



Perspectives on an E-learning Platform for Higher Education in Phnom Penh City, Cambodia

Phon Sophal and Thanawan Phongsatha

Graduate School of Business and Advanced Technology Management, Assumption University of Thailand

E-mail: phalcheat71@gmail.com, ORCID ID: <https://orcid.org/0009-0007-9230-4632>

E-mail: thanawanphn@au.edu, ORCID: <https://orcid.org/0000-0003-3918-1796>

Received 07/02/2024

Revised 13/02/2024

Accepted 05/03/2024

Abstract

Background and Aim: A new era of education in Cambodia is being inaugurated via e-learning, offering access, flexibility, and cultural relevance never before possible. Investments in digital infrastructure, instructional materials, and digital literacy initiatives become essential as the nation grows to guarantee that the advantages of e-learning are experienced across every element of society. The path Cambodia is taking to become a digitally empowered education system is evidence of the transformative impact of e-learning in developing countries. This study aimed to explore the perceptions of undergraduate students regarding the Microsoft Teams e-learning platform in a public institution in Phnom Penh, Cambodia. The research also sought to assess students' perspectives about Microsoft Team for the e-learning platform in the context of the Unification of Theories of Acceptance of Usage Technology-2 (UTAUT2) framework. These aspects included performance expectancy, effort expectancy, social influence, facilitating conditions, price value, habit, trust, behavior intention, and satisfaction. The study focused on understanding the levels of trust and satisfaction that undergraduate students had in using Microsoft Teams for teaching and learning.

Materials and Methods: In this study, a total of 476 undergraduate volunteers participated in the study. The research utilized structural equation modeling (SEM) for hypothesis testing. Notably, the study identified a significant finding: Satisfaction did not mediate the relationship between Trust and Behavior Intention.

Results: The variables that exhibited a statistically significant influence on Behavioral Intention were Habit ($p < .001$) and Social Influence ($p < .05$). Additionally, Trust demonstrated a statistically significant influence on Satisfaction ($p < .001$). These results offer insightful information on the variables affecting undergraduate students' opinions and adoption of the Microsoft Teams e-learning environment in a public university. This study advances knowledge on how students' behavioral intentions and satisfaction in the setting of e-learning are influenced by trust, habit, and social influence.

Conclusion: The influence of habit on behavioral intention, with a p-value of less than 0.001, underscores the importance of routine and familiarity in students continued use of Microsoft Teams. The habitual integration of the platform into their academic routines signals a positive trend, emphasizing the impact of consistent usage patterns on sustained behavioral intention. Social influence, with a p-value less than 0.05, emerges as another influential factor shaping students' behavioral intentions toward Microsoft Teams. The support and influence from peers, instructors, and the broader academic community contribute significantly to the platform's acceptance and adoption. Moreover, the statistically significant influence of trust on satisfaction, with a p-value of less than 0.001, emphasizes the critical role trust plays in shaping students' satisfaction levels. Trust in the platform, its security measures, and its reliability directly contribute to a positive and satisfactory e-learning experience. These results collectively advance our understanding of the complex dynamics influencing students' perceptions and behaviors in the context of e-learning.

Keywords: Microsoft Teams; E-learning; Utaut-2; Higher Education; Structural Equation Modeling (SEM); Cambodia

Introduction

E-learning platforms for higher education have become an important tool for delivering educational content and facilitating learning experiences in the digital age. These platforms, which are often integrated with learning management systems (LMS), offer a wide range of resources. Including multimedia lectures Interactive quizzes, discussion boards, and virtual classrooms which can be accessed anytime, anywhere with an internet connection (Al Lily et al., 2019). The platform helps universities and colleges expand access to education. Supports a variety of learning styles and promotes lifelong learning. It also supports individual learning paths. Adaptive assessment techniques and real-time feedback mechanisms Promote





student engagement and academic success (Sangra et al., 2015) as higher education institutions continue to embrace online and blended learning formats. E-learning platforms therefore play a key role in enhancing the quality, flexibility, and comprehensiveness of education delivery. However, e-learning has been seen as a new phenomenon in higher education in the whole of Cambodia during the last two decades, while Cambodia is developing strategy planning related to information and communication technology (ICT) for higher education institutions. It had never happened in the history of education in the nation. In Cambodia, online learning isn't common, and there are numerous issues when it comes to executing this learning mode in the education system (Heng, 2021).

Likewise, in nations around the world, teaching has been mainly in-class in-person-based or traditional classes which bring student interaction much better than online classes. Some advanced developed countries have accepted and already applied e-learning in the last decades, which makes them confident with e-learning in higher education institutions both public and private. The developed countries are successfully implementing the E-learning system besides realization of its massive benefits (Salloum et al., 2018). In truth, COVID-19, widespread in Cambodia, constrained higher education educators to apply e-learning or separate learning for instructing and learning. On March 13, 2020, it critically reported school closures to avoid the spread of the infection within the community throughout Cambodia (MoEYS, 2020). As of June 2020, the Ministry of Education, Youth, and Sport of Cambodia (MoEYS) reported to all higher education institutions that they should proceed with online learning within the modern term (MoEYS, 2020). A few colleges and universities have rapidly adjusted blended learning strategies, whereas other higher education institutions (HEIs) took weeks to switch to online learning for the remaining weeks of the term or semester.

