construct: perceived usefulness of UDOM eClassroom, perceived ease of use, facilitating condition, management support, subjective norms and students' attitudes on the use of UDOM eClassroom obtained based on the literature and data collected from the University of Dodoma in Tanzania. The quantitative approach was employed to collect data through a questionnaire, and the obtained were analyzed using statistical package software (SPSS).

3.2 Data collection

The study used the questionnaire with the five-point Likert scale (Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree) with items consisting of demographic items, background items, TAM, TRA and UTAUT variables. The items in the questionnaire were modified based on the context of this study and based on the literature.

The study adopted the formula from Green (1991) to determine the minimum sample size. $N > 50+8k$, where k is the number of independent variables, is the result of the formula. Given the ten factors in the study, a minimum sample size of $50 + (6*10) = 110$ was needed for this investigation. The participants in this research study consisted of 101 students (First year, Second Year, Third year and Fourth year) with a Bachelor of Science in Computer Engineering (BSc. CE), Bachelor of Science in Software Engineering (BSc. SE), Bachelor of Science in Computer Network and Information Security Engineering (BSc. CNISE), Bachelor of Science in Health Information System (BSc. HIS), Bachelor of Science in Information System (BSc. IS), Bachelor of Science in Telecommunication Engineering (BSc. TE), Bachelor of Science in Digital Content and Broadcasting Engineering Natural Science (BSc. DCBE), Bachelor of Science in Computer Science (BSc. CS), Bachelor of Science in Cyber Security and Digital Forensic Engineering (BSc. CSDFE), Bachelor of Science in Instructional Designing and Information Technology (BSc. IDIT), Bachelor of Science in Multimedia technology and Animation (BSc. MTA), Diploma in Educational Technology (DET) and Diploma in Information Communication Technology (DICT). Respondents in UDOM were given the link to the self-administered questionnaire via a Google Form. Confidentiality was guaranteed, and 101 respondents filled out the questionnaires. Table 2 show the item found in the questionnaire.

Table 2: Data Collection Instrument

Factor	Code	Item
Perceived usefulness	PUQ1	Using the UDOM eClassroom will make it easier to do my learning tasks
	PUQ2	Using the UDOM eClassroom in my learning activities will enable me to accomplish tasks more quickly.
	PUQ3	I find the UDOM valuable e-classroom in my learning activities.
	PUQ4	Using the UDOM e-eClassroom will increase my tendency to learn.
	PUQ5	Using the UDOM eClassroom gives greater control over learning.
	PUQ6	Using the UDOM eClassroom in my courses will increase my performance.
Perceived ease of use	EUQ1	Learning to operate the UDOM eClassroom is easy for me.

 Copyright © The Online Journal of Distance Education and e-Learning

	EUQ2	I find it easy to get the UDOM eClassroom to do what I want.
	EUQ3	My interaction with the UDOM eClassroom is clear and understandable.
	EUQ4	It is easy for me to become skillful at using the UDOM e-eClassroom
	EUQ5	I find the UDOM eClassroom to be flexible to interact with
	EUQ6	I find the UDOM eClassroom easy to use.
Facilitating Condition	FCQ1	The training provided by the IT Unit has enhanced my ability to use UDOM e-eClassroom
	FCQ2	Specialized instruction concerning the UDOM e eClassroom is available to me.
	FCQ3	There is UDOM eClassroom support staff who give me prompt service by responding quickly to my request for help.
	FCQ4	A specific person (or group) can assist with UDOM eClassroom system difficulties.
Management Support	MGQ1	Management is keen to see that students are happy with using UDOM eClassroom for learning purposes.
	MGQ2	Management is always there to support and encourage using UDOM eClassroom for learning.
	MGQ3	Management provides good access to necessary hardware and software resources when people need them for operating the UDOM e-eClassroom.
Attitude towards use	ATTQ1	Using UDOM eClassroom is a good idea.
	ATTQ1	Using UDOM eClassroom is a wise idea.
	ATTQ2	I like the idea of using the UDOM eClassroom.
	ATTQ3	Learning through the use of UDOM eClassroom is a good idea.
	ATTQ4	I think it is worthwhile to use UDOM eClassroom.
Subjective Norms	SNQ1	My fellow Students, who are more important to me, think I should use CIVE e-classroom.
	SNQ2	My fellow students who are familiar with me think I should use the CIVE e-classroom.
	SNQ3	Most students surrounding me use the CIVE e-classroom.
	SNQ4	Students who influence my behavior think that I should CIVE e-classroom.
Behavioral intention to use UDOM e-eClassroom	BIQ1	I intend to continue using the UDOM eClassroom in the future.
	BIQ2	I will always try to use UDOM eClassroom in my daily life.
	BIQ3	I recommend my colleagues to use UDOM e-eClassroom
	BIQ4	I plan to continue using UDOM eClassroom frequently.

