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Student Acceptance of Social Media in Higher Education: An application of UTAUT2 model

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Abstract

With the widespread prevalence of social media platforms, it is critical to consider students' attitudes and acceptance of these platforms to build potential understandings and deployments of these emerging technologies in education. The objective of the current paper is to explore these relationships. A modified Unified Theory of Acceptance and Use of Technology (UTAUT2) model is proposed with the Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, and Habit as the latent variable and the direct impact of these variables on the behavioural intention of students has been investigated. Additionally, the moderating role of age and gender has been tested in the relationship between intention and use behavior. Structural Equation Modeling (SEM) is used to analyze the dynamic interactions between these social media technologies' determinants. PLS-SEM software is used for the same. The key finding of the result provides support for moderating role of gender between intention and use behavior. However, age was not found to have a significant impact on this relationship. The result suggests that institutions of higher education must introduce or continue the use of social media, as an intention to use these technologies translate into real use. Further, these organizations should enhance the internet infrastructure and re-evaluate social media usage to better capitalize on this technology and make it an essential tool for education.

Keywords: Social Media, UTAUT2, Higher Education, SEM, Technology Acceptance
JEL Classifications: I20, I23, I29

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1. Introduction

Social media is one of the most fundamental parts of today's generation. It is a robust leading channel that has captured the interest of the majority of prospective users. Students are the maximum enthusiastic and committed operators of social media (Ivanova, 2016). The fast-growing internet has been integrated into most of their daily lives. As time passes, the internet clogged with disseminated data, affecting students and perhaps even the platform's evolution. Bal & Bicen, (2018) revealed that the quick progress of technology had affected students to adapt and communicate with extraordinary features. However, it also encompassed an interest in the academic subjects, as communication with their teaching staff became more convenient.

Presently, the growth of Information and Communication Technology (ICT) affects students and parents, as a triggering shift has been observed in the entire educational spectrum. ICT is generally recognized as a crucial engine of economic development in developing countries. It is utilized everywhere in the world to change ideas into feasible objectives and eventually transform those objectives into significant accomplishments, and the education industry is no exception

These changes would not have been possible without the introduction of Web 2.0 to the public. "Worldwide web - Web 2.0", also called the "Social Software" (Fuchs et al., 2010), was introduced in 2004 to connect people. It was the replacement of Web 1.0. A few of the applications mostly used were Yahoo, MSN, eBay, etc. (Gaudette et al., 2020).

Since 2004, the average demand for these media resources has increased, resulting in a technical glitch with output implications (Almeida, 2017). By 2006, the Web had undergone a gradual transformation into a full statistical representation in the form of a "database," enabling the contents to be accessed by numerous non-browser apps or using artificial intelligence technologies as Web 3.0 (Atzori et al., 2020). The focus has been to build and implement innovative technologies to make it easier for students to get the information they want, regardless of where they are or when they want it. This edition has developed into a storehouse for a consistently expanding number of Web devices, including information and administrations related to organizations, informal communities such as social media, cloud, advanced cell phones, and other different gadgets that sums up to the Internet of Things (Sheth, A. and Thirunarayan, 2012).

Internet 4.0, the evolutionary (Ignatjeva & Pletnev, 2019) fourth generation also known as "Ultra Intelligent Electronic Agent," assisted in linking students' intelligent learning, self-learning, and self-organizing. This novelty technology aims to develop connecting the real and virtual world in real-time. Rapidly evolving and improving Web technology has played an essential role in all aspects of life.

The University and its students have embraced the rapid evolution of technology, which has aided the educational sector in disseminating knowledge. The university-student relationship has peaked, and this field used tools to improve traditional teaching methods. Most social media users can discuss their studies or other academic interests. Ivanova (2016) found that 98 percent of campuses allow students to use social media. Undoubtedly, students are intrigued by the exposure to e-textbooks, e-libraries, and study groups from various fields collaborating on social media (Lau, 2017). Maydiantoro et al. (2020) noted that developing countries like Sudan are still lagging in adopting new technology. As he stated, ICT is used to supplement the teaching process, not as a substitute. Finally, he suggested incorporating new teaching strategies into the curriculum.

Subsequently, technology collaboration has also addressed technical distraction (Bourekkadi et al., 2020). Higher education institutions are putting students at a disadvantage in the digital era by ignoring the current paradigm changes in the "structured learning to informal learning platforms" (Mpungose, 2020). Although social media has become inextricably linked to our everyday lives, it is responsible for increased mental health conditions among college students (Keles et al., 2019). Since children and teenagers are heavy users of social media, it is estimated that they spend 8 hours a day streaming. Adolescents, who are at the threshold of shaping the future, spend a tremendous amount of time online.