On the other hand, the fourth industrial revolution continues to shape the global economy, education system adaptation, and workforce in all countries around the world. Currently, a developing country like Cambodia is facing uncertainty over how to prepare young people for a new future of work and the adaptation and adoption of Industry 4.0, including e-learning, especially new generation with technology in teaching and learning. Of course, the fourth industrial revolution is fundamentally changing the way we live, work, study, teach, and relate to one another from different perspectives and different backgrounds in life. It is characterized by the conversion of developing innovation breakthroughs, covering wide-ranging areas such as artificial intelligence (AI), which people start to use for their daily work, mechanical autonomy, robotics, and the Internet of things (IoT), Information Communication Technology (ICT), online learning, e-learning platforms, autonomous vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing, to name a few. In particular, the e-learning platform in higher education institutions in Cambodia is still new in terms of orientation and implementation in teaching and learning.

Higher education students in Cambodia have begun to use new technologies for the study of their related skills or majors in the last few years, especially online classes or e-learning since 2019. We can consider that currently e-learning is regarded as an important tool in teaching and learning in higher education, both public and private institutions. It is encouraging the use of modern technologies in education, innovative approaches to teaching and learning, and the development of positive habits among college students. It is extremely concerning that the technological divide between those who can use technology and those who cannot is growing (Jiang et al., 2019). Most students in higher education are using new technology in their learning, but the gap in knowledge or awareness of technology usage is still big, especially for poor students and those who come from remote areas in Cambodia. Even though, most students and instructors are familiar with the new integration of technology in Cambodia's education system currently 2021 (Heng, K., & Sol, K. (2023). However, some specific platforms and innovations of usage are very significant for both students and instructors to be aware of.

Technology for education in the twenty-first century includes Moodle, NEO, Microsoft Team (MT), Google Meet, and other platforms such as massive open online courses (MOOCs), which are open source for technology in education in online or e-learning. Instructors in higher education see MOOCs as a way to connect with more students from a variety of backgrounds (Watson et al., 2016). Supporters of MOOCs argue that they can help both students and teachers (Hew et al., 2014), increasing the amount of knowledge available to students, reaching more students, and enhancing the reputations of teachers (Zhu et al., 2018). In the field of education, where advances in teaching and learning are frequently reported in university news





releases or scholarly publications, the public discussion that followed this MOOC was rare (Siemens et al., 2014). Therefore, the use of modern technology in the educational system, specifically for e-learning platforms, must be better understood by both students and teachers. This is especially true for higher education institutions in Cambodia.

Objectives

1. To identify the acceptance of the Microsoft Team e-Learning platform for undergraduate students at a public university in Phnom Penh, Cambodia.
2. To identify undergraduate students' perceptions of Microsoft Team in terms of performance expectancy, effort expectancy, social influence, facilitating conditions, motivation, price value, habit, trust, behavior intention, and satisfaction toward e-learning in public higher education.
3. To identify the trust of undergraduate students to use Microsoft Team platforms in learning and teaching in a public higher education institution.

Literature review

In the literature review, researchers present a comprehensive review of the literature in two key research areas. These areas include some important e-learning platforms and UTAUT-2.

E-Learning

E-learning has its roots in distance education, which was first recorded in 1728 and was practiced as a "correspondence study" by Caleb Phillips (Holmberg et al., 2005; Kentnor, 2015). Maltz (2005) asserts that the word "e-learning" is used in a variety of contexts, including dispersed learning, online distance learning, and hybrid learning. The demand for remote learning increased over time in response to teacher shortages, reduced administrative costs, and geographic distances (Maltz et al., 2005). Parallel to advancements in communications technology, distant learning continued to advance and evolve. E-learning, which replaced the earlier types of distant learning, emerged at the close of the 20th century as a result of the development of the internet. To develop knowledge and improve the effectiveness of learning, e-learning offers a variety of approaches that make use of Internet technologies (Kentnor, 2015). E-learning, which Wilson (2020) described as learning that is enabled electronically, can take many different forms. E-learning, often known as online learning or electronic learning, is the process of learning through electronic media and technologies. E-learning is described in plain English as "learning that is enabled electronically." E-learning typically takes place online, so students can access their course materials whenever they want. Online courses, degrees, and programs are the most typical forms of e-learning (Wilson, 2020). Aixia et al. (2011) describe an integrated e-learning platform that uses revolutionary network technology as a teaching assistant and collaboration platform to implement online teaching and learning. It can offer network storage space and specific associated production tools for teachers and students, allowing them to organize teaching resources, display their best course materials, and share learning experiences (Aixia et al., 2011). Wentling (2000) claimed that while e-learning depends on computers and networks, it is expected to advance into systems made up of a range of channels, including wireless and satellite, as well as technology like cellular phones. As well as courses, modules, and more compact learning materials, e-learning is also possible. Asynchronous or synchronous access options, geographical distribution, and a range of time constraints are all possible with e-learning. E-learning is the process of acquiring and applying knowledge that is primarily facilitated and disseminated by electronic methods (Wentling et al., 2000).

In addition to providing a unique definition of e-learning as the conversion of conventional educational processes, products, practices, and outcomes to digital formats to make them more individualized, practical, interactive, communicative, and accessible, Kot (2017) claims that social media influence or support the learning process among students. As a result of this development, lecturers will no longer serve as the primary knowledge sources for students but rather as classroom facilitators (Kot et al., 2017). According to Benta (2014), using an e-learning platform improved student satisfaction with courses and communication between professors and students. The fact that this method (in combination with the e-learning platform) significantly altered students' perceptions of homework and its significance in the educational process was another positive feature (Benta et al., 2014).