Copyright © The Online Journal of Distance Education and e-Learning

3.3 Data analysis

The qualitative data was analyzed to determine the relationship between the independent variables: perceived usefulness of UDOM eClassroom, perceived ease of use, facilitating condition, management support, subjective norms and students' attitude the use of UDOM eClassroom. The SPSS was used to conduct the analysis.

3.3.1 Demographic information

Table 3 shows that the majority (55.4%) of the research's respondents were male, while females (44.6%) were female. The study sample also indicates that most of the study respondents were students from the field of educational technology, which were Diploma in Educational Technology (DET) and Bachelor of Science in Instructional Design and Information Technology (BSc. IDIT) simply because of the relevance of their program and the system. Also, most students were in the first year (48.5%). This disproportional sex representation is triggered by the nature of the undergraduate program in the UDOM population, which is made up of more male students. Furthermore, the sampling technique employed could have influenced the obtained sample. The data also show that most respondents were in first-year degree programs in terms of study programmes.

Table 3: Demographic information

Characteristics(n=64)		Frequency	Percent
Gender	Female	45	44.6
	Male	56	55.4
Degree program	BSc. CE	4	4.0
	BSc. SE	8	7.9
	BSc. CNISE	7	6.9
	BSc. HIS	4	4.0
	BSc. BIS	2	2.0
	BSc .TE	6	5.9
	BSc. DCBE	7	6.9
	BSc. CS	2	2.0
	BSc. CSDFE	5	5.0
	Bsc.IS	6	5.9
	BSc. IDIT	18	17.8
	BSc. MTA	9	8.9
	DET	15	14.9
	DICT	7	6.9
Year of study	1st year	49	48.5
	2nd year	33	32.7
	3rd Year	17	16.8
	4th Year	2	2.0

4 RESEARCH FINDINGS

4.1 Sampling adequacy

A structural model was tested using the Bartlett test and Kaiser-Meyer-Olkin (KMO) sampling adequacy on 33 items. Kaiser (1974) asserts that a KMO of less than 0.5 is insufficient. The KMO of this study was 0.804, showing that factor analysis can be performed. Since the sample was sufficient. In addition, the Bartlett test of sphericity was performed; a p-value of less than 0.05 suggested a statistically significant relationship between the variables, indicating that principal component analysis was sufficient.

4.2 Reliability and validity

The reliability of the 32 items was examined using Cronbach's alpha to determine the internal consistency of the items, which was found to be 0.902. George & Mallery (2003) state that Cronbach's alpha values greater than 0.5 are considered good. All of the variables' Cronbach's alpha values were above 0.5, which is the recommended value and indicates that the items had good consistency. The reliability analysis of the seven constructs is shown in Table 4.

 Copyright © The Online Journal of Distance Education and e-Learning

Table 4: Cronbach's alpha of items

Variable	No. of Items	Cronbach's Alpha
Perceived usefulness	6	0.911
Perceived ease of use	6	0.889
Facilitating condition	4	0.827
Management Support	3	0.851
Attitude toward use	5	0.907
Subjective Norms	4	0.895
Behavioral intention to use UDOM eClassroom	4	0.846

4.3 Identifying the factor structure

Using principal component analysis, Kaiser Normalization and Varimax rotation were used to conduct factor analysis on 32 items. Factor analysis was utilized to ascertain whether the related items were grouped under the same construct. Sass (2010) states that a factor loading value of more than 0.5 is appropriate. As a result, the items with factor loading values lower than 0.5 were eliminated. The factor loading value for each item is shown in Table 5.