As per (Desmal, 2017), online media outlets (Instagram, Facebook, Twitter) have influenced learners to develop many artistic activities and various academic achievements. This influence has become an essential part of the youth, as they have concurred to be the most avid users on the online platform. The use of social media isn't limited to entertainment, but it has also shown a clear impact on academics. As most universities have merged education with social networking sites, there has been a slew of inappropriate problems that have caused students to become engrossed in the myriad of the internet. As a result, several other scholars have acknowledged the need for further research into how social networking resources are used in academic settings.

As there is a limited number of research on the best utilization and implication of social media practices in higher education, this paper will further investigate. Therefore, our goal is to construct an empirical study and analyze the practices in the higher educational systems. This study will use the empirical test and the acceptance models, which will provide helpful comprehensive implications to understand any individual's intention the collaboration. The study will embrace the use of the UTAUT model to elaborate on the performance expectance, effort expectancy, social influence, hadronic conditions, and habits on the intention and behavior of students.

The rest of the study is as follows: Section 2 identifies gaps in the literature by reviewing a large body of work on social networking sites and their integration in Higher Education. Section 3 provides background for the present study. Section 4 discusses the model and observes the hypothesis created, and the research methodology used in the analysis is discussed. Section 5 focuses on the results, and the hypothesis delivers the analysis. Section 6 discusses the findings, followed by conclusion in Section 7 ; conclusion and implication, which highlights the managerial significance of the results and discusses theoretical implication along with the scope for future research.

2. Literature

Social networking is an online medium that enables people to communicate with one another by encouraging them to "share" content, "comment," and "like" posts that have been posted in the form of blogs and YouTube tutorials. Facebook, WhatsApp, WordPress sites, YouTube, Blogs, and MOOC are among the most focused prevalence of social networking sites among these applications as the University has built a bridge to remove the gaps between the social networking software and the traditional educational norms (Desmal, 2017). It has piqued the attention of current students and has persuaded many undergraduates to enroll in universities that are willing to allow the social media platform to be built on their campuses. These developed applications are thought to be the most effective tool for creating student effectiveness, such as designing innovative projects, "oriented learning," assignments, and more (Ansari & Khan, 2020; Kai et al., 2017). Previous studies focused on the learning efficiency using Wiki in higher education. To find out how students make the best use of Wiki in their academic ventures, the researchers used a "mixed-method approach" that included a "Questionnaire survey,

a qualitative interview sample, and action analysis." The research came to an optimistic conclusion, praising the use of Wiki for both teachers and students. As a result, students feel more dependable and involved when looking for data for their project from a large sea of information (Hung & Wang, 2020)

Authors such as Manca, (2019) emphasized the pedagogical benefits of social networking for students. The web resources used created a complete picture of the homeroom by supplying motivational materials, allowing independent learning, and managing a reasonable period with the help of the coach assistants.

In his study, Tan (2013) provided that the ease to use social media and its impact on performance are the major influencing factors for students' adoption of any social media platform. The effect of gender on the performance expectancy was explored by Salim, (2012) among Egyptian students, and findings suggested that performance expectancy is not moderated by age or gender. Further, a study on French and English-speaking students by Khechine & Augier, (2019) argued that facilitating condition is the significant predictor of social media acceptance by students. The importance of these factors in students' acceptance of social media platforms was also highlighted in the empirical study of Almaiah et al., (2019). Neier & Zayer, (2015) addressed the issue of acceptance of the social media platform from student and instructor viewpoints. They found openness in using social media and argued that its use could benefit both academicians and students. Boateng & Amankwaa (2016) attempted to identify the impact of social media on the students' academic performance. The study revealed that the acceptance of social media is high as students believe that social media has a positive impact on academic performance. Dutta, (2020) provided evidence for the increasing acceptability of social media as a mode to disseminate learning resources.

3. Overview of the prevalence of social media.

Wickramanayake & Muhammad Jika, (2018) mentioned that the "millennials, net-savvy, digital natives or net students" generation these days are given names to people who are mainly relying on technological devices, despite maintaining a balance between traditional and digital learning norms (Van Den Beemt et al., 2020). This community has quickly adapted to the new customs of communication, sharing data, and entertainment, also learning via "social networks," such as "Blogging," Vlogging, text communicating, using Google, being connected to with others such as Facebook, WhatsApp, also "playing games." Through communicating with other users on these online networks, users can create private profiles, construct content, and share it with other users. Social networking has been a hugely popular medium for knowledge exchange and distribution due to its pervasiveness and viral properties. It is now widely used in higher education, and almost all Internet users regard it as a way of life. (Koranteng et al., 2019).