E-Learning in Cambodia





One of the ASEAN nations in the process of developing is Cambodia. The COVID-19 pandemic had an impact there, especially from an education perspective. The majority of people in the remote areas of Cambodia are not accustomed to using online learning or e-learning in the educational system, so it was difficult for Cambodia to overcome these challenges. The education system in emerging nations has changed quickly, moving from traditional study to online learning, much like other nations around the world. This makes it difficult for everyone to adapt. While the national strategy planning for education frequently mentions long-life learning, applies online learning, is in the process of developing an e-learning platform, and encourages all higher education institutions to digitalize education for the 21st-century perspective, Cambodia is not yet fully implementing e-learning in its educational system, not just during COVID-19 but before in the last two decades. Following the full establishment of peace in the entire world in 1998, Cambodia has several development priorities. Along with other areas given importance by the Cambodian government, such as commercial, tourism, and agricultural industrialization, a new approach to technology integration in education was also implemented at the same time. Because we require several resources and training for people who implement in the education sector, particularly for online or e-learning, it is difficult to alter everything at once. For the methodical growth of ICT in Cambodia, the Royal Government of Cambodia (RGC) launched the "Cambodian ICT Masterplan 2020" in 2014. The Ministry of Education, Youth, and Sport of Cambodia released the Congress and Policy 2019–2023. It shows that the number of higher education institutions (HEI) has increased significantly from 110 to 125 in 2014–2018, and it is expected to reach 133 on February 2, 2023. There are 84 commercial operations and 49 public institutions that contribute to this growth. It is notable to note, although, that as of the specified date, the precise adoption of e-learning platforms within these 133 HEIs is yet unknown, as each institution is presently in the process of developing and carrying out such initiatives.

The project plans included in the comprehensive plan for digitalization in Cambodia can be put into action right away by any competent ministry. Together with "e-Tourism," "Educational Program Development," and "e-Commerce," these three programs comprise the long-term goal. Cambodia's Ministry of Education, Youth, and Sport is spearheading the push for the digitization of education. Over the last ten years, some research and collaboration have been carried out as part of the initiative to establish appropriate protocols for digitalization in Cambodia's educational system. These teams are regarded as the primary groups that distribute information to different target groups from different provinces throughout the entire country of Cambodia through books published, television, and workshop training. That is very significant, but in addition, to increase their institution's comprehension of digitization, the leadership of all higher education institutions should be asked some relevant questions. Furthermore, the marketing of each area specifically for the education system related to ICT and digitalization integration, particularly in the fields of e-learning or online learning, is provided with step-by-step execution plans. The Royal Government of Cambodia (RGC) defines the Technical Development Framework for Cambodia e-Government (subsequently referred to as the "Cambodia e-Government Development Framework") as a collection of core code (class, interface) for developing the public information system, which is a set of tools and guidelines that supports the creation and operation of systems in Cambodia (KOICA, 2020).

Unified Theory of Acceptance and Use of Technology-2 (UTAUT-2)

The UTAUT2 framework combines three new constructs (hedonic motivation, price value, and habit) as antecedents of behavioral intention and uses behavior with four existing constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) from the UTAUT model. Few researchers have utilized the Unified Theory of Acceptance and Use of Technology (UTAUT), which was developed by combining TAM with seven other theories (including the Theory of Reasoned Action, the Motivational Model, the Theory of Planned Behaviors, and the Model of PC Utilization) to predict acceptance. Several studies to gauge technology use and adoption have employed the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) as a baseline framework (Fidani and Idrizi, 2012; Maldonado et al., 2011). Later, the UTAUT2 model was expanded to include consumer effects, automaticity, and monetary costs (Venkatesh et al., 2012). One of the best models for analyzing acceptance research across different IT and IS domains is the Unified Technology Acceptance (UTAUT), which unifies the disparate theory and research on individual acceptance of information technology into a unified theoretical model (Venkatesh et al., 2011). Many researchers have used the UTAUT2 constructs to





examine the effects of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habit, and price value on the acceptance of smartphones (Ally and Gardiner, 2012).

Performance Expectancy (PE)

According to Venkatesh et al. (2003), performance expectancy is "the extent to which an individual believes that using the system will help him or her attain gains in job performance." It shows one's assessment of the extra benefits obtained from adopting or utilizing technology. In their study on IT innovation, Alrawashdeh (2012) also discovered significant effects of performance expectancy on behavioral intention. Performance expectations are indicators of how well a system is being used, how productivity is being increased, how well performance is being affected, and how beneficial the system is to both the employer and the employees (Osei et al., 2022).

Effort expectancy (EE)

The adoption of intentions is found to be positive for effort expectancy. The ease with which a person can interact with technology is referred to as the effort expectation, according to Venkatesh (2012) and his coauthors (Venkatesh et al., 2012). Particularly, EE is defined as students' expectations that using e-learning for their academics or communication will not present a challenge or demand minimal work. On the other hand, the core tenet of EE is that students at various levels of study will accept and use e-learning differently depending on the amount of work required to acquire and use it (Venkatesh et al., 2003). Effort Expectancy highlights how easy-to-use an e-learning platform is in the eyes of students.

Social Influence (SI)

According to Venkatesh et al. (2003), social influence is "the extent to which an individual perceives significantly that others believe he or she should use the technology." In their study comparing the adoption of technology around the world, Im et al. (2011) reported that social impact played a significant role (Im et al., 2011). According to Khechine et al. (2014), SI can be assessed in the context of acquaintances, coworkers, or family members. The results supported the usefulness of social influence in predicting behavioral intention. Social impact is the most significant element influencing Internet usage, according to Cheung and Vogel's (2013) study on Internet and World Wide Web usage at the workplace.

Facilitating condition (FC)

According to Venkatesh et al. (2003), the facilitation condition is "the extent to which an individual believes that an organizational and technical infrastructure exists to support technology use." One of the most crucial things is to use technology in education, especially e-learning in institutions. In their study of the UTAUT model, Joshua and Koshy (2011) found that respondents who had easier access to computers and the Internet used them more effectively and were more likely to use electronic banking.

Habit (HT)

As defined by Venkatesh (2012), a habit is an action that a person performs repeatedly due to knowledge. As stated by Venkatesh and Davis (2000), habit is another aspect that influences a person's behavior and use of technology. According to empirical research (Limayem et al., 2007; Venkatesh et al., 2012), a habit is a recurrent activity that occasionally occurs subconsciously and is formed by experiences, knowledge, and abilities acquired over time. It has also been observed that routine behavior puts obstacles in the way of students' or clients' willingness to use technology (Laukkanen, 2007).

Price value (PV)

The adoption of consumer technology has both monetary expenses and advantages. The concept of "price value," often known as customers' cognitive tradeoff, was introduced by Venkatesh et al. (2012). It is the compromise made between the alleged financial benefits of employing technology and the perceived costs of doing so (Dodds et al., 1991; Venkatesh et al., 2012). In other words, if the user perceives that using technology would benefit them as well, they will be responsible for paying for the equipment's purchase. The individual's intention of utilizing technology is impacted by this cost-benefit connection (Venkatesh et al., 2012).

Trust (TR)

Trust is reliance on the character, ability, strength, or truth of someone for something in daily life, the workplace, school, communication, business, or other situations where confidences are placed. Trust in an e-learning platform was also confirmed as a key factor determining the confidence of students. According to Widjaja (2019), trust is the desire of a person (the trustor) to be more vulnerable to the deeds of a party (the trustee), based on expectations from others who are trusted to take particular behaviors.



Because it can indicate a person's readiness to engage in practices that depend on software to execute a task, trust in information systems can be viewed as a workable term (Widjaja et al., 2019). When it comes to e-commerce, e-learning, and online learning, trust can affect both the intention to use something and the actual behavior of using it (Singh et al., 2017).

Satisfaction (ST)

The act of satisfying a need, want, or appetite, as well as the emotion engendered by such satiation, is known as satisfaction. Gopal (2021) claimed that the elements affecting student satisfaction in online learning during the pandemic time of COVID-19 were course design, the standard of the professor, immediate feedback, and the expectations of the students. Additionally, the technical design of the course strongly persuades the students' learning and contentment through their course expectations, which in turn has a beneficial impact on the students' learning and satisfaction (Gopal et al., 2021). According to Jakkaew (2017), student happiness with e-learning significantly affects their behavior and decision to utilize e-learning systems on a particular platform.

Behavioral intention (BI)

BI stands for a person's propensity to use a system. When someone plans to use a system, that is when it is being used. Evidence suggests that BI directly affects how a system is used. As an indicator of real activity among technology users, behavioral intention evaluates a person's propensity to engage in a particular behavior (Venkatesh et al., 2003). According to several intention models, BI is a key factor that influences how technology is used (Venkatesh et al., 2003, 2012). The goal of this study is to determine how much Microsoft Teams was used in the past and is still being used by undergraduate students at RULE.

Conceptual Framework

The conceptual framework of the research was originally based on the UTAUT2 theory. However, Hedonic Motivation (HM) was removed because the variable did not pass the IOC. Therefore, HM was removed from the conceptual framework as shown in Figure 1

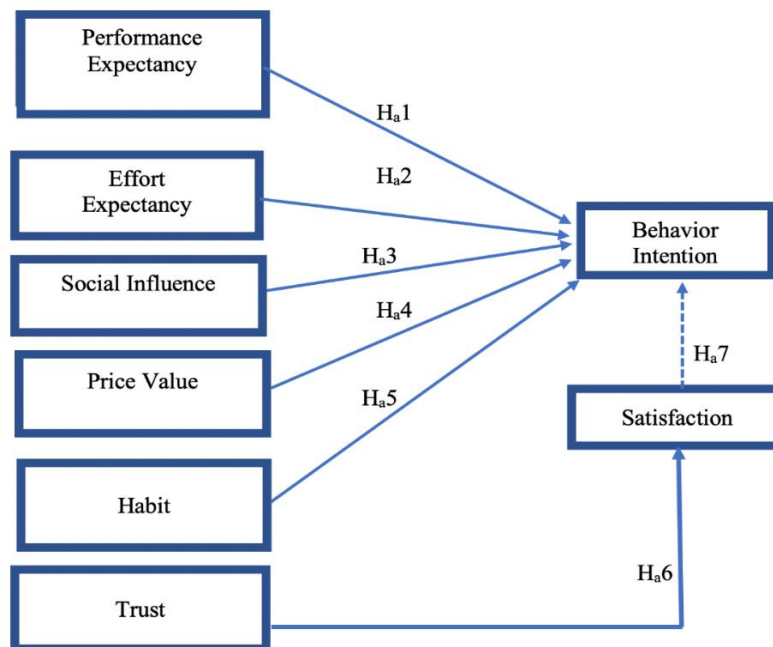


Figure 1 Conceptual Framework of the Research



Hypotheses

Based on the literature review, and the conceptual framework, the hypotheses have been developed as follows.

H_{a1}: Performance Expectancy significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a2}: Effort Expectancy significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a3}: Social Influence significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a4}: Price Value significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a5}: Habit significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a6}: Satisfaction significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.

H_{a7}: Undergraduate students at the Royal University of Law and Economics (RULE) trust Microsoft Teams as a study platform, which does not significantly influence their satisfaction.

Methodology

The index of Item-Objective Congruence (IOC) has been used to assess the questionnaire's content validity. The questionnaires were checked by three experts who have more than eight years of teaching experience in education and information technology. In addition, this research used Cronbach's coefficient alpha to check the reliability of the variables. According to Kadir et al. (2019), if Cronbach's alpha value is between 0.60 to 0.70 or above, it is confirmed the questionnaires are reliable for this research. For the ease of gathering information from students who were enrolled in classes and using Microsoft Teams for their studies, this study was performed as an online survey on social media sites where the university maintains a personal account, the survey link was shared.

There were two sections to the questionnaire. Demographic data was gathered in Section A, while all other factors were measured in Section B. Likert scales are used in this study to evaluate every item (1 being strongly disagreed with and 5 being strongly agreed with). The data was gathered using an easy-to-use online survey tool (Microsoft Form), taking the research's cost and feasibility into account. From September to December 2023, the respondents were polled via a self-administered survey. The researcher sends out the survey forms to specific students through their academic offices using Microsoft Teams.

This research was conducted with 476 respondents who were undergraduate students at the Royal University of Law and Economics (RULE), and the researcher ensured that all respondents were voluntary participants and that all information was provided clearly with the purpose of data collection for the research. All information from respondents was kept confidential and never linked to other data by anyone else. Furthermore, the researcher ensures that all data collected from respondents is represented.

This research used the national language known as Khmer for both survey questionnaires and interview questions. So, the researcher has to translate all from English to Khmer and send it to a Khmer professional to check, as well as send it to the IT department office at RULE to check both English and Khmer.

Descriptive statistics and inferential statistics through Jamovi statistical software were applied for data analysis of the research. The descriptive statistics were calculated to report the demographic information of the samples in the form of frequencies and percentages. In addition, the mean values and standard deviation were reported on the perceptions of the samples towards each item of the variables. The Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) have been applied for





hypothesis testing to examine the influence between the variables. The content analysis has been applied to report the qualitative data—interview responses from the samples.

Results

The results of the research provide an informative, three-pronged analysis that includes demographic information, a summary of the key variables using descriptive statistics, and comprehensive hypothesis testing. This framework offers a detailed description of the research participants, the key features of the data, and the statistical confirmation of proposed theories.

Demographic Information

There were 476 total respondents. Females made up 53.2% of all respondents, while males made up 46.8%. The majority of participants, 98.7%, were between the ages of 18 and 25; 1.1% were between the ages of 25 and 30; and 0.2% were between the ages of 30 and 35. The majority of respondents, 52.1%, were first-year students, followed by 11.1% in the second year, 25.0% in the third year, and 11.8% in the fourth year, and all respondents' using Microsoft Teams is equal to 100%.

Mean and Standard Deviation of the Variables for Microsoft Team at RULE

Table 1 shows that the questionnaire for the Microsoft Team at RULE agrees on the highest mean of “Performance Expectancy” (Mean 3.87, S.D. = 0.82). This was followed by “Satisfaction” (Mean 3.85, S.D. = 0.78), “Social Influence” (Mean 3.76, S.D. = 0.86), “Trust” (Mean 3.74, S.D. = 0.78), “Price Value” (Mean 3.70, S.D. = 0.89), “Facilitating Condition” (Mean 3.69, S.D. = 0.86), “Effort Expectancy” (Mean 3.66, S.D. = 0.84), “Behavior Intention” (Mean 3.54, S.D. = 0.86), and neutral was “Habit” (Mean 3.45, S.D. = 0.90). The overall result from the questionnaire for the Microsoft Team at RUL reveals an agreement with the Mean of 3.96 and S.D. = 0.84.

Table 1 The Mean and Standard Deviation of UTAUT2 Questionnaire for Microsoft Team at RULE

Variables	Mean	S.D.	Interpretation
Performance Expectancy	3.87	0.82	Agree
Effort Expectancy	3.66	0.84	Agree
Social Influence	3.76	0.86	Agree
Facilitating Condition	3.69	0.86	Agree
Price Value	3.70	0.89	Agree
Habit	3.45	0.90	Neutral
Behavior Intention	3.54	0.86	Agree
Trust	3.74	0.78	Agree
Satisfaction	3.85	0.78	Agree
Average	3.96	0.84	Agree

Hypotheses Testing

The current study utilized the Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) to test all hypotheses in the study. All the analyses utilized Jamovi Software version 2.3.4 MacIntosh to calculate the statistics for the hypotheses testing.

Normality of Data

To test the distribution of data, the skewness and kurtosis statistics are applied to measure the normality of data on the items used. According to Hair et.al. (2010), The skewness ranges between -2 and +2, and the Kurtosis range from -7 to +7

Table # shows the skewness of kurtosis of all items measuring variables in the study. The ranges for all items are within the acceptable ranges on the skewness and kurtosis. As a result, the data is considered normally distributed.

Discriminant Validity





The discriminant validity of each construct is also tested before the structural equation model analysis. According to Fornell and Larcker (1981), the discriminant validity can be based on the comparison of the correlation coefficient of each construct to the square root of the Average Variance Extracted (AVE). The results of the square root of AVE need to be larger than the correlation coefficient of the construct to ensure that the discriminant validity is obtained.

Table 2 Discriminant Validity

	PE	EE	SI	PV	H	BI	T	ST
PE	0.739							
EE	0.532	0.755						
SI	0.587	0.557	0.778					
PV	0.607	0.556	0.636	0.723				
H	0.608	0.570	0.663	0.748	0.795			
BI	0.574	0.547	0.588	0.670	0.806	0.793		
T	0.562	0.619	0.608	0.702	0.717	0.709	0.764	
ST	0.619	0.591	0.577	0.659	0.712	0.662	0.745	0.849

Modified Confirmatory Factor Analysis

After the removal of Variable (Facilitating Conditions, FC) and item 2 of the Habit (H) variable, a new confirmatory factor analysis was conducted to evaluate the model on its adjustment values. The new confirmatory factor analysis (CFA) is shown in Table 5.

Table 3 Modified Confirmatory Factor Analysis

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate	CR	AVE
PE	PE1	0.633	0.036	17.600	< .001	0.738	0.801	0.575
	PE2	0.717	0.033	21.500	< .001	0.858		
	PE3	0.511	0.033	15.400	< .001	0.667		
EE	EE1	0.632	0.036	17.400	< .001	0.744	0.801	0.569
	EE2	0.641	0.037	17.500	< .001	0.749		
	EE3	0.612	0.034	18.200	< .001	0.770		
SL	SI1	0.693	0.036	19.400	< .001	0.779	0.859	0.807
	SI2	0.729	0.034	21.500	< .001	0.836		
	SI3	0.563	0.033	17.000	< .001	0.707		
	SI4	0.685	0.035	19.600	< .001	0.785		
PV	PV1	0.564	0.042	13.500	< .001	0.592	0.812	0.695
	PV2	0.688	0.034	20.600	< .001	0.811		
	PV3	0.649	0.031	21.000	< .001	0.822		





Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate	CR	AVE
	PV4	0.609	0.041	14.700	< .001	0.634		
H	H1	0.718	0.036	19.900	< .001	0.787	0.842	0.635
	H3	0.702	0.035	20.200	< .001	0.795		
	H4	0.722	0.035	20.400	< .001	0.809		
BI	BI1	0.656	0.035	18.900	< .001	0.759	0.872	0.838
	BI2	0.642	0.034	18.900	< .001	0.759		
	BI3	0.739	0.035	21.200	< .001	0.818		
	BI4	0.694	0.032	21.700	< .001	0.832		
T	T1	0.562	0.031	18.200	< .001	0.740	0.848	0.779
	T2	0.579	0.030	19.600	< .001	0.779		
	T3	0.672	0.036	18.900	< .001	0.761		
	T4	0.592	0.030	19.400	< .001	0.776		
ST	ST1	0.707	0.029	24.200	< .001	0.884	0.891	0.961
	ST2	0.549	0.028	19.400	< .001	0.764		
	ST3	0.726	0.028	25.700	< .001	0.915		
	ST4	0.677	0.031	21.700	< .001	0.825		

Remark: CR = Composite Reliability, AVE = Average Variance Extracted
 The results of the modified CFA showed that all of the variables obtained a CR greater than .7 and AVE values greater than .5. Thus, the values were at an acceptable level.

Structural Equation Model

To test the hypotheses of causal relationship among variables proposed. The Structural Equation Model (SEM) was applied to the model.



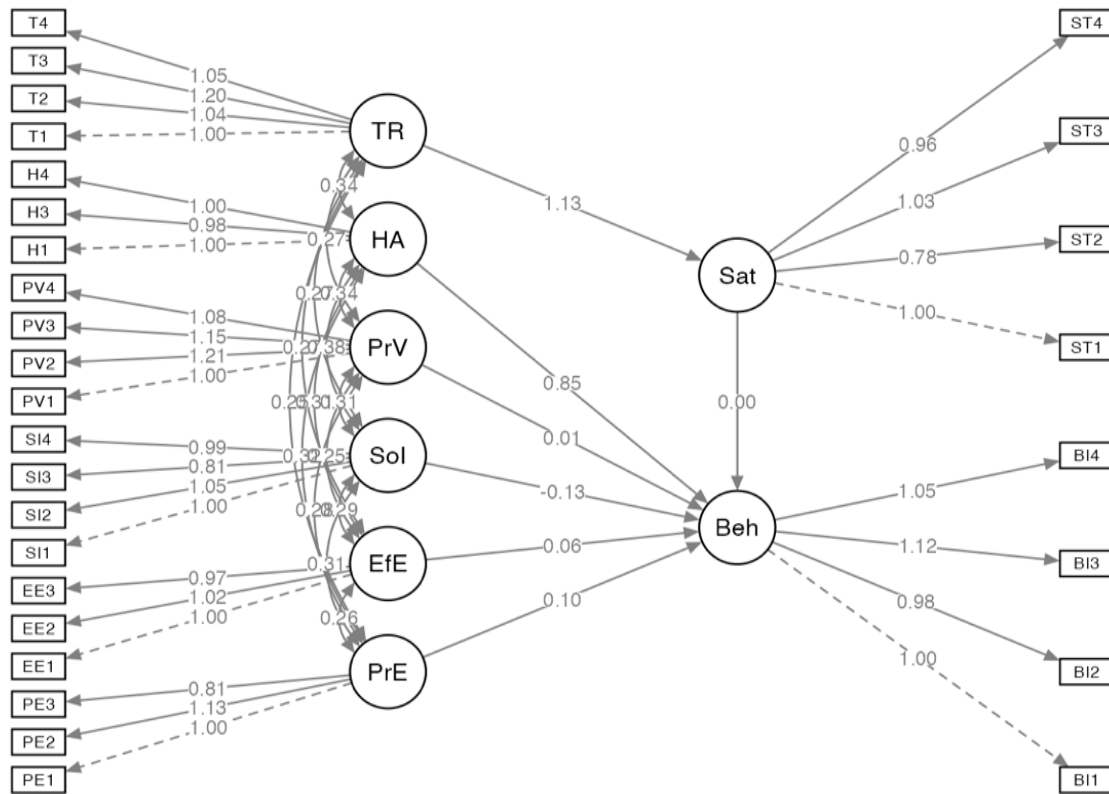


Figure 2 Structural Equation Model

Table 4 Parameter Estimates

Dep	Pred	Estimate	SE	95% Confidence Intervals		β	z	p
				Lower	Upper			
Beh	PrE	0.102	0.069	-0.032	0.237	0.099	1.490	0.136
Beh	PrV	0.010	0.124	-0.234	0.253	0.008	0.080	0.937
Beh	EfE	0.064	0.063	-0.059	0.187	0.061	1.018	0.309
Beh	HA	0.847	0.104	0.643	1.051	0.921	8.149	< .001
Beh	Sat	0.002	0.056	-0.108	0.111	0.002	0.028	0.978
Beh	SoI	-0.132	0.066	-0.261	-0.004	-0.139	-2.022	0.043
Sat	TR	1.128	0.067	0.998	1.259	0.882	16.946	< .001

The results of the Structural Equation Model showed that the variables that had a statistically significant influence on Behavioral Intention were Habit ($p < .001$) and Social Influence ($p < .05$). Trust also showed a statistically significant influence on Satisfaction ($p < .001$).



Research Hypothesis Testing

The following are the results of the hypotheses testing of the model.

Table 5 Hypothesis Testing Result of the Structural Model

Hypothesis	p	z-value	Result
H _{a1} : Performance Expectancy significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	0.136	1.490	Not Supported
H _{a2} : Effort Expectancy significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	0.309	1.018	Not Supported
H _{a3} : Social Influence significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	0.043	-2.022*	Supported
H _{a4} : Price Value significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	0.937	0.080	Not Support
H _{a5} : Habit significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	< .001	8.149***	Supported
H _{a6} : Satisfaction significantly influenced the behavior intention of undergraduate students at RULE to use the Microsoft Team platform in their study.	0.978	0.028	Not Supported
H _{a7} : Undergraduate students at the Royal University of Law and Economics (RULE) trust Microsoft Teams as a study platform, which does not significantly influence their satisfaction.	< .001	16.946***	Supported

*** = P<.001, * = P<.05

Indirect Effects

The proposed conceptual framework includes the testing of the indirect effects of Satisfaction as the mediating variable of Trust toward Behavior Intention. The following table shows the analysis of the mediating effect of Satisfaction on Behavior Intention.

Table 6 Indirect Effect of the Trust > Satisfaction > Behavior Intention





95% Confidence Intervals									
Label	Description	Parameter	Estimate	SE	Lower	Upper	β	z	p
IE1	TR \Rightarrow Sat \Rightarrow Beh	p36*p34	0.002	0.063	-0.121	0.125	0.001	0.028	0.978

The results of the indirect analysis showed that the indirect effect was not statistically significant. Thus, the null hypothesis was retained. Satisfaction was not the mediating variable between Trust and Behavior Intention.

Discussion

The findings of the indirect analysis suggest that satisfaction does not play a significant mediating role between trust and behavioral intentions in the context under investigation. This result is consistent with existing literature that emphasizes the complex nature of the relationship between trust, satisfaction, and behavioral intentions in different environments (Chang & Chen, 2014), although trust is often considered a precursor of satisfaction and subsequent behavioral intentions. The lack of statistical significance in the indirect effect suggests that other factors are at play. It may influence students' intentions to use e-learning platforms such as Microsoft Teams. This highlights the need for further research to explore additional variables and potential moderators. It can explain the dynamics of trust, satisfaction, and behavioral intentions in e-learning environments.

Moreover, maintaining the null hypothesis emphasizes the importance of considering paths and variables. When examining the factors that influence student acceptance and use of e-learning platforms, although satisfaction is often assumed to mediate the relationship between trust and behavioral intentions, the current results suggest that a more nuanced understanding is needed. Future research could explore alternative models or include additional variables to capture the complexity of students' decision-making processes regarding the adoption and utilization of e-learning technologies (Lu et al., 2016). Educators and policymakers will gain greater insight into the factors that shape students' attitudes and behavior towards e-learning platforms. It ultimately informs strategies aimed at increasing efficiency and acceptance in educational environments.

In addition, the study set out to investigate undergraduate students' perspectives on the Microsoft Teams e-learning platform in the context of a public university in Phnom Penh, Cambodia. The study examined UTAUT-2 dimensions including performance expectancy, effort expectancy, social influence, facilitating conditions, price value, habit, trust, behavior intention, and satisfaction to determine how students experienced e-learning in the setting of a public university. However, understanding undergraduate students' levels of trust and happiness with Microsoft Teams as a platform for their teaching and learning experiences was another important focus of the study. Throughout the study, 476 student volunteers participated in the research to obtain comprehensive insights. By exploring these areas, the study attempted to provide useful data that might guide techniques for raising undergraduate students' acceptability and efficacy of e-learning platforms within the specifically chosen educational environment.

Thus, the findings from this study suggest that understanding student perceptions of the Microsoft Teams e-learning platform, especially in terms of trust and satisfaction, is important. It is important for enhancing the efficiency and acceptance of e-learning within public universities, as well as in Phnom Penh, Cambodia. With insights gathered from 476 student volunteers, this research provides valuable information to inform strategies aimed at improving the overall teaching and learning experience through e-learning platforms.

According to the findings, the utilization of Microsoft Teams at RULE has demonstrated several advantages, including ease of communication, streamlined assignment and homework submission processes, enhanced convenience, and the elimination of the need for travel. The platform's video recording capabilities have also proven valuable for efficiently sharing information with all students. Despite these benefits, challenges have been identified in the use of Microsoft Teams at RULE. Notably, limitations in material support pose obstacles to the seamless operation of the platform. Additionally, interruptions in Internet connectivity have been identified as a challenge, impacting the consistent and reliable use of





Microsoft Teams. Moreover, there are concerns related to human resources, both in terms of having sufficient personnel to implement the platform effectively and ensuring that users are well-oriented to maximize their potential. Addressing these challenges will be crucial for optimizing the overall effectiveness of Microsoft Teams as an educational tool at RULE. In conclusion, from the perspective of respondents, while Microsoft Teams at RULE offers substantial benefits, addressing challenges related to material support, human resources, and internet interruptions was essential to ensuring effective and inclusive interaction between teachers and students in the online or e-learning environment.

It is said that the use of Microsoft Teams at RULE offers unique advantages in terms of communication. Assignment management and information sharing. However, the challenge of material support internet connection and the allocation of human resources requires attention to increase efficiency and effectiveness as an educational tool. Addressing these challenges is essential to creating a smooth interaction between teachers and students. This will help increase the overall efficiency and comprehensiveness of the online learning environment at RULE.

Recommendation for Future Research

Based on the findings from Microsoft Teams usage at RULE among undergraduate students, several recommendations for future research emerge. These suggestions aim to broaden the scope of research to include the entire higher education landscape in Phnom Penh, Cambodia, including both public and private universities. The detailed recommendations include: First, comparative analysis across institutions: future research should conduct a comparative analysis of Microsoft Teams usage across various public and private universities in Phnom Penh. This could involve assessing the platform's adoption rates, challenges, and success factors to identify variations based on institutional characteristics. Second, in-depth investigation of implementation strategies: explore the diverse strategies employed by universities in Phnom Penh for implementing Microsoft Teams. Investigate the methods used for user training, technical support, and the integration of the platform into different academic settings to identify best practices and areas for improvement. Third, examination of pedagogical integration: investigate how instructors across different universities integrate Microsoft Teams into pedagogical practices. This includes exploring the varied instructional methods, collaborative learning approaches, and assessment strategies facilitated by the platform. Fourth, Impact on Academic Performance: Explore the impact of Microsoft Teams on academic performance across universities in Phnom Penh. Investigate correlations between platform usage, student engagement, and learning outcomes to understand how e-learning tools contribute to educational success. Fifth, Assessment of Technological Readiness: Evaluate the technological readiness of universities in Phnom Penh to adopt and optimize Microsoft Teams. Assess factors such as infrastructure, IT support, and institutional policies to identify challenges and facilitate informed recommendations for technological improvements. Sixth, Qualitative Analysis of User Perceptions: Conduct in-depth qualitative analyses to understand the nuanced perceptions of users regarding Microsoft Teams. Utilize interviews, focus groups, and open-ended surveys.





Conclusion

The conclusion drawn from the analysis of Microsoft Teams as an e-learning platform at RULE with undergraduate students reveals a complex and multifaceted landscape. The platform demonstrates both strengths and areas for improvement within the specific context of RULE. On the positive side, the high level of acceptance and trust among students indicates that Microsoft Teams has become an integral part of their academic experience. The platform's functionality, user interface, and collaboration features are appreciated, contributing to its widespread adoption for various e-learning activities. Moreover, the positive impact on habit formation suggests that students have integrated Microsoft Teams into their regular academic routines. However, challenges such as slow internet access, issues related to facilitation conditions, and varying levels of technological readiness present hurdles that need careful consideration. The findings underscore the importance of addressing infrastructure concerns, providing targeted technical support, and implementing strategies to enhance the overall user experience. Additionally, the analysis of influencing factors from UTAUT-2, including performance expectancy, effort expectancy, social influence, facilitation condition, habit, behavior intention, trust, and satisfaction, provides valuable insights for refining strategies and interventions. The variations in these factors highlight the need for personalized approaches to address diverse user perceptions and expectations. Furthermore, in conclusion, Microsoft Teams has established itself as a pivotal e-learning platform at RULE, enjoying widespread acceptance and trust among undergraduate students. However, the measures were required to address identified challenges, ensuring a smooth and inclusive e-learning experience that aligns with the unique needs of RULE's student community. The comprehensive understanding gained from this analysis lays the groundwork for future enhancements, fostering a dynamic and effective digital learning environment at RULE.

Another conclusion is that the analysis of variables influencing undergraduate students' opinions and adoption of the Microsoft Teams e-learning environment at a public university reveals significant findings. The study, focused on behavioral intention and satisfaction, highlights two key factors that exhibited statistically significant influences: habit and social influence on behavioral intention and trust on satisfaction. The influence of habit on behavioral intention, with a p-value of less than 0.001, underscores the importance of routine and familiarity in students' continued use of Microsoft Teams. The habitual integration of the platform into their academic routines signals a positive trend, emphasizing the impact of consistent usage patterns on sustained behavioral intention. Social influence, with a p-value less than 0.05, emerges as another influential factor shaping students' behavioral intentions toward Microsoft Teams. The support and influence from peers, instructors, and the broader academic community contribute significantly to the platform's acceptance and adoption. Moreover, the statistically significant influence of trust on satisfaction, with a p-value of less than 0.001, emphasizes the critical role trust plays in shaping students' satisfaction levels. Trust in the platform, its security measures, and its reliability directly contribute to a positive and satisfactory e-learning experience. These results collectively advance our understanding of the complex dynamics influencing students' perceptions and behaviors in the context of e-learning. The study contributes valuable insights into how trust, habit, and social influence play crucial roles in shaping behavioral intentions and satisfaction with Microsoft Teams. These findings provide a foundation for informed interventions and strategies aimed at enhancing the e-learning experience, fostering positive perceptions, and ensuring sustained satisfaction among undergraduate students in the public university setting. Overall, this research contributes to the transforming knowledge base on the different factors that drive successful e-learning adoption in higher education institutions.





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