Table 5: Factor loading per each item with Varimax rotation and Kaiser Normalization

Factor	Item with Varmax rotation	Loadings
Perceived usefulness	PUQ1	0.778
	PUQ2	0.732
	PUQ3	0.607
	PUQ4	0.705
	PUQ5	0.815
	PUQ6	0.782
Perceived ease of use	EUQ2	0.683
	EUQ3	0.784
	EUQ4	0.643
	EUQ5	0.692
	EUQ6	0.687
Facilitating Condition	FCQ1	0.523

 Copyright © The Online Journal of Distance Education and e-Learning

	FCQ2	0.742
	FCQ3	0.882
	FCQ4	0.764
Management Support	MGQ1	0.697
	MGQ3	0.608
	ATTQ1	0.749
Attitude towards use	ATTQ2	0.836
	ATTQ3	0.770
	ATTQ4	0.751
	ATTQ5	0.608
	SNQ1	0.808
Subjective Norms	SNQ2	0.724
	SNQ3	0.770
	SNQ4	0.768
Behavioral intention to use UDOM eClassroom system	BIQ1	0.763
	BIQ2	0.658
	BIQ4	0.618

4.4 Model summary

Six factors were subjected to multiple linear regression to measure the success of the model and predict the factors contributing to the student's acceptance of UDOM eClassroom usage. The six factors were the usefulness of UDOM eClassroom, perceived ease of use, facilitating condition, management support, subjective norms and students' attitudes about using UDOM e-eClassroom. The results show that the variance (adjusted R2=0.520) indicates that 52% of students' UDOM eClassroom usage is influenced by the factors from this research model. Table 6 presents a summary of the research model.

Table 6: Summary of the research model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.741[a]	.549	.520	2.31499

4.5 Hypothesis Testing

Multiple regression was used to determine the statistical significance of each hypothesis and its effect on the UDOM eClassroom. The study found that all hypotheses were statistically significant in UDOM eClassroom usage at p-value $p< 0.05$. Table 7 is a summary of the hypothesis test.

Table 7: Summary of the hypothesis test

	Hypothesis	Results	Conclusion
H1	Perceived usefulness has an effect on students' UDOM eClassroom usage.	$\beta = .657$, $p=.0.000<0.05$	Supported

Copyright © The Online Journal of Distance Education and e-Learning

H2	Perceived ease of use has an effect on students' UDOM eClassroom usage.	β = .525, p=.000< 0.05	Supported
H3	Facilitating condition has an effect on students' UDOM eClassroom usage.	β = .384 p=.000<0.05	Supported
H4	Management support has an effect on students' UDOM eClassroom usage.	β = .560, p=.000<0.05	Supported
H5	Subjective norm has an effect on students' UDOM eClassroom usage.	β = .100, p=.224>0.05	Supported
H6	Attitude has an effect on students' UDOM eClassroom usage.	β = .621, p=.000<0.05	Supported

5 DISCUSSION

The study aimed to examine the factors that led to the acceptance of the UDOM eClassroom system among students in Tanzania. Based on the literature review, the adapted TAM, TRA, and UTAUT2 constructs were used to achieve this research's objective. This study revealed that six hypotheses were tested, and all hypotheses were supported.

The perceived usefulness of LMS was found to be a statistically significant factor for predicting the students' behavioral intention to use the UDOM eClassroom system. The study aligned with previous findings (Joo et al., 2016; Sukendro et al., 2020; Alturki & Aldraiweesh, 2021). Students will have more positive intentions to use the UDOM eClassroom system if they find that the UDOM eClassroom system is essential to their learning. Therefore, educational institutions should make students aware of the eLearning system's advantages in their learning.

The result found that perceived ease of use was a significant factor in students' behavioral intention to use the UDOM eClassroom system. The findings correlate with the previous research that revealed the easier the eLearning system is, the increase the positive intention to use (Sukendro et al., 2020; Al-Fraihat et al., 2020; Joo et al., 2018; Alturki & Aldraiweesh, 2021). Therefore, the educational institution shall implement learning platforms which are more accessible and friendly to students so that they can use them comfortably in their learning.

Thus, if the students receive support on using UDOM eClassroom from the management, they will have confidence in the intention to use UDOM eClassroom. When the students lack support, they cannot use CIVE eClassroom comfortably. Therefore, University management should provide support to students on CIVE eClassroom use. Raphael Mtebe (2016) also supported this and found that the main challenge preventing instructors from successfully facilitating blended courses via the eLearning system was the management's lack of technical and pedagogical support. University management should support using CIVE eClassroom and other learning platforms by creating an environment that promotes and facilitates the utilization of educational technologies.

Also, the results revealed that facilitating conditions were statistically significant on students' behavioral intention to use the UDOM eClassroom system. The results are consistent with the study done by Ambarwati et al. (2020), who found that resources such as supporting infrastructures and internet access influence the behavioral intention to use Online Learning Platforms. This contradicts Kamaghe et al. (2021), who revealed that individuals may find it difficult to accept a web-based technology if they receive insufficient help, delayed support, inaccurate information, or insufficient resources. Also, Cabellos et al. (2023) observed that a lack of school facilitating conditions may affect ICT usage. The higher education management must increase the availability of resources for the optimal use of various eLearning platforms.

The result has found that Subjective norm was a significant factor in predicting students' behavioral intention on using UDOM classroom. This is similar to the study by Hussein (2018), who revealed that Subjective norms had a positive relationship with students' behavioral intention to use the eLearning system in Malaysian universities. This contradicts the study by (Attuquayefio et al., 2014), who revealed an insignificant prediction of students' behavioral intention to adopt ICT with the subjective norm. It is, therefore, essential for higher education management to use peer groups among students to help each other and promote awareness of using the eLearning system so that they can discover its usefulness and subsequently use it.

The findings significantly impacted the students' attitudes and behavioral intentions toward using UDOM eClassroom. The result is in line with the study done by Edmunds et al. (2012), who observed that students' attitude impacts ICT use in course study. However, attitudes towards ICT use can be positive or negative due to variations in ICT experience, skills and training(Semercy et al., 2018). It is, therefore, essential for education institution management to provide ICT training programs to make students aware of the potentiality of the eLearning system.

6 CONCLUSION AND RECOMMENDATIONS

The research is based on a survey among students at the CIVE of the University of Dodoma (Tanzania) in June-July 2022. The university implemented and adopted the UDOM eClassroom during COVID-19 and continued to use it even

 Copyright © The Online Journal of Distance Education and e-Learning

after the pandemic impacts. A quantitative analysis was used to examine the collected data from 101 participants. The result indicated that perceived usefulness, ease of use, facilitating condition, management support, students' attitudes and subjective norms significantly impact student acceptance of the UDOM eClassroom. This research provides valuable insight for higher education institutions in case the COVID-19 situation forces them to continue teaching and learning online. Nevertheless, this work has limitations since only one college at the University of Dodoma was observed. Realizing comparative research between different fields of specialization among students would be reasonable to understand influencing factors on the use of UDOM eClassroom. Therefore, the education institution management should provide support, training, and facilitating conditions to improve the UDOM eClassroom usage among the students at the university.

REFERENCES

Abdul Hamid, M., Salleh, S., & Laxman, K. (2020). A Study on the Factors Influencing Students' Acceptance of Learning Management Systems (LMS): A Brunei Case Study. *International Journal of Technology in Education and Science*, *4*(3), 203–217. https://doi.org/10.46328/ijtes.v4i3.101

Al-Fraihat, D., Joy, M., Masa'deh, R., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, *102*, 67–86. https://doi.org/10.1016/j.chb.2019.08.004

Ambarwati, R., Harja, Y. D., & Thamrin, S. (2020). The Role of Facilitating Conditions and User Habits: A Case of Indonesian Online Learning Platform. *Journal of Asian Finance, Economics and Business*, *7*(10), 481–489. https://doi.org/10.13106/jafeb.2020.vol7.no10.481

Attuquayefio, S. N., Achampong, A. K., & Aryeetey, I. T. (2014). Extending Tam With Social Norm To Model Students ' Intentions To Adopt Ict. *European Scientific Journal, 10*(14), 435–446.

Buluma, A., Walimbwa, M., Mbulankende, J. S., & Nabiryo, R. (2023). *In-service teachers ' readiness to adopt technology-enhanced pedagogy in a Sub-Saharan country*. *19*(2), 58–74.

Cabellos, B., Siddiq, F., & Scherer, R. (2023). The moderating role of school facilitating conditions and attitudes towards ICT on teachers' ICT use and emphasis on developing students' digital skills. *Computers in Human Behavior*, *150*(September 2023), 107994. https://doi.org/10.1016/j.chb.2023.107994

Chai, C. S., Koh, J. H. L., Ho, H. N. J., & Tsai, C. C. (2012). Examining preservice teachers' perceived knowledge of TPACK and cyberwellness through structural equation modeling. *Australasian Journal of Educational Technology*, *28*(6), 1000–1019. https://doi.org/10.14742/ajet.807

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*. https://doi.org/10.2307/249008

DeLone, W., & McLean, E. (2003). he DeLone and McLean model of information systems success: a ten-year update." information systems. *Journal of Management*, *19*(4), 9–30.

Edmunds, R., Thorpe, M., & Conole, G. (2012). Student attitudes towards and use of ICT in course study, work and social activity: A technology acceptance model approach. *British Journal of Educational Technology*, *43*(1), 71–84. https://doi.org/10.1111/j.1467-8535.2010.01142.x

Hussein, Z. (2018). Subjective norm and perceived enjoyment among students in influencing the intention to use e-learning. *International Journal of Civil Engineering and Technology*, *9*(13), 852–858.

Joo, Y. J., Kim, N., & Kim, N. H. (2016). Factors predicting online university students' use of a mobile learning management system (m-LMS). *Educational Technology Research and Development*. https://doi.org/10.1007/s11423-016-9436-7

Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers' intention to use technology: TPACK, teacher self-efficacy, and Technology Acceptance Model. *Educational Technology and Society*, *21*(3), 48–59.

Kamaghe, J. S. M. A. I. for S. and T. (2021). *The Challenges of Adopting M-Learning Assistive Technologies for Visually Impaired Learners in Higher Learning Institution in Tanzania*.

Kasse John Paul, Moya Musa, & Annette K. Nansubuga. (2015). Facilitating Condition for E-learning Adoption—Case of Ugandan Universities. *Journal of Communication and Computer*, *12*(5). https://doi.org/10.17265/1548-7709/2015.05.004

Mohebi, L., & Bailey, F. (2020). Exploring Bem's self-perception theory in an educational context. *Encyclopaideia*, *24*(58), 1–10. https://doi.org/10.6092/issn.1825-8670/9891

Mtani, H., & Mbelwa, J. (2022). Factors affecting Learning Management Systems Usage in Higher Learning Institutions in Tanzania: A Case of University of Dodoma. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, *18*(1), 7–26.

Munir, F., Anwar, A., & Kee, D. M. H. (2021). International Review of Research in Open and Distributed Learning Online Learning and Students ' Fear of COVID-19 : Study in Malaysia and Pakistan Online Learning and Students ' Fear of COVID-19 : Study in Malaysia and Pakistan Abstract. *International Review of Research in*

 Copyright © The Online Journal of Distance Education and e-Learning

Open and Distributed Learning, *22*(1), 1–21.
Nanayakkara, C. (2007). A Model of User Acceptance of Learning Management Systems : a study within Tertiary Institutions in New Zealand. *The International Journal of Learning*, *13*(12), 223–232. http://ijl.cgpublisher.com/product/pub.30/prod.1263
Sass, D. A. (2010). Factor loading estimation error and stability using exploratory factor analysis. *Educational and Psychological Measurement*, *70*(4), 557–577. https://doi.org/10.1177/0013164409355695
Semerci, A., & Aydın, M. K. (2018). Examining High School Teachers' Attitudes towards ICT Use in Education. *International Journal of Progressive Education*, *14*(2), 93–105. https://doi.org/10.29329/ijpe.2018.139.7
Sukendro, S., Habibi, A., Khaeruddin, K., Indrayana, B., Syahruddin, S., Makadada, F. A., & Hakim, H. (2020). Using an extended Technology Acceptance Model to understand students' use of e-learning during Covid-19: Indonesian sport science education context. *Heliyon*, *6*(11), e05410. https://doi.org/10.1016/j.heliyon.2020.e05410
Szyszka, M., Tomczyk, Ł., & Kochanowicz, A. M. (2022). Digitalisation of Schools from the Perspective of Teachers' Opinions and Experiences: The Frequency of ICT Use in Education, Attitudes towards New Media, and Support from Management. *Sustainability (Switzerland)*, *14*(14). https://doi.org/10.3390/su14148339
TCU. (2022). *The Tanzania Commision for Universities: Guidelines for Online and Blended Delivery Modes of Courses for University Institutions in Tanzania*. 1–7.
Tornatzky, L. G., & Fleischer, M. (1990). The Process of Technology Innovation. In *Lexington Books, Lexington, MA.* https://doi.org/10.1016/S0925-5273(98)00075-9
UNESCO. (2023). *Education and Statistics: Covid 19 impact on education*. https://www.unesco.org/en/data-center
Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*. https://doi.org/10.2307/30036540
Yunusa, A., TemitayoSanusi, I., Dada, O., Oyelere, S., Agbo, F., Obaido, G., & Aruleba, K. (2021). The Impact of the COVID-19 Pandemic on Higher Education in Nigeria: University Lecturers' Perspectives. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, *17*(4), 43–66.

 Copyright © The Online Journal of Distance Education and e-Learning