3.1 Facebook

Facebook has over 1.5 billion monthly active users, and 94% are in college (Akram & Kumar, 2018). As a Harvard undergraduate, in 2004, Mark Zuckerberg, the founder of Facebook, developed the application (Fuchs et al., 2010). Since then, his app has become one of the most common and effective ways to connect people worldwide. Students were enthusiastic about using it because it helps them create Facebook groups with students from all over the world (Koranteng et al., 2019). Students are encouraging the creation of digital spaces that connect and involve people sharing the same interests. (Ahern et al., 2016) In fact, by 2010, there were 50 million Facebook groups, as it was one of the easiest ways to connect most of them due to its "social design," in which one of the participants

had to create a community relevant to the targeted segment and the remaining members could make the best use of it. Rather than asking everyone to create and manage their friend lists, the community can delegate this responsibility to a single administrator. Facebook has become a digitalized home for students, comforting them in their online space by allowing them to easily share information, debate different points of view, and comprehend concepts from multiple viewpoints within a small focus group as these groups are simple to build and can be limited to a small number of people.

3.2 WhatsApp

In late 2010, a cross-platform instant messaging service was launched (Bano et al., 2019). An application that allows students to use the Internet to send audio messages, video, images, text, files, and documents to others. With one billion users, including businesses, relatives, and friends, this app managed to stand out. Students were more comfortable forming WhatsApp groups for themselves, allowing them to exchange notes, documents, and other information relevant to their academics. According to Hassan (2018) and Zulkanain, (2020), WhatsApp is a superior application for students and teachers, as it has aided students in obtaining additional support from the course instructor. A digital platform that is used to provide additional encouragement and opportunity to learners to influence them to learn more effectively, discover new ideas, and achieve better results. The popularity of this application can be understood by the fact that Facebook purchased it in the year 2014.

3.3 YouTube

A well-known digital-based platform (Akram & Kumar, 2018) that was introduced in 2005 has now exceeded 1 billion users. It's a popular entertainment channel that brings together music, drama, sports, wild animals, movies, gaming videos, and educational tutorials all in one place. On the other hand, this website has been able to assist many users in forming a socialized link with other users by sharing various videos. Following Google and Facebook, YouTube is seen as a potential learning site for students because it provides multiple instructional materials. According to Malaysian figures, 90% of YouTube users visit the site at least once a day. When social media is used in the classroom, students register higher levels of satisfaction and retention. (Moghavvemi et al., 2018).

3.4 Blog

A high-visibility medium weblog for personal online publication of contents such as an online journal or bulletin has gained popularity in the social media world (Parusheva et al., 2018). A survey was performed to assess the uniqueness of weblogs, and it was discovered to be entirely self-reported. The result concluded students might rely on university lecturers to provide extra study materials and self-instructional lessons using this approach. Students' comments or feedback are some of the additional features that make most users depend on blogs. Most of them agreed with the idea of "blogs" because none of the pedagogical resources were difficult to use. Students would be able to freely share ideas and views in the future, giving lecturers a better understanding of their activities. As a practice, blogging can be a valuable method for engaging students and promoting the creation of new ideas.

4. Research Framework

In this study, the focus is on the UTAUT2 model. Venkatesh Moriss and Davis (2003) introduced the fusion of diverse acceptance models in developing the "UTAUT model," which was among the most well-known and versatile models. (Gaudette et al., 2020). The UTAUT2 model focuses on the behavioural attitudes in making the best use of technology. In terms of online media e-learning, learning exercises are supported by executing E-learning systems, and the frameworks have also evolved into an Information Technology phenomenon that influences the UTAUT model (Ayaz & Yanartas, 2020). For the past 30 years, many researchers have tried their best to evaluate the theories. They have concluded with an explanation of the student's intention to accept using technology individually (Yakubu & Dasuki, 2019). Holden & Karsh (2010) found that few studies in the literature review evaluated the four moderators inherent to the performance of UTAUT. For example, Dwivedi et al., (2020) aimed to revise the UTAUT via meta-analysis and structural equation modeling of data from 162 earlier studies. They found that attitude predicts intention to use while moderating the effects of the four key factors. However, Dwivedi et al., (2020) completely dismissed key findings and the moderators which were proven essential in "Venkatesh et al." work. First, Venkatesh et al., (2003) found attitude, self-efficacy, and computer anxiety nonsignificant toward predicting user intention; however, each was fully absorbed through performance expectation and effort expectancy. Second, Venkatesh et al., (2003) found the following three contributions of the four important moderators in the UTAUT. Firstly, age, gender, and experience affected the strength of the relationship between performance expectancy and user intention. Secondly, social influence is affected by all four controlling factors but is nonsignificant without them. Thirdly, facilitating conditions significantly predict usage only when age and experience were accounted for in examining that relationship (Venkatesh et al., 2003).

Henceforth, (Ayaz & Yanartas, 2020), 70% of people utilized this "Unified Theory of Acceptance and Use of Technology (UTAUT) model" to enlighten the assessment and behavioral adoption process of a wide variety of technology. Several research studies on the use of technology in higher education, particularly the use of social media, have investigated the application of various models and theories. Some of the theories used are the "Technology Acceptance Model (TAM)" (Dumpit & Fernandez, 2017), the Information Systems Success Model (Pedro et al., 2018), and the "Unified Theory of Acceptance and Use of Technology (UTAUT)" (Ayaz & Yanartas, 2020). These models have ~~used~~ the finest edge to evaluate the behavior aspect for using the various independent variables. While the Technology Acceptance Model is used to determine how social networking is used in higher educational institutes, factors such as robustness, versatility, and applicability are defined and help it to predict the factors that impact the user embracing the innovative technology. TAM is also one of the most widely used frameworks. (Dumpit & Fernandez, 2017). However, this model excludes the eight previous dominant models, ranging from human behavior to information technology.

In summary, this study investigates six independent variables and one dependent variable from the eight theories. "Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC) Habits (HA) and Hedonic Motivation (HM)" and forming a new technology acceptance model (Hoque & Sorwar, 2017) which uses six constructs to determine behavioral intentions directly.

The UTAUT2 model is used to investigate the impact of behavioural intentions and how students demonstrated positive behavioural acceptance of eLearning in the classroom (Shaban & Alabboodi, 2019). This model is extensively verified in various

fields, together with e-banking and e-health, making it a key predictor of technology adoption or sustainability for most researchers (He et al., 2020). However, only a few attempts have been made in past research to maximize social media's outcome on the learning process. Through this study, we will discover the best use of social media in higher education through our empirical analysis using the UTAUT2 model.

Gaudette et al., (2020) emphasized Venkatesh to update and extend the innovative UTAUT model. UTAUT2 aimed to look at technology implementation and use from the perspective of a technology user. New structures in the new paradigm include hedonic motivation, price value, and habit. Hedonic motivation is defined as an individual's perception of enjoyment from using technologies. In contrast, price value is defined as the relative benefits of using technology that exceeds the economic expense, and habit is defined as the degree to which an individual will conduct a behavior automatically as a result of observation. Hedonic motivation, price worth, and habit are three constructs that UTAUT2 integrates into UTAUT. Individual variances, such as name, age, gender, and skill, can mitigate the theories on behavioural purpose and technology usage. The extensions proposed in UTAUT2 provided a significant increase in the difference explained in behavioural purpose by (56% to 74%) and tech usage compared to UTAUT (40% to 52%).

Research by Moghavvemi et al., (2017) examined the use of Facebook by students in their academics. The depth of e-learning through Facebook was investigated using the UTAUT2 model in the study. The application's development has brought a slew of new tools that can help learners find relevant content. The results show that students enjoy the forum. As a result, the platform supports hedonic needs rather than utilitarian requirements. Teachers have also helped embrace Facebook contact because it provides them with a better teaching and learning forum that can be further shared with the students. As a result of their exposure to the rich course-related links and images, these learners have better understood the contents. Students' attitudes, which are closely followed by (Hoque & Sorwar, 2017), were the essential element of students' acceptance of the use of technology in their studies in another report.

UTAUT2 was first developed to understand the behavior intended to the consumer for the use of technology. As a result, this model was not included for educational purposes. Subsequently, UTAUT2 model was then incorporated in the e-learnings with a different framework Studies were then conducted in India using the UTAUT2 model and discussed how it could be extended to include m-learning or e-learning in their academics. (Yakubu & Dasuki, 2019).

4.1 Performance Expectancy (PE)

It is described as the level of belief in the ability of the individual to use the system to improve their performance (Yakubu & Dasuki, 2019). This research focuses on undergraduates' perspectives on how to use social media in higher education better. Most papers perceive the importance of this development in the attitude of innovation and selection of educational settings, according to (Van Den Beemt et al., 2020), which conducted a study on the relationship between student performance, anticipation, and social objectives. The exhibition hope factor has also been shown in several studies, UTAUT2 models have a significant impact on behavioural intentions (Dwivedi et al., 2019).

H1. Performance expectancy (PE) shows a positive association with behavioural intention (BI) toward Social Media acceptance in higher education.

4.2 Effort Expectancy (EE)

A degree of ease associated with the utilization of the system is called Effort Expectancy (EE). TAM and EE have similar "ease of use" construct. Considering the factors such as the complexity of the constructs and their use from relatable models shows that they are relatable to the effort expectancy. A drawback of this effort expectancy is in the case of sustained technology usage, at an early stage, the EE is much more significant than compared to the end time (Venkatesh et al., 2003). However, Beverley & Covey, (2018) has mentioned that the "behavior intention" could be predicted by EE to make use of the e-learning system.

H2. Effort Expectation has a positive influence on behavioural intentions toward Social Media acceptance in higher education.

4.3 Social Influence

"The condition for which an individual value other people's views about whether or not students should use the new form." is known as Social Influence (Salloum & Shaalan, 2019). The major unease matter is behavioural influence, which is a degree of concern for influencing students to adapt social networking usage as a learning medium (Hoque & Sorwar, 2017). They discovered that favourable circumstances influenced a person's decision to use a mobile learning system.

H3. Social Influence emerges with a positive implication over the behavioural intention toward Social Media acceptance in higher education.

4.4 Facilitating conditions

FC is characterized as a user's perception of available resources and assistance when completing a mission." FC makes a significant impact on the UTAUT2 model. Many studies have been conducted analysing the behavioural influence and the relationship between the facilitating conditions and using social media in higher education. They discovered that favourable circumstances influenced a person's decision to use a mobile learning system.

H4. Facilitating conditions emerge with a positive implication over the behavioural intention toward Social Media acceptance in higher education.

4.5 Hedonic Motivation

It is measured by the degree to which an individual will automatically perform a behavior as a result of learning. It can be expressed in terms of price values or apparent worth that overdoes the innovative technologies' financial cost. Habit is defined as the degree to which a person will perform a behavior habitually as a result of learning. The consumer's attitude toward action and intrinsic motivation are referred to as hedonic motivation. In a customer sense, hedonic motivation has been revealed to have an important consequence on behavioural intention to use technology (Bano et al., 2019).

H5. Hedonic motivation has a significantly optimistic effect on behavioural intention toward Social Media acceptance in higher education.

4.6 Habits

It specifies the degree to which users operate the device automatically as a result of their previous experience. Azizi (2020) discovered that habit was the most significant factor affecting accessible educational resources in their research. However, even before UTAUT2 was introduced, it had indicated that habit was a critical variable, restricting the influence of "initiation of use and actual use" due to the continued use of innovation (Chávez Herting et al., 2020).

H6. Habit emerges with a positive implication over the behavioural intention toward Social Media acceptance in higher education.

4.7 Behavioural Intention

The probability of an individual using a device is referred to as Behavioural Intention (BI). When an individual wants to use a device, the person takes the initiative to use the device. Several factors influence the intention of an individual. Thus, behavioural intention for technology use is impacted by several factors, as discussed. The intention will have a significant impact on the behavior usage of the product, technology, etc. This leads to our next hypothesis, i.e.

H7 Behaviour Intention has a significant and positive impact on use behaviour for social media technology

4.8 Use Behaviour

Use behavior is the frequency of usage in terms of product, technology, etc. The intention may lead to the usage behavior of an individual. In the present study, we have explored the relationship between intention and behavior. The moderating impact of gender and age on this relationship has been investigated. The following hypothesis has been formulated:

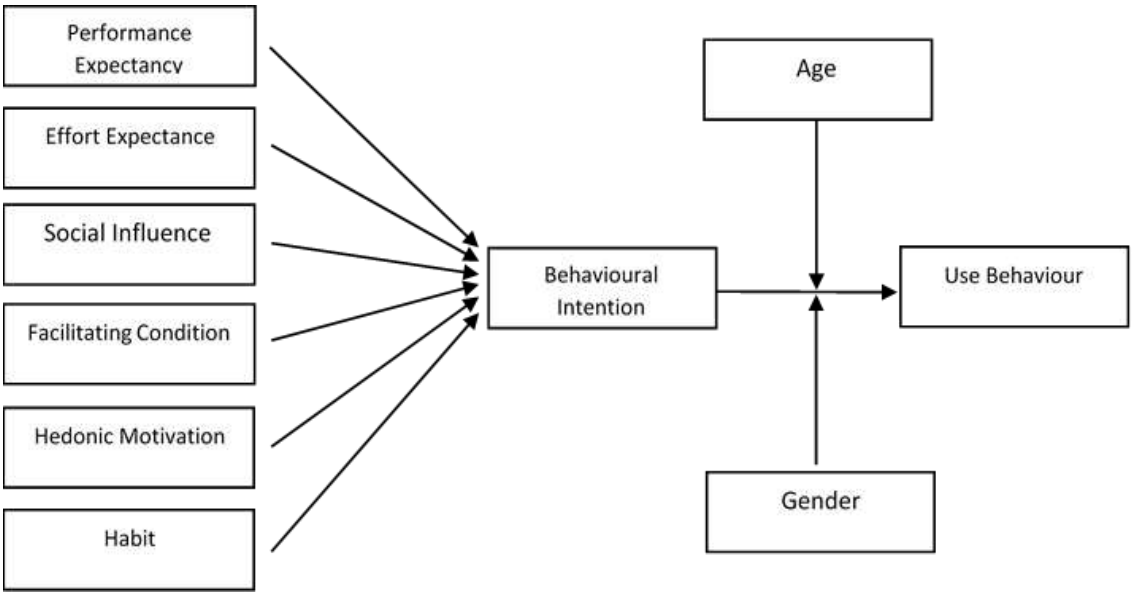
H8: Gender significantly moderate the relationship between behaviour intention and use behaviour of Social media technology acceptance by higher education students.

H9: The relationship between behaviour intention and use behaviour of social media technology among higher education students is significantly moderated by Age

4.9 Proposal Model

Based on the literature review and the need for study, UTAUT2 model has been suitably modified to suit the current study. A model has been proposed based on the modified model. The model portrays the direct relationship of all the identified factors, namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Condition (FC), Hedonic Motivation (HM), Habit (HAB) on the Behaviour Intention (BI) toward acceptance and adoption of Social Media Technology by the students of Higher Education. Further, the model highlights the relation of this intention with actual usage or use behavior. Lastly, the moderating role of age and gender on the relationship between intention and behavior is underlined. The conceptual model is given in Figure 1.

Figure 1: Conceptual Model



Source: Authors (2021)

4.10 Methodology

We created this research with the help of a survey, concentrating on the significant aspects that students can use to make education more enjoyable and engaging than traditional study norms. Surveys are considered to be one of the most transparent forms of public opinion, avoiding any potential bias. As a result, it is also known as the most efficient and elaborate way of expressing oneself (He et al., 2020). A wide variety of survey procedures and patterns were identified. This study examines the acceptance of social media technology by higher education students by using the modified UTAUT2 model.

Further, the moderating role of age and gender is analyzed in the proposed model to investigate the intention behavior gap. Partial Least Square Path Model (PLS-PM) was applied as it is a popular composite based estimator for Structural Equation Modeling (SEM) with latent variable, specifically for the social networking domain (Cheung et al., 2015). The measurement model was analysed for the reliability and validity of model. The analysis of the structural model follows this by investigating the path model. Lastly, Multi-group analysis (MGA) was performed to investigate the moderating role of Age and Gender on the intention-behavior relationships.

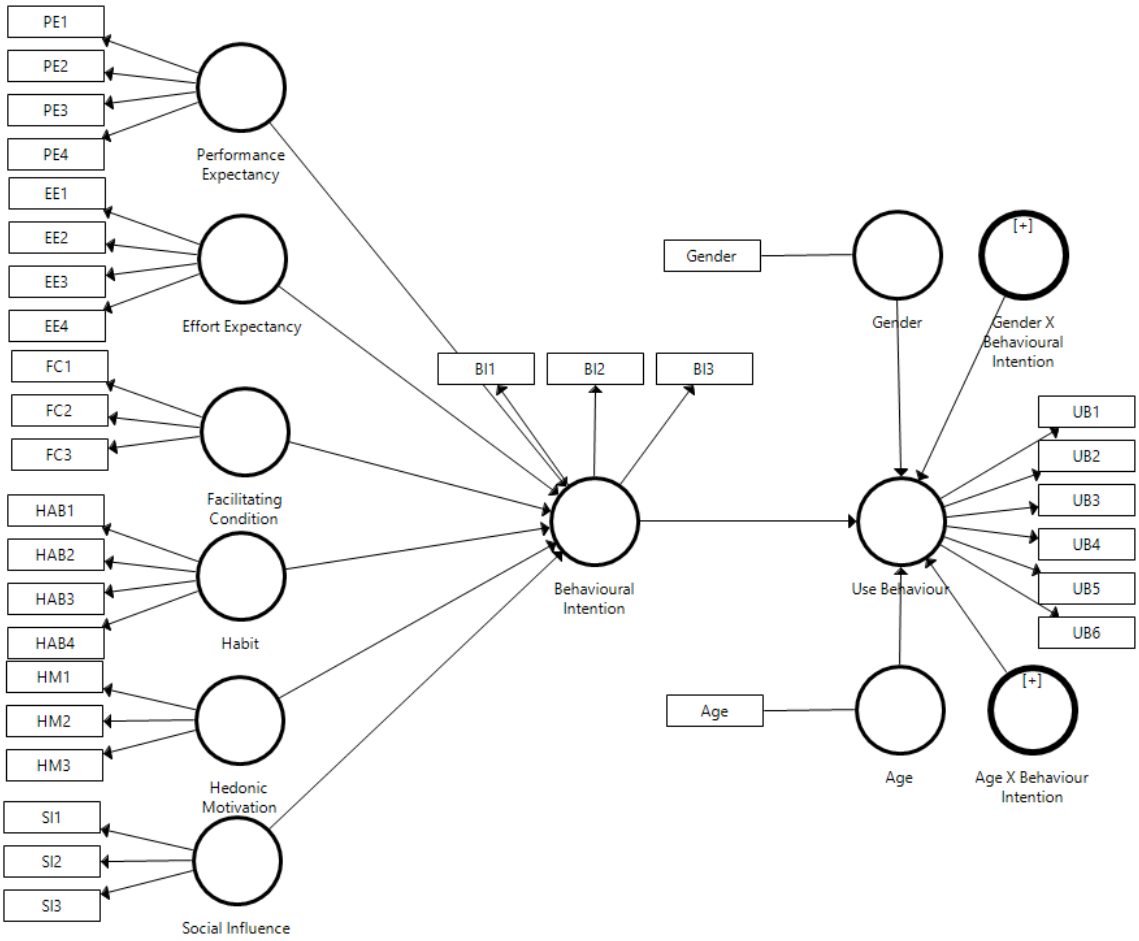
4.11 Data Collections

The research is structured to guarantee that all members or respondents are users of social media technology regularly, as it aims to quantify the actions of students using social networks. As a result, the questionnaire was designed and administered using Google forms. The participants were contacted via Facebook, WhatsApp, and primarily by email. The decision to collect data via social media was strategically designed to ensure that questionnaires were distributed virtually across the target population. It also made sure that everyone in the social network community was linked in some way. Respondents were asked to circulate the questionnaire among their social networks.

Students from the Gulf Cooperation Council (GCC) countries as well as India were included in the study. The optimal sample size calculated using the correlation coefficient formula was 315 participants. Stratified random sampling was used to select the samples. The stratified random process and a table of random numbers were used to sample each stratum. 308 questionnaires were obtained after being distributed among the samples. According to reports, 97.7 percent of people replied. After thorough scrutiny of the questionnaire, 300 data were found to be useable.

Data is collected with the help of a questionnaire. The first section included demographics while the second section contained elements from blended (Social media networking) learning. The questionnaire is created using the modified UTAUT2 items. The questionnaire had 23 items, distributed into PE (4 items), EE (4 items), SI (3 items), FC (4 items), HM (3 items), HAB (4 items), BI (3 Items) & UB(6 items).

Figure 2: Proposed Model



Source: Authors (via Smart PLS, 2021)

The measures of all variables listed above are calculated on a standardized five-point Likert scale with the anchor varying from 1 (strongly disagree) to 5 (strongly agree) to assess the students' perception of academic learning.

5. Result Statistically Analysis

Although there are different approaches to perform SEM, namely Covariance Based and Variance Based, for the current study, however, we have adopted Variance Based Structural Equation Modelling, popularly known as Partial Least Square - Structural Equation Modelling (PLS-SEM). Smart PLS software is used to test the framed hypothesis.

Initially, the measurement model is assessed, followed by the assessment of the structural model, and finally, the moderating role of gender and age were investigated using Multi-Group Analysis (MGA).

5.1 Measurement Model

The measurement model explores the relationship of latent constructs with their related items or variables (Chin, 1998). Internal consistency or reliability is a measure to investigate whether the items that propose to assess the same construct result in an identical score. Fornell & Larcker, (1981) provides that to achieve internal consistency, the minimum threshold value of composite reliability should be 0.7. Additionally, a minimum score of 0.8 for Cronbach alpha indicates good reliability. Table 1 suggests that the value of Composite Reliability (CR) and Cronbach's Alpha is above the prescribed threshold of 0.7. Thus, internal consistency is established.

Further, convergent validity and discriminant validity scores need to be assessed in order to establish Construct validity. Convergent validity evaluates two measures that are supposedly calculating the same construct and demonstrate that they are interconnected. Alternatively, Discriminant validity evaluates two measures that are not supposedly calculating the same construct and demonstrate that they are not interconnected. A minimum threshold value of 0.5 for Average Variance Extracted (AVE) established the convergent validity (Henseler et al., 2009). Table 1 provides the value of AVE for all the constructs. As evident from the table, the construct's AVE score is above the threshold value of 0.5, establishing the convergent validity.

For discriminant value, the value of inter-construct correlation displayed in the off-diagonal matrix should be less than the value of AVE's Square root, which is the value presented on-diagonal of the matrix (Henseler et al., 2009). Table 2 provides that the on-diagonal value i.e., square root of AVE, is above the off-diagonal value, i.e., inter construct value. Thus, the discriminant validity is established. Since the convergent validity and the discriminant validity is found to be in line with the minimum requirement, construct validity is established.

Table 1: Internal Consistency and Convergent Validity

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**AVE**
Behavioural Intention	0.839	0.839	0.903	0.756
Effort Expectancy	0.857	0.863	0.904	0.701
Facilitating Condition	0.84	0.847	0.893	0.678
Habit	0.879	0.879	0.917	0.734
Hedonic Motivation	0.821	0.828	0.893	0.736
Performance Expectancy	0.86	0.861	0.905	0.706
Social Influence	0.842	0.843	0.905	0.76
Use Behaviour	0.868	0.876	0.901	0.68

Source: Authors (2021)

Table 2 : Discriminant Validity

	Behavioural Intention	Effort Expectancy	Facilitating Condition	Habit	Hedonic Motivation	Performance Expectancy	Social Influence	Use Behaviour
Behavioural Intention	0.87							
Effort Expectancy	0.763	0.838						
Facilitating Condition	0.799	0.771	0.823					
Habit	0.789	0.746	0.761	0.857				
Hedonic Motivation	0.7	0.789	0.77	0.754	0.858			
Performance Expectancy	0.785	0.797	0.788	0.749	0.734	0.84		
Social Influence	0.716	0.737	0.766	0.7	0.77	0.783	0.872	
Use Behaviour	0.795	0.785	0.81	0.783	0.81	0.802	0.787	0.827

Source: Authors (2021)

5.2 Structure Model

The structural model explores the relation of one construct with another. The evaluation of the structural model provides the significance of all the relations. We applied Multi-Group Analysis to test the moderating role of Age and Gender on the Intention-Behaviour relation toward use and acceptance of Social Media.

The Coefficient of Determination or R square value obtained is provided in Table 3. The value suggests that the model successfully explains more than 60% response variable variation for use behavior and more than 70% variation in behavioral intention.

Table 3: Coefficient of Determination (R2)

	R Square	**R Square Adjusted**
Behavioural Intention	0.75	0.745
Use Behaviour	0.632	0.631

Source: Authors (2021)

The bootstrapping procedure was applied in the Smart PLS 3.0 to test Hypothesis H1 to H7. The result of bootstrapping with the 2000 subsample is provided in Table 4.

Table 4 : Hypothesis Testing

Hypo.	Relation	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (|O/STDEV|)	P Values	Result
H1	Performance Expectancy -> Behavioural Intention	0.208	0.201	0.065	3.215	0.001	Supported
H2	Effort Expectancy -> Behavioural Intention	0.166	0.166	0.062	2.664	0.008	Supported
H3	Facilitating Condition -> Behavioural Intention	0.295	0.292	0.068	4.35	0	Supported
H4	Habit -> Behavioural Intention	0.315	0.319	0.065	4.87	0	Supported
H5	Hedonic Motivation -> Behavioural Intention	-0.09	-0.081	0.074	1.219	0.223	Not Supported
H6	Social Influence -> Behavioural Intention	0.054	0.05	0.055	0.974	0.33	Not Supported
H7	Behavioural Intention -> Use Behaviour	0.795	0.796	0.024	32.806	0	Supported

Source: Authors (2021)

The result suggests that Performance Expectancy, Effort Expectancy, Facilitating Condition and Habit have a significant impact in framing the students' intention toward use and acceptance of Social Media Technology. Hence, extending support to Hypothesis H1 to H4. However, the relation between Hedonic Motivation and Social Influence was not found to be significant. Thus, Hypothesis H5 and H6 were not supported by the findings. The relationship between intention to behavior was also found to be significant, supporting Hypothesis H7.

5.3 Moderation

To find the moderating role of Age and Gender Multigroup Analysis (MGA) was performed. Initially, the measurement invariance test was performed as it is a fundamental assumption prior to testing structural invariance (MGA). The result of the test provided support for invariance; thus, we performed MGA.

The result provided for the effect of different groups on the constructs. Lastly, the Parametric Test result provides for the significance of the difference for the group.

The result of MGA bootstrapping (2000 sub-sample) provides the path coefficient of males and females for all the relations. However, Hypothesis (H8) investigates the moderating role of gender on the relationship between behavioral intