Journal of Computer Science and Technology Studies
ISSN: 2709-104X
DOI: 10.32996/jcsts
Journal Homepage: www.al-kindipublisher.com/index.php/jcsts

JCSTS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Assessment of Blended Learning Courses Based on Unified Theory of Acceptance and Use of Technology in Higher Education

Cheng Dayong[1] ✉ Shi Jin[2], Yang Jingrong[3] and Yu Hongfu[4]
[1234]*Journal of Computer Science and Technology Studies*
Corresponding Author: Cheng Dayong, **E-mail**: 172533340@qq.com

| ABSTRACT

The major problem of the study is to assess the online platforms based on unified theory of acceptance and use of technology in higher education. The descriptive-correlational method of research was utilized in the study to assess the acceptance using UTAUT model in higher education and its effect students' learning. A correlational research systematically investigates the relationship among variables as well as in determining the cause and effect relationship. The study made use of a quantitative research approach in analyzing and understanding the effects of acceptance of online platforms on students' learning. Standardized questionnaire will use as primary a data-gathering tool. Documentary analysis will utilize in assessing the students' learning in the higher education. The respondents of the study are the college students and professors in a higher education for school year 2023-2024. Majority of the respondents agreed the UTAUT model demonstrates that users' behavioral intention to use online platforms moderately influences their acceptance of them. Users prioritize ease of use, attitude towards use, and compatibility with other tools. The model also suggests that influencers, colleagues, and friends can moderately influence acceptance, providing valuable insights into user perceptions and preferences.

| KEYWORDS

Learning Management System (LMS); Blended Learning; Use of Technology; Online Assessment; Quality Enhancement Program

| ARTICLE INFORMATION

ACCEPTED: 12 July 2024 **PUBLISHED:** 13 August 2024 **DOI:** 10.32996/jcsts.2024.6.3.10

1. Introduction

The increasing use of digital resources has changed the way of teaching, where platforms such as YouTube offer large repositories of educational videos. There are many theoretical studies that analyze the digital competences of teachers, but to a lesser extent on the behaviors and use that the teacher makes of this multimedia platform. (Guilen-Gamez, F., et. al., 2024).

Mobile devices, such as smartphones and tablets, have been widely adopted by older adults and have been shown to have a great influence on their daily lives. This study examined the use of mobile computing devices for learning among adults, based on the Unified Theory of Acceptance and Use of Technology (UTAUT). (Lai, H., 2020).

The blended learning approach for course delivery using the Moodle Learning Management System (LMS) is used for online course delivery at Makerere University Business School (MUBS). The study establishes learner views about e-learning and presents a blended learning approach with online assignment and discussion forum for a systems analysis and design course. The course was administered using the Moodle open source learning management system. Questionnaires were administered to a class of 39 students to conduct course evaluation after introducing students for the first time to e-learning. The evaluation results showed that students strongly recommended the e-learning approach for postgraduate studies with an acceptance rate of 80%. Students expressed a number of benefits from online classes, including: easy provision of lecture materials; ease of

coursework administration; efficient and effective way of teaching; user friendly learning environment; cost-effective way of studying; useful interactive discussions; flexibility in learning; and a good avenue of learning computerized system. (Bada, J., 2022).

Smart Educational Learning (SEL) has recently opened its ways in various changes in scientific discoveries, informatics, globalization, astronautics production, robotics, and artificial intelligence in the Higher Education System. In such an educational system, managing resources to increase education quality with an effective interactive environment has been considered a significant challenging factor for the Students and Teachers. The internet of things assisted Interactive system (IoT-IS) for Smart Learning is used to measure the teachers' and students' performance analysis in the SEL platform. (Wang, J. & Yu, Z., 2022).

The outbreak of the COVID-19 pandemic has compelled education systems across the globe to fully embrace online learning as an alternative to face-to-face classes. This has resulted in a paradigm shift, in which online teaching and assessment practices continue to gain prominence at the tertiary level. Hence, this study explores lecturers' teaching and assessment strategies for teaching university students through online platforms during the COVID-19 pandemic. (Aina, A., et. al., 2021).

Online teaching and learning have become widespread in higher education over the past two decades, and accelerated during the pandemic. Although online learning is expanding and has many benefits, instructors teaching online courses must deal with a variety of demands in online learning environments. Formative assessment and sense of community have been recognized as significant factors for enhancing meaningful student learning in online platforms. While existing technological resources create opportunities for students to engage with course materials and collaborative tasks, it can be quite daunting for a single instructor to meet the needs of a diverse student population. (You, A., et. al., 2021).

Many educational institutions have adopted online platform in recent years. Previous studies on online platform have often been tied to studies on learning management systems. As such, questions of online platform acceptance have typically been overshadowed by a focus on the acceptance of these online platforms in general.

This paper is to assess and to measure the online platforms adoption by lecturers in higher education. With the data collected and the model fit, the instrument developed was able to meet the expectations to measure online assessment. The preliminary evidence of the validity of the extended Unified Theory of Acceptance and Use of Technology model, based on its reliability found in the current study, supports the use of the instrument as a technology acceptance framework for online assessment systems.

2. Review of Related Literature

This section of the study presents the literature review and studies on local and foreign sources, which may add more relevance and depth to the research study.

2.1 Learning Platforms

The increasing use of digital resources has changed the way of teaching, where platforms such as YouTube offer large repositories of educational videos. There are many theoretical studies that analyses the digital competences of teachers, but to a lesser extent on the behaviors and use that the teacher makes of this multimedia platform. Thus, the purpose of this study is the development of an instrument in which it is analyzed how the behavioral intention of teachers on YouTube impacts their digital competence to search and select information, share information, and interact with other users of the platform, and create educational material. To achieve this, following the partial least squares (PLS) method of structural equation models, a higher-order causal model was proposed based on an adaptation and extension of the Unified Theory of Acceptance and Use of Technology (UTAUT). The study was carried out with a sample of 2157 teacher from all over Spain. The main result was that behavioral intention explained 22.70% of the true variance of teachers' digital competence. In addition, it has been possible to verify the reliability, convergent and discriminant validity of the established causal relationships, determining a model with acceptable goodness-of-fit. These findings show that it is a valid and reliable instrument to measure teachers' digital competences on YouTube, behavioral intention, and the system of relationships between factors. Practitioner notes. What is already known about this topic Teachers can use YouTube to search and create creative and innovative educational lessons. The teacher must have adequate digital competence to search, select, evaluate, and effectively use the content of this platform in the classroom. The four central predictors of the UTAUT model (Unified Theory of Acceptance and Use of Technology) allow to explain and predict the adoption and use of ICT in different contexts. What this paper adds The elaboration of an instrument on the digital competences of the teacher on the use of YouTube as a didactic resource, based on an extended model of UTAUT. Identification of the factors with the greatest incidence on the behavioral intention of the teacher to use YouTube as an educational resource. Identification of how the behavioral intention and the ease of the conditions determine the use of YouTube by teachers to search for educational content, share it or create it by themselves. Implications for practice and/or policy Extensive information on the factors that teachers should pay attention to improve their behavioral intention to use YouTube as a teaching resource. The need to promote improvement policies on technological and digital conditions which will affect the digital competence of the teacher for the usability of YouTube as a more

visual, verbal, and interactive educational process. Educational institutions should better prepare teachers for their role as innovative teachers, providing them with adequate digital skills in relation to the use of YouTube as a teaching resource. (Guilen-Gamez, F., et. al., 2024).

The blended learning approach for course delivery using the Moodle Learning Management System (LMS) is used for online course delivery at Makerere University Business School (MUBS). The study establishes learner views about e-learning and presents a blended learning approach with online assignment and discussion forum for a systems analysis and design course. The course was administered using the Moodle open source learning management system. Questionnaires were administered to a class of 39 students to conduct course evaluation after introducing students for the first time to e-learning. The evaluation results showed that students strongly recommended the e-learning approach for postgraduate studies with an acceptance rate of 80%. Students expressed a number of benefits from online classes, including: easy provision of lecture materials; ease of coursework administration; efficient and effective way of teaching; user friendly learning environment; cost-effective way of studying; useful interactive discussions; flexibility in learning; and a good avenue of learning computerized system. The students mentioned some challenges that should be addressed by institutions for effective e-learning to take place. These include: accessible Internet; availability of computer equipment and e-learning integration in other courses. Future research is needed to experiment with e-learning implementation in a large class of 200 students or more. (Bada, J., 2022).

The article is devoted to learning analytics problems associated with the digital culture development in the university educational space and with the student activity control in the vocational training process. The empirical basis of the study was a series of surveys conducted by the Center for Sociological Research of the Peter the Great Polytechnic University in 2018-2020. To systematize the information on the traces of students' activity in the digital space, the method of constructing a personal mental map, reflecting the cognitive characteristics of the student's interactive actions in the network, was used. Because of the analysis of the mental maps, the general structure of the personal digital footprint was identified, which is significant for analytics of the student's academic history and self-assessment of his activities in professional development. In conclusion, the constructive role of digital technology in assessing and modeling the educational process is emphasized. The study of students' digital footprints on the university platforms, supplemented by the study of their activity in social networks, allows the development of educational modeling aimed at creating a more adequate set of competencies and soft skills of the graduate. (Pozdeeva, E., 2021).

Smart Educational Learning (SEL) has recently opened its ways in various changes in scientific discoveries, informatics, globalization, astronautics production, robotics, and artificial intelligence in the Higher Education System. In such an educational system, managing resources to increase education quality with an effective interactive environment has been considered a significant challenging factor for the Students and Teachers. Hence, in this paper, the internet of things assisted Interactive system (IoT-IS) for Smart Learning is used to measure the teachers' and students' performance analysis in the SEL platform. The psychometric processes with standards for effective teaching using smart educational learning tools have been discussed based on the higher education system requirements. Furthermore, an active learning strategy with an attention scoring method promotes students' performance assessment in the higher education system using the interactive system. Facial expression detection and analysis are used and applied in online classroom videos in the SEL. Based on this detection and analysis, the attention of the students is observed. The experimental results show that the method enhances the student performance ratio of 98.5%, an accuracy ratio of 95.3%, an efficiency ratio of 96.7%, a reliability ratio of 93.2%, and a probability ratio of 94.5% compared to other existing methods. (Wang, J., & Yu, Z., 2022).

While the educational disruption caused by the Covid-19 pandemic underscores the importance of blended learning in higher education, research on the effectiveness of blended learning is still inconclusive. Drawing from the motivational design model of the ARCS (i.e., attention, relevance, confidence, and satisfaction), this study attempts to fill the gap to evaluate effectiveness of blended learning from a multi-dimensional perspective. Participants were randomly assigned into three experimental groups (i.e., face-to-face, pure online, and blended). A questionnaire survey was administered in each group after the trial courses. The data was analysed by using the one-way ANOVA with post hoc tests. The results showed that blended learning outperformed pure online learning in enhancing students' attention, confidence, and satisfaction perceptions. Additionally, blended learning had a higher level of satisfaction perception than face-to-face learning. Follow-up interviews were also conducted to provide an in-depth understanding of how blended learning motivated students during the learning process. Considering that blended learning may become a new normal in higher education after the Covid-19 pandemic, the findings of the present study provide evidences to support the effectiveness of the blended learning approach in addressing students' motivational needs. (Ma, L., & Lee, C., 2021).

The outbreak of the COVID-19 pandemic has compelled education systems across the globe to fully embrace online learning as an alternative to face-to-face classes. This has resulted in a paradigm shift, in which online teaching and assessment practices continue to gain prominence at the tertiary level. Hence, this study explores lecturers' teaching and assessment strategies for teaching university students through online platforms during the COVID-19 pandemic. This study has used a framework of SWOT

(strength, weakness, opportunities, and threats) analysis as its theoretical base. Data was collected through semi-structured interviews with five lecturers from three universities in Gauteng Province, South Africa. The collected data was analysed using content analysis. This study found that lecturers were able to manage the teaching and assessment processes during the COVID-19 school restrictions, using a combination of platforms such as Blackboard-collaborate, WhatsApp, Kahoot, and Google Classroom. The findings also revealed that a wide variety of teaching and assessment methodologies, including small group work, collaborative learning, case methods, discussion posts, multiple choice quizzes, chats, game activities, open-ended questions, and essays were utilized on these platforms. Although the methodologies used for teaching and assessing on these platforms require additional preparation time, they also help increase interaction between students and enable immediate grading of scripts and student feedback. Further findings revealed that online assessment is highly susceptible to test/examination malpractices. This study provided recommendations helpful to policymakers, lecturers, and students regarding online teaching and assessment strategies. (Aina, A., et. al., 2021).

2.2 Educational Media

This article seeks the opinions, perceptions, and attitudes of faculty members about the strategies for using hologram technology in the learning environment. The research method was qualitative and based on this, 17 faculty members from Farhangian University Centers (CFU) and public universities in Iran were interviewed. The data obtained were analyzed using the content analysis method. The results, while providing valuable strategies in this field, show that the major strategies for using hologram technology in the learning environment included are "Promoting the efficiency of the curriculum in order to take advantage of hologram technology," "Sharing international experiences through hologram technology in the field of education" "Social, cultural and professional context building for the use of hologram technology" "Creating strategic planning in the field of hologram technology in education" and "Changing traditional approaches and adopting correct management actions in order to make optimal use of hologram technology". The results, show that this technology can definitely be improved and according to the trend it has adopted, it will be one of the main technologies in the field of education. This paper, provides the necessary strategies for the government and the private sector to use this technology in the school curriculum. (Jafari, E., 2023).

Candidates' perception of technological value orientations. Design/Methodology/ It was conducted based on data from 400 teacher candidates for explanatory factor analysis (EFA) and 680 teacher candidates for confirmatory factor analysis (CFA) in the 2018–2019 academic year. Expert opinions were sought for the content validity and face validity of the scale as well as the EFA and CFA were conducted for construct validity. EFA yielded a three-factor solution consisting of 12 items that accounted for 53.17% of total variance. These factors were labeled as "Negative Impact on Friendship, Honesty, and Responsibility", "Negative Impact on Overall Values", and "Positive Impact on Access to Information and Benevolence". Cronbach's Alpha internal consistency coefficient of the scale was found to be 0.75. Besides, findings from the CFA indicated that Technological Value Orientation Perception Scale of Teacher Candidates is of adequate fit with 12 items under a three-factor construct. In addition, the convergent and discriminant validity results also supported the three-factor structure. This scale could of help researchers to measure the perception of prospective teachers about the impact of technology on value-orientations and to plan desired studies accordingly. (Yildirim, M., et. al., 2023).

This study examined the factors affecting minority students' learning experience in Wiki-based environments. These factors included perceived collaborative learning, sense of community, Wiki self-efficacy, and perceived learning experience. The relationships of these factors were explored. The participants were 45 African American students enrolled in two undergraduate-level management courses in which Wiki was used to facilitate the process of group work. A mixed methods approach was applied to analyze the collected data. Results indicated that sense of community and collaborative learning significantly contributed to perceived learning in Wiki-based environments. However, Wiki self-efficacy was not a good predictor of perceived learning. Most of the minority students were positive about their group learning experience that involved collaborative processes as well as the development of knowledge and skills. Emotional support and support for cognitive or meta-cognitive processing were identified as factors that had potential influences on Wiki-based collaborative group learning. (Kuo, Y., et. al., 2022).

The sudden outbreak of the Covid-19 pandemic resulted in a transition to an online teaching-learning (OTL) methodology, forcing India's institutions to adopt it. The present study investigates OTL's acceptance by faculty instructors/teachers employed in India's higher educational institutions using the technology acceptance model (TAM). A survey of 433 respondents studied the intention to use OTL by teachers. The study considered India's higher educational institutions and utilized web-based questionnaire survey methods for collecting the responses. The study found support for OTL's perceived usefulness and the perceived ease of use, facilitating conditions to be significant determinants for attitude towards the use of technology by users. The study introduced service conditions related to the faculty instructor/teacher's employment in the higher educational institutions and its bearing on their work routine. The study did not find service conditions as a significant determinant of attitude towards using OTL technology. The results present evidence of a valid model to predict technology acceptance among India's teachers. (Kamble, A., 2022).

The shift to emergency remote teaching during the COVID-19 pandemic has further revealed a range of issues related to technology-enhanced learning (TEL). Among these were educators' lack of prior exposure to more creative and participatory forms of TEL in credential coursework and professional development. To address the new realities of schooling, we must first understand the TEL practices that aspiring teachers have had in their teacher education courses. This study examined the TEL practices of aspiring teachers within and beyond their educational coursework prior to the COVID-19 pandemic, as well as their perceived degree of proficiency with these practices. Our survey research found that participants reported more experience and proficiency with TEL practices involving consumption-based and transactional modes of learning, and less experience and proficiency with practices related to creativity, collaboration, and knowledge generation. We discuss how these findings suggest improvements for credentialing programs in the area of TEL. (Aguilera, A., 2022).

The paper presents an experimental study aiming to explore primary school students' response to Mobile Seamless Learning activities. The educational intervention and the consequent investigation were conducted in a suburban primary school in Greece, with second grade pupils, in the context of a learning subject entitled "Studying our Living Environment". The participant students (n = 14) engaged in both face-to-face (in-class, outdoor) and online (home) collaborative and individualistic activities supported by a variety of digital applications. Primary research data were gathered upon completion of the intervention via 5 group interviews and 12 individual interviews. The findings have shown that Mobile Seamless Learning can facilitate pupils' active engagement and improve their attitudes toward collaboration. Moreover, this approach can lead to the development of a learning community that promotes learners' motivation, enables them to construct new knowledge, and develop essential skills. (Devourou, A., 2022).

2.3 Acceptance Use of Technology

Technology Acceptance Model (TAM; Davis, 1989) has been one of the most influential models of technology acceptance, with two primary factors influencing an individual's intention to use new technology: perceived ease of use and perceived usefulness. An older adult who perceives digital games as too difficult to play or a waste of time will be unlikely to want to adopt this technology, while an older adult who perceives digital games as providing needed mental stimulation and as easy to learn will be more likely to want to learn how to use digital games. While TAM has been criticized on a number of grounds, it serves as a useful general framework and is consistent with a number of investigations into the factors that influence older adults' intention to use new technology (Braun, 2013).

Technology Acceptance Model 3 (TAM3) Venkatesh& Bala (2008) fill the gap about limited research in interventions that can lead to more acceptance and effective utilization of IT and managerial decision making. Because previous researcher's focus on making decisions by employees in selecting and using information technologies in the workplace, Venkatesh & Davis (2000) incorporate TAM2 and the model of the perceived ease of use with its factors (Venkatesh, 2000), and introduce a new model, namely the technology acceptance model 3 (TAM3). As highlighted by Venkatesh& Bala (2008), the technology acceptance model 3 has significant implications for managerial decision making on IT implementation in organizations.

The original UTAUT framework was developed to explain and predict the acceptance of technology in an organisational context (Venkatesh et al., 2003), although, later it was tested in non-organisational settings too (Venkatesh, Thong & Xu, 2012; Venkatesh, Thong & Xu, 2016). Over the years, UTAUT showed wide application, which enhanced the generalisability of the theory (Venkatesh, Thong & Xu, 2012; Neufeld, Dong & Higgins, 2007). Given the variance of information communication technologies and the advances in the sector, a number of scholars extended UTAUT to adapt it to the context or improve its predictive power (Venkatesh, Thong & Xu, 2012).

The adaptations of the model were underpinned by four main approaches, reflecting a) the modification of the model to different contexts, b) the alterations of the endogenous variables, c) the addition of attitudinal antecedents, and d) the examination of various moderating variables. The first stream of research extended the model to apply it to new technologies (e.g. enterprise systems, e-health systems), focus on new user segments (e.g. healthcare professionals), and examine it in new geographical and cultural settings (e.g. India, China) (Chang et al., 2007; Yi et al., 2006; Gupta, Dasgupta & Gupta, 2008). For instance, the model was extended by a set of web-specific constructs, including trust and personal web innovativeness to explore how well it predicts the use of web tools (Casey & Wilson-Evered, 2012). Another stream of research extended UTAUT by incorporating additional endogenous variables (e.g. (Sun, Bhattacherjee & Ma, 2009)), such as satisfaction and continuous intention to use (Maillet, Mathieu & Sicotte, 2015). The third stream of research scrutinised additional determinants of use and behavioural intention, such as task-technology fit and personality traits (Zhou, Lu & Wang, 2010; Wang, 2005). Finally, some studies extended UTAUT by introducing new contextual and moderating variables, such as culture, ethnicity, religion, employment, language, income, education and geographical location, among others (Im, Hong & Kang, 2011; Al-Gahtani, Hubona & Wang, 2007; Riffai, Grant & Edgar, 2012).

2.4 Significance of the Study

The findings of this study is expected to be of great value to the following groups:

School Administrator. The study could provide an insight on online what technology would help the improvement of educational learning process.

Professors. The findings of this study could provide the professor a guidelines on what user acceptable online platform.

Students. The study can provide the best benefits to the students in their learning style adaptability.

2.5 Theoretical/Conceptual Framework

The UTAUT has been widely regarded since its inception as a model that synthesizes past technology theories. The UTAUT was first tested empirically using data from four organizations, then cross-validated using new data from another two organizations from the financial services and retail electronics industries. Venkatesh et al. (2003) suggested that while the UTAUT was initially designed for research use in business contexts, the model could be further modified or extended to incorporate alternative or additional measures of users' behavioral intention (BI) and usage in education contexts. The original UTAUT posited that BI and actual behavior use associated with a given technology would be influenced by four main factors: performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FCs). PE is the extent to which a user believes that using a system will help him or her to achieve gains in job performance. EE is the degree of ease with which a system can be used, while SI is the extent to which a user perceives that 'important others' believe that should use the system. Finally, FC is the extent to which an individual believes that there are existing organizational and technical infrastructures to support the use of the system. The authors also acknowledged that the influence of the four primary factors might be moderated by factors such as gender, age, experience and voluntariness. These 'moderating factors', however, are not part of the primary model, and are typically not included in empirical studies on the UTAUT.

Figure 1 presents the conceptual model of the study that will utilize in assessing of online platforms based on unified theory of acceptance and use of technology in higher education

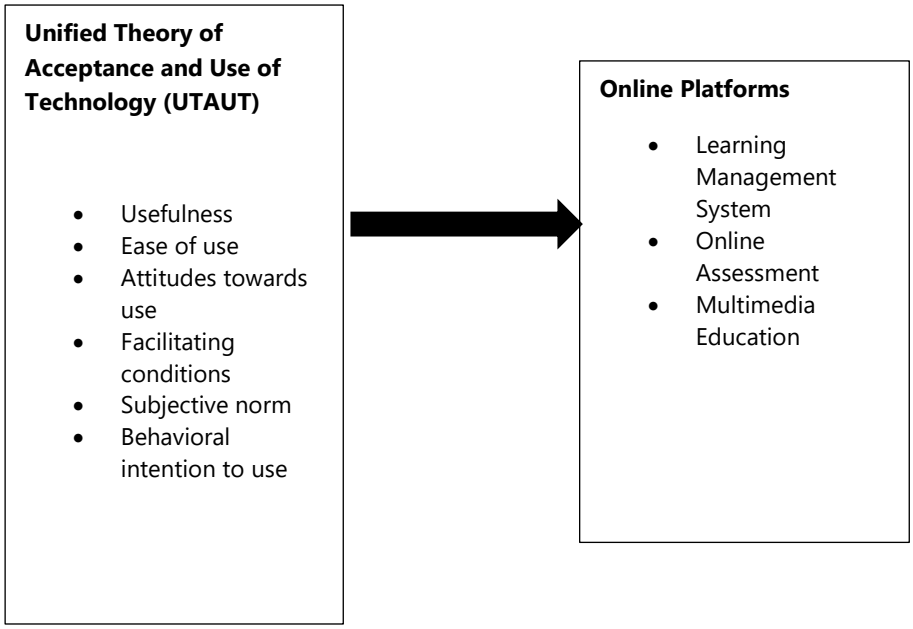

Figure 1. Conceptual Model of the Study

2.6 Statement of the Problem

The major problem of the study is to assess the online platforms based on unified theory of acceptance and use of technology in higher education.

Specifically, this study search to answer the following questions:

1. What is the level of acceptance of online platform using UTAUT model in terms of:
   1.1 Usefulness;
   1.2 Ease of use;
   1.3 Attitudes towards use;

1.4 Facilitating conditions;
1.5 Subjective norm; and
1.6 Behavioral intention to use?
2. How the assessment of UTAUT model affects the on the following online platforms:
2.1 Learning Management System;
2.2 Online Assessment, and
2.3 Multimedia Education?
3. Does the UTAUT framework significantly perceive the use of online platform?
4. What problems are encountered in the use of online platform in the higher education?
5. What information technology management implications may be drawn from the findings of the study to further enhance the use of online platforms?

2.7 Definition of Terms

Multimedia education. The use of technology such as computer, smart phones, smart TV, gadgets and alike.

Online platforms. The use technology and multimedia as a modality in delivering blended education.

2.8 Scope and Delimitation of the Study

The study is to assess the online platforms based on unified theory of acceptance and use of technology in higher education.

3. Method and Techniques Used

The descriptive-correlational method of research was utilized in the study to assess the acceptance using UTAUT model in higher education and its effect students' learning. A correlational research systematically investigates the relationship among variables as well as in determining the cause and effect relationship. The study made use of a quantitative research approach in analyzing and understanding the effects of acceptance of online platforms on students' learning.

Standardized questionnaire will use as primary a data-gathering tool. Documentary analysis will utilize in assessing the students' learning in the higher education.

3.1 Locale of the Study

The study will be conducted in one the higher education in China. The researcher limited the conduct of the study to the institution to avoid possible mediating variables such as the difference in practice, systems, norms, and others that may influence the findings of the study if it includes other institutions from different school and partly because of the accessibility and availability of the respondents.

3.2 Respondents of the Study

The respondents of the study are the college students and professors in a higher education for school year 2023-2024. Table 1 shows the distribution of professors and college students.

Table 1
Respondents of the Study

Respondents	F	%
Professors	15	6.25
Graduate Students	225	93.75
Total	**240**	**100**

3.3 Instrument of the Study

This study utilized standardized instrument on unified theory of acceptance and use of online platforms of students and professors. The instrument was adopted from the study of Teo (2012) entitled " Examining the intention to use technology among pre-service teachers: An integration of the technology acceptance model and theory of planned behavior" which was published in Interactive Learning Environments journal, with an overall internal reliability coefficient of .82.

The acceptance of online platforms will be assessed in terms of its usefulness, ease of use, attitudes towards use, facilitating conditions, subjective norm, and behavioral intention to use. The internal consistencies in terms of Cronbach's alphas for these items were .83, .90, .87, .82, .80, and .70, respectively, and acceptable.

3.4 Data Gathering Procedure

In gathering the data, the researcher will use Google Forms to design the scale and shared it via email to college students and professors. The purpose of the research, instructions and data usage were made clear to the respondents. Only the willing respondents filled up the online survey; and to maintain confidentiality of their responses, the survey was filled out anonymously, guaranteeing privacy of data.

3.5 Data Processing and Statistical Treatment

The data collected were tabulated and processed using Statistical Packages for Social Sciences (SPSS). In order to analyze and interpret the data gathered, the following statistical measures were used:
The acceptance use of online platforms is quantified using the following scale:

Rating Scale	Range	Descriptive Evaluation
5	4.50-5.00	Very great extent
4	3.50-4.49	Great extent
3	2.50-3.49	Moderate extent
2	1.50-2.49	Least extent
1	1.00-1.49	Not at all

Problems encountered in the study will be analyzed using frequency counts and ranking procedures.

The effects of acceptance of online platform for students and professors will be quantified using correlation and regression analysis.

Rating Scale	Range	Descriptive Evaluation
4	4.00-3.00	Strongly Agee (SA)
3	2.99-2.00	Agree (A)
2	1.99-1.0	Disagree (D)
1	1.00-0.09	Strongly Disagree (SD)

4. Presentation, Analysis, and Interpretation of Data

This chapter presents, analyzes and interprets the data gathered through survey questionnaires. The data are analyzed and presented in statistical tables based on the statement of the problem in Chapter 1.

4.1 What is the level of acceptance of online platform using UTAUT model in terms of usefulness, ease of use, attitudes towards use, facilitating conditions, subjective norm, and behavioral intention to use?

Table 2 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of usefulness.

Table 2. Level of Acceptance of Online Platform using UTAUT model in terms of Usefulness

Usefulness	Weighted Mean	Interpretation	Rank
1. The online platform enhances my productivity.	3.28	Moderate Extent	3
2. The online platform improves my performance.	3.64	Great Extent	1
3. The online platform is beneficial to my work/studies.	3.44	Moderate Extent	2
Overall Mean	**3.45**	**Moderate Extent**	

Pertaining to the table above, The online platform improves my performance ranked first with a weighted mean of 3.64 and interpreted as “Great Extent”. Followed by, The online platform is beneficial to my work/studies on rank two having a weighted mean of 3.44 and a verbal interpretation of “Moderate Extent”. Lastly, having the lowest weighted mean of 3.28 and a verbal interpretation of “Moderate Extent”, The online platform enhances my productivity. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Usefulness corresponds to a general weighted mean of 3.45 and interpreted as “Moderate Extent”.

Result indicates that the level of acceptance of the online platforms with using UTAUT model in terms of its usefulness is at a moderate yet positive level. Supporting this, Al-Qeisi et al. (2019) used the UTAUT model to assess the adoption of e-banking in Jordan, they discovered that users' behavioral intention to utilize the platform was significantly positively impacted by perceived usefulness.

Table 3 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of ease of use.

Table 3. Level of Acceptance of Online Platform using UTAUT model in terms of Ease of Use

Ease of Use	Weighted Mean	Interpretation	Rank
1. The online platform is user-friendly.	4.13	Great Extent	1
2. Learning to use the online platform is easy for me.	3.86	Great Extent	2
3. I can use the online platform without much effort.	2.01	Least Extent	3
Overall Mean	**3.33**	**Moderate Extent**	

Pertaining to the table above, The online platform is user-friendly ranked first with a weighted mean of 4.13 and interpreted as "Great Extent". Followed by, Learning to use the online platform is easy for me on rank two having a weighted mean of 3.86 and a verbal interpretation of "Great Extent". Lastly, having the lowest weighted mean of 2.01 and a verbal interpretation of "Least Extent", I can use the online platform without much effort. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Ease of Use corresponds to a general weighted mean of 3.33 and interpreted as "Moderate Extent".

Result indicates that the acceptance of Online Platform using UTAUT model in terms of Ease of Use is at moderate level as it shows trait of being a user-friendly platform. In relation to that, Venkatesh et al. (2023) shown, with strong empirical support, that effort expectancy is a critical factor in determining users' intention to use technology. According to the paradigm, consumers' acceptance of technology is greatly influenced by its perceived ease of use. The UTAUT model incorporates this idea as effort expectancy.

Table 4 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of attitude towards use.

Table 4. Level of Acceptance of Online Platform using UTAUT model in terms of Attitude towards Use

Attitude towards Use	Weighted Mean	Interpretation	Rank
1. I enjoy using the online platform.	3.99	Great Extent	2
2. Using the online platform is a good idea.	4.14	Great Extent	1
3. I am happy with my decision to use the online platform.	3.55	Great Extent	3
Overall Mean	**3.89**	**Great Extent**	

Pertaining to the table above, Using the online platform is a good idea ranked first with a weighted mean of 4.14 and interpreted as "Great Extent". Followed by, I enjoy using the online platform on rank two having a weighted mean of 3.99 and a verbal interpretation of "Great Extent". Lastly, having the lowest weighted mean of 3.55 and a verbal interpretation of "Great Extent", I am happy with my decision to use the online platform. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Attitude towards Use corresponds to a general weighted mean of 3.89 and interpreted as "Great Extent".

Results indicate a positive remark with the great extent of acceptance of online platforms using the UTAUT model in terms of attitude towards use. According to a recent study on cloud-based learning management system acceptance by Abdullah and Ward (2016), acceptance was highly influenced by attitudes toward use. Positive sentiments regarding the system were found to boost students' inclination to use it, suggesting a high level of acceptance, according to the study.

Table 5 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of facilitating conditions.

Table 5. Level of Acceptance of Online Platform using UTAUT model in terms of Facilitating Conditions

Facilitating Conditions	Weighted Mean	Interpretation	Rank
1. I have access to the necessary resources to use the online platform.	2.53	Moderate Extent	2
2. I have the necessary knowledge to use the online platform.	3.47	Moderate Extent	1
3. The online platform is compatible with other tools I use.	1.90	Least Extent	3
Overall Mean	**2.63**	**Moderate Extent**	

Pertaining to the table above, I have the necessary knowledge to use the online platform ranked first with a weighted mean of 3.47 and interpreted as "Moderate Extent". Followed by, I have access to the necessary resources to use the online platform on rank two having a weighted mean of 2.53 and a verbal interpretation of "Moderate Extent". Lastly, having the lowest weighted mean of 1.90 and a verbal interpretation of "Least Extent", The online platform is compatible with other tools I use. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Facilitating Conditions corresponds to a general weighted mean of 2.63 and interpreted as "Moderate Extent".

Result indicates a moderate level of acceptance of the Online Platform using UTAUT model in terms of Facilitating Condition. According to a recent study on the uptake of e-government services in Qatar by Al-Shafi and Weerakkody (2020), user acceptance was greatly influenced by the enabling environment. High levels of user acceptability and satisfaction were largely attributed to the presence of robust institutional support and infrastructure.

Table 6 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of subjective norm.

Table 6. Level of Acceptance of Online Platform using UTAUT model in terms of Subjective Norm

Subjective Norm	Weighted Mean	Interpretation	Rank
1. My colleagues/friends think I should use the online platform.	2.50	Moderate Extent	3
2 People who influence my behavior encourage me to use the online platform.	3.67	Great Extent	1
3. People whose opinions I value prefer that I use the online platform.	3.45	Moderate Extent	2
Overall Mean	**3.21**	**Moderate Extent**	

Pertaining to the table above, People who influence my behavior encourage me to use the online platform ranked first with a weighted mean of 3.67 and interpreted as "Great Extent". Followed by, People whose opinions I value prefer that I use the online platform on rank two having a weighted mean of 2.45 and a verbal interpretation of "Moderate Extent". Lastly, having the lowest weighted mean of 2.50 and a verbal interpretation of "Moderate Extent", My colleagues/friends think I should use the online platform. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Subjective Norm corresponds to a general weighted mean of 3.21 and interpreted as "Moderate Extent".

The result indicates that subjective norms can moderately affect the level of acceptance of the Online Platform using UTAUT model. In relation, according to a Hsu and Lu (2019) study on the adoption of online gaming, users' acceptability was moderately impacted by subjective norms. According to the study, social influence did matter, but it didn't have as much of an effect as other elements like enjoyment and flow.

Table 7 shows the numerical data of the level of acceptance of online platform using UTAUT model in terms of behavioral inetention to use.

Table 7. Level of Acceptance of Online Platform using UTAUT model in terms of Behavioral Intention to Use

Behavioral Intention to Use	Weighted Mean	Interpretation	Rank
1. I plan to use the online platform frequently.	3.90	Great Extent	1
2. I intend to continue using the online platform in the future.	2.34	Least Extent	3
3. I will recommend the online platform to others.	2.56	Moderate Extent	2
Overall Mean	**2.93**	**Moderate Extent**	

Pertaining to the table above, I plan to use the online platform frequently ranked first with a weighted mean of 3.90 and interpreted as "Great Extent". Followed by, I will recommend the online platform to others on rank two having a weighted mean of 2.56 and a verbal interpretation of "Moderate Extent". Lastly, having the lowest weighted mean of 2.34 and a verbal interpretation of "Least Extent", I intend to continue using the online platform in the future. Overall, the level of acceptance of Online Platform using UTAUT model in terms of Behavioral Intention to Use corresponds to a general weighted mean of 2.93 and interpreted as "Moderate Extent".

The result indicates that behavioral intention to use can moderately affect the level of acceptance of the Online Platform using UTAUT model. Supporting the claim, behavioral intention has a moderate impact on the actual usage of mobile banking services, according to a study by Dwivedi et al. (2018) on the uptake of these services.The study made clear that social influence, perceive d utility, and ease of use all affect behavioral intention.

4.2 How the assessment of UTAUT model affects the on the following online platforms which are learning management system, online assessment, and multimedia education?

Table 8 shows the numerical data of the respondent's assessment of UTAUT model effect on students' learning in terms of learning management system.

Table 8. Assessment of UTAUT model effect on students' learning in terms of Learning Management System

Learning Management System	Weighted Mean	Interpretation	Rank
1. The Learning Management System enhances my learning productivity.	2.39	Disagree	2
2. The Learning Management System is easy to navigate and use.	1.90	Disagree	3
3. I have a positive attitude towards using the Learning Management System for my studies.	1.87	Disagree	5
4. I have the necessary resources and support to effectively use the Learning Management System.	1.88	Disagree	4
5. My peers and instructors encourage the use of the Learning Management System.	3.90	Strongly Agree	1
Overall Mean	**2.39**	**Disagree**	

Pertaining to the table above, My peers and instructors encourage the use of the Learning Management System ranked first with a weighted mean of 3.90 and interpreted as "Strongly Agree". Followed by The Learning Management System enhances my learning productivity on rank two having a weighted mean of 2.39 and a verbal interpretation of "Disagree". On third rank with a weighted mean of 1.90 and interpreted as "Disagree", The Learning Management System is easy to navigate and use. I have the

necessary resources and support to effectively use the Learning Management System ranked fourth with a weighted mean of 1.88 and interpreted as "Disagree". Lastly, having the lowest weighted mean of 1.87 and interpreted as "Disagree", I have a positive attitude towards using the Learning Management System for my studies. Overall, the respondent's assessment of UTAUT model effect on students' learning in terms of Learning Management System corresponds to a general weighted mean of 2.39 and a verbal interpretation of "Disagree".

Result indicates disagreement with the effect of UTUAT model on student's learning in terms of Learning Management System. In relation to that, according to a study by Edmunds et al. (2019) on LMS use by students in the UK, the constructs of the UTAUT model—such as performance expectancy and effort expectancy—were not very effective at predicting LMS usage. Instead, the acceptance and use of LMS by students was more significantly influenced by elements like the perceived quality of the content and the assistance of the instructors.

Table 9 shows the numerical data of the respondent's assessment of UTAUT model effect on students' learning in terms of online assessment.

Table 9. Assessment of UTAUT model effect on students' learning in terms of Online Assessment

Online Assessment	Weighted Mean	Interpretation	Rank
1. Online assessments help me evaluate my knowledge and skills effectively.	3.87	Strongly Agree	1
2. The platform for online assessments is user-friendly.	2.93	Agree	3
3. I feel confident in taking online assessments.	2.90	Agree	4
4. I have access to the necessary tools and resources to complete online assessments.	3.32	Strongly Agree	2
5. My peers and instructors believe that online assessments are a valuable tool.	2.67	Agree	5
Overall Mean	**3.14**	**Agree**	

Pertaining to the table above, Online assessments help me evaluate my knowledge and skills effectively ranked first with a weighted mean of 3.87 and interpreted as "Strongly Agree". Followed by I have access to the necessary tools and resources to complete online assessments on rank two having a weighted mean of 3.32 and a verbal interpretation of "Strongly Agree". On third rank with a weighted mean of 2.93 and interpreted as "Agree", The platform for online assessments is user-friendly. I feel confident in taking online assessments ranked fourth with a weighted mean of 2.90 and interpreted as "Agree". Lastly, having the lowest weighted mean of 2.67 and interpreted as "Agree", My peers and instructors believe that online assessments are a valuable tool. Overall, the respondent's assessment of UTAUT model effect on students' learning in terms of Online Assessment corresponds to a general weighted mean of 3.14 and a verbal interpretation of "Agree".

Result indicates that the UTUAT has a positive remark as respondents assess its effect on student's leaning in terms of online assessment. In addition to that, Online assessments can benefit from the application of the UTAUT model, as demonstrated by a number of empirical research. For example, Teo (2019) used the UTAUT model to examine whether pre-service instructors accepted online assessments and discovered that the model's concepts had substantial support. Furthermore, Cheng (2020) demonstrated that performance expectancy, effort expectancy, social influence, and facilitating environments were important determinants of students' behavioral intention to use e-learning systems, including online examinations.

Table 10 shows the numerical data of the respondent's assessment of UTAUT model effect on students' learning in terms of multimedia education.

Table 10. Assessment of UTAUT model effect on students' learning in terms of Multimedia Education

Multimedia Education	Weighted Mean	Interpretation	Rank
1. Multimedia education resources enhance my understanding of the subject matter.	3.36	Strongly Agree	2
2. Multimedia education platforms are easy to use and navigate.	3.63	Strongly Agree	1
3. I enjoy using multimedia education resources for my learning.	2.52	Agree	4
4. I have the necessary technical support to effectively use multimedia education platforms.	1.99	Disagree	5
5. My peers and instructors support the use of multimedia education in the learning process.	3.20	Agree	3
Overall Mean	**2.94**	**Agree**	

Pertaining to the table above, Multimedia education platforms are easy to use and navigate ranked first with a weighted mean of 3.63 and interpreted as "Strongly Agree". Followed by Multimedia education resources enhance my understanding of the subject matter on rank two having a weighted mean of 3.36 and a verbal interpretation of "Strongly Agree". On third rank with a weighted mean of 3.20 and interpreted as "Agree", My peers and instructors support the use of multimedia education in the learning process. I enjoy using multimedia education resources for my learning ranked fourth with a weighted mean of 2.952 and interpreted as "Agree". Lastly, having the lowest weighted mean of 1.99 and interpreted as "Disagree", I have the necessary technical support to effectively use multimedia education platforms. Overall, the respondent's assessment of UTAUT model effect on students' learning in terms of Multimedia Education corresponds to a general weighted mean of 2.94 and a verbal interpretation of "Agree".

Result indicates that that the UTUAT has a positive remark as respondents assess its effect on student's leaning in terms of multimedia education. In relation to that, supporting study by Hsu et al. (2019) found good support for the constructs of the UTAUT model in their investigation of the acceptance of multimedia learning technologies in higher education. The study found that students' behavioral intention to utilize multimedia tools was significantly predicted by performance anticipation, effort expectancy, social influence, and facilitating factors.

4.3 Does the UTAUT framework significantly perceive the use of online platform?

Table 11 shows the result of applying ANOVA as statistical treatment to identify if the UTAUT framework significantly perceives the use of online platform.

Table 11. Test for UTAUT framework to significantly perceive the use of the online platform

ANOVA						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	6.02	8	0.753	6.24	0.02	2.36
Within Groups	14.52	24	0.605			
Total	20.54	32				

Result indicates that since the P-value 0.02 is less than the $\alpha = 0.05$ and as the computed F 6.24 is greater than the F crit value 2.36, therefore the null hypothesis is to be rejected. Thus, the UTAUT framework significantly perceives the use of online platform.

4.4 What problems are encountered in the use of online platforms in higher education?

- ***Technical Issues***

Platform Reliability and Performance. Online learning environments can experience intermittent outages, sluggish loading speeds, and other technological issues that impair user experience and interfere with instructional operations.

- ***Digital Divide***

Access to Technology. Students' access to technology varies greatly; some do not have computers, tablets, or cellphones, or fast enough internet connections to engage in all aspects of online learning.

- **User Proficiency**

Digital Literacy. Different levels of digital literacy among teachers and students can have an impact on how well they use online resources. It could be difficult for some users to use the platform's capabilities and navigate.

Higher education's usage of online platforms brings with it a variety of problems, from pedagogical and social effects to technological problems and the digital divide. To ensure that all students and faculty can effectively engage in and benefit from online learning environments, addressing these issues requires a comprehensive strategy that includes enhanced infrastructure, thorough training, effective course design, and robust support methods.

4.5 What information technology management implications may be drawn from the findings of the study to further enhance the use of online platforms?

Based on the findings of the study, it may be suggested that there are several IT management implications for improving the use of online platforms in higher education. These implications include improving platform usefulness, ease of use, attitude towards use, facilitating conditions, subjective norms, and behavioral intention to use. Key implications include enhancing platform usefulness, simplifying the user interface, fostering a positive attitude towards use, improving facilitating conditions, leveraging subjective norms, and encouraging behavioral intention to use.

It is critical to address technical issues such as platform reliability and performance, the digital divide, and user proficiency. Investing in robust infrastructure and regular maintenance, setting up a dedicated IT support team, and ensuring equitable access to technology are essential. Providing devices and internet access to those in need, offering comprehensive digital literacy training programs, and improving learning management systems (LMS) are also essential.

Providing robust support and resources is crucial for users who perceive a lack of resources and support when using the LMS. It is also critical to improve the user interface of online assessments and provide the necessary tools. Providing robust technical support for multimedia education platforms is also essential.

It is therefore, addressing these IT management implications can significantly improve the acceptance and effectiveness of online platforms in higher education. By leveraging technology to its fullest potential, institutions can enhance the teaching and learning experience.

4.6 Summary of Findings

The results of the data highlighted the following observations.

4.6.1 The Level of Acceptance of Online Platform Using UTAUT model in terms of Usefulness, Ease of use, Attitudes towards use, Facilitating conditions, Subjective norm, and Behavioral intention to use

The results showed that the platform improved performance, was user-friendly, and enhanced productivity. Users ranked ease of use first, followed by attitude towards use in second place, and compatibility with other tools in third place. In terms of facilitating conditions, the level of acceptance was moderate, with the user having the necessary knowledge and resources. People who influence the user's behavior ranked the subjective norm first, encouraging its use. The user's colleagues and friends recommended the platform, indicating a moderate level of acceptance in terms of the subjective norm. Lastly, the level of acceptance in terms of behavioral intention to use was moderate, with the user intending to use the platform frequently and recommend it to others. Overall, the UTAUT model indicated that behavioral intention to use can moderately affect acceptance of the online platform. Overall, the UTAUT model provides valuable insights into the user's perceptions and preferences towards online platforms.

4.6.2 The Assessment of UTAUT model Effects to Learning Management System, Online Assessment, and Multimedia Education

The results show that the Learning Management System is highly regarded by peers and instructors, indicating strong agreement. Online assessments are also highly regarded, indicating strong agreement. The online assessment platform is user-friendly, indicating strong agreement. The platform is considered valuable by peers and instructors, indicating a strong agreement. Multimedia education platforms are also highly regarded, indicating strong agreement. The use of multimedia education resources enhances understanding of the subject matter, and the support from peers and instructors is also high. In these areas, the overall assessment of the UTAUT model's impact on students' learning is generally positive.

1. The UTAUT Framework Significant Perception with the Use of Online Platform

The UTAUT framework significantly perceives the use of online platforms, as indicated by the P-value of 0.02 and the F-value of 6.24, rejecting the null hypothesis.

2. The Problems Encountered in the use of Online Platform in the Higher Education

Online learning in higher education faces a variety of challenges, including technical issues like platform reliability and performance, the digital divide due to varying access to technology, and user proficiency in digital literacy. A comprehensive strategy involving enhanced infrastructure, thorough training, effective course design, and robust support methods is necessary to address these issues and ensure effective engagement and benefit from online learning environments.

3. The Information Technology Management Implications to Further Enhance the Use of online Platforms

The study suggests that improving online platforms in higher education requires IT management to enhance platform usefulness, ease of use, attitude towards use, facilitating conditions, subjective norms, and behavioral intention. Key implications include simplifying user interfaces, fostering positive attitudes, improving facilitating conditions, leveraging subjective norms, and encouraging behavioral intention. We must address technical issues such as platform reliability and performance, the digital divide, and user proficiency. Providing robust support and resources can enhance the teaching and learning experience.

5. Conclusions

The following conclusions are hereby drawn on the findings of the study.

1. Majority of the respondents agreed the UTAUT model demonstrates that users' behavioral intention to use online platforms moderately influences their acceptance of them. Users prioritize ease of use, attitude towards use, and compatibility with other tools. The model also suggests that influencers, colleagues, and friends can moderately influence acceptance, providing valuable insights into user perceptions and preferences.

2. Majority of the respondents agreed that the Learning Management System, online assessments, and multimedia education platforms are highly regarded by peers and instructors, with strong agreement on their value and user-friendliness. The use of multimedia resources enhances understanding, and the overall impact on students' learning is generally positive.

3. The UTAUT framework demonstrates a significant perception of online platforms, therefore rejecting the null hypothesis formulated for the study.

4. Online learning in higher education faces technical challenges, the digital divide, and user proficiency. Hence, there is a need for a comprehensive strategy that includes infrastructure, training, course design, and support.

5. The study suggests that improving online platforms in higher education requires IT management to enhance usefulness, ease of use, attitudes, facilitating conditions, subjective norms, and behavioral intention while addressing technical issues.

5.1 Recommendations

The implications of information technology management for enhancing online platform use are significant. The findings of the study with the UTAUT model suggest numerous information technology management implications to enhance the use of online platforms in higher education. These implications address a variety of factors, including usefulness, convenience of use, attitude toward use, facilitating conditions, subjective norms, and behavioral intention to use.

1. Enhancing Platform Usability

Implications. Online platforms are moderately acceptable for improving performance, assisting with work or study, and increasing productivity.

Action. Continuously improve the functionality of online platforms to increase productivity and performance. *Implementation*. Regularly upgrade platform features in response to user feedback and changing educational needs. Conduct workshops to highlight advanced functions that can help with performance enhancement.

2. Improving Usability
Implication. Despite the platform's general user-friendliness, there are worries about the amount of work required to use it. *Action*. Simplify the user interface and improve the overall user experience to lower the amount of work required to operate the platform.

Implementation. Run usability tests with a varied sample of users to identify pain areas. Invest in UI/UX enhancements and offer thorough user guides and tutorials.

3. Fostering Positive Attitudes Toward Use
Implication. Users are positive about using internet platforms.
Action. Reinforce this positive attitude by emphasizing success stories and benefits.
Implementation. Create a communication strategy that includes newsletters, case studies, and user testimonials to highlight the platform's benefits and positive experiences.

4. Enhancing Facilitating Conditions
Implication. There is reasonable acceptance of the required knowledge and resources to use the platform, but interoperability with other tools is limited.
Action. Improve the integration of online platforms with other instructional tools, while also providing enough resources and training.

Implementation. Ensure compatibility with commonly used educational tools and systems. Provide ongoing professional development opportunities that focus on digital literacy and platform integration.

5. Leveraging Subjective Norms
Implication. The influence of peers and teachers strongly encourages online platform usage.
Action. Utilize key influencers within the institution to encourage the adoption and effective use of online platforms. *Implementation*. Create ambassador programs that allow enthusiastic and talented users to mentor others. Facilitate peer-led workshops and discussions to exchange best practices.

6. Encourage Behavioral Intention to Use
Implications. There is a moderate desire to use internet platforms on a regular basis.
Action. To increase engagement, cultivate an environment that encourages frequent and efficient use of online platforms.

Implementation. Establish reward schemes for frequent users and acknowledge their contributions in institutional messaging. Encourage instructors to integrate online platforms into their teaching techniques on a consistent basis.

7. Troubleshooting Technical Issues with Online Platforms
Platform Reliability and Performance. Online systems should be reliable, with few outages and excellent performance.
Action. Invest in a strong infrastructure and frequent maintenance.
Implementation. Establish a dedicated IT support team to monitor platform performance and respond to issues as they arise.

8. Digital Divide
Implications. Ensure that all students and educators have fair access to the essential technologies.
Action. Offer devices and internet connections to individuals in need.
Implementation. Create loan programs for devices and work with local organizations to supply internet access points.

9. User Proficiency
Implications. To maximize platform utilization, improve digital literacy among students and faculty.
Action. Provide thorough digital literacy training programs.
Implementation. Plan a series of training seminars and online tools to improve digital skills.

10. Enhancing Learning Management Systems (LMS)
Implications. Users disagree about the effectiveness and usability of LMS.

Action. Improve LMS functionality and ease of use.
Implementation. Hold user feedback sessions to better identify pain spots and modify LMS features accordingly. Provide extensive training sessions on how to use LMS efficiently.

11. Increasing Support and Resources
Implication. When using LMS, users perceive a lack of resources and assistance.
Action. Provide strong support and enough resources.
Implementation. Create a help desk specifically for LMS support and compile a library of resources, including video tutorials and FAQs.

12. Enhancing Online Assessments
Implications. Users are positive about online exams, but they need more confidence and resources.
Action. Improve the online assessment user interface and include the essential tools.
Implementation. Create user-friendly assessment systems and make sure users have access to the necessary tools and resources. Ensure that users receive training on the efficient use of online evaluations.

13. Enhancing Multimedia Education
Implications. Users acknowledge the benefits of multimedia education but lack technical support.
Action. Offer robust technical support for multimedia education platforms.
Implementation. Establish a dedicated support staff for multimedia education and offer ongoing technical assistance.

Generally, the findings of the study highlighted many IT management implications for improving the use of online platforms in higher education. Institutions may greatly improve online platform adoption and efficacy by addressing concerns such as utility, convenience of use, attitude toward use, facilitating conditions, subjective norms, and behavioral goals. Furthermore, tackling technological challenges, the digital divide, and user proficiency will result in a more inclusive and effective online learning environment. Implementing these tactics will assist in fully utilizing technology, hence improving the teaching and learning experience.

Funding: This research received no external funding.
Conflicts of Interest: The authors declare no conflict of interest.
Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

[1] Abdullah, F., & Ward, R. (2016). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by analyzing commonly used external factors. *Computers in Human Behavior, 56,* 238-256.
[2] Al-Shafi, S., & Weerakkody, V. (2010). Factors affecting e-government adoption in the state of Qatar. European and Mediterranean Conference on Information Systems.
[3] Al-Qeisi, K., Dennis, C., Alamanos, E., & Jayawardhena, C. (2019). Website design quality and usage behavior: Unified Theory of Acceptance and Use of Technology. *Journal of Business Research, 67*(11), 2282-2290
[4] Astuti, B. (2022). The Effectiveness of Digital Module to Improve Career Planning of Junior High School Students. W*orld Journal on Educational Technology*: Current Issues, v14 n3 p940-950 2022.
[5] Blau, I. (2020). Digital Collaborative Learning In Elementary And Middle Schools As A Function Of Individualistic and Collectivistic Culture: The Role of ICT Coordinators' Leadership Experience, Students' Collaboration Skills, And Sustainability.
[6] Casey, J. & Kirk, J. (2023). Understanding Preservice Teachers' Perceptions of Service- Learning When Teaching Educational Technology to Students with Exceptionalities. J*ournal of Service-Learning in Higher Education*, v16 p80-92
[7] Cheng, Y. M. (2020). Effects of quality antecedents on e-learning acceptance. Internet Research, 22(3), 361-390.
[8] Devi, N. (2022). Computer Self-Efficacy's Impact on the Use of E-Resources: Perceptions of UG and PG Students. *International Journal of Information Dissemination & Technology*. 143-147. 5.
[9] Doo, M. & Zhu, M. (2024). A Meta-Analysis of Effects of Self-Directed Learning in Online Learning Environments. J*ournal of Computer Assisted Learning*., Vol. 40 Issue 1, p1-20. 20p.
[10] Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2017). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers, 21*(3), 719-734.
[11] 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.
[12] Guillen-Gamez, F., et. al, (2024). Teaching Digital Competence in the Use of Youtube and its Incidental Factors: Development of An Instrument Based on The Utaut Model From a Higher Order PLS-SEM Approach. *British Journal of Educational Technology*. 340-362. 23p.

[13] Hsu, L., Chang, H., & Yen, C. (2014). Exploring the antecedents of learning satisfaction in blended learning: A role of expectation-confirmation theory. Computers & Education, 48(3), 508-519.
[14] Hsu, C. L., & Lu, H. P. (2019). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & Management, 41*(7), 853-868.
[15] Jafari, E. (2023). Explanation of The Views and Opinions Regarding the Education Strategies for Using 3D Hologram Technology as an Educational Media. *Educational Media International*. 67-91. 25p.
[16] Kamble, A. (2022). Technology Acceptance for Online Teaching-Learning: Perspectives of Teachers from Higher Education in India. *Educational Media International*. 324-340.
[17] Kouser, S. & Majid, I. (2021). Technological Tools for Enhancing Teaching and Learning Process. *Online Submission, Towards Excellence,* 366-373
[18] Kumara, J. (2022). An Overview of Cloud Computing Technology and Its Application on Library Services. *International Journal of Information Dissemination & Technology*., 110-113. 4
[19] Lai, H. (2020). Investigating older adults' decisions to use mobile devices for learning, based on the unified theory of acceptance and use of technology. Interactive Learning Environments., 890-901.
[20] Ludwig, S. & Rausch, A (2023). The Relationship Between Problem-Solving Behavior and Performance – Analyzing Tool Use and Information Retrieval an a Computer-Based Office Simulation. *Journal of Computer Assisted Learning*.
[21] Omirzak, I. (2022). Integrating Mobile Technologies in a Smart Classroom to Improve the Quality of the Educational Process: Synergy of Technological and Pedagogical Tools. *World Journal on Educational Technology*: Current Issues. 560-578 2022.
[22] Teo, T. (2019). A path analysis of pre-service teachers' attitudes to computer use: Applying and extending the technology acceptance model in an educational context. *Interactive Learning Environments, 18*(1), 65-79.
[23] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27*(3), 425-478.
[24] Wang, J. (2023). The Effects of Mobile Technology Usage on Cognitive, Affective, and Behavioral Learning Outcomes in Primary and Secondary Education: A Systematic Review with Meta-Analysis. *Journal of Computer Assisted Learning*. Apr2023.
[25] Wang, J. & Yu, Z. (2022). Smart Educational Learning Strategy with the Internet of Things in Higher Education System. *International Journal on Artificial Intelligence Tools*.
[26] Yildirim, M. (2023). Developing a technological value-orientation perception scale for teacher candidates. *Educational Media International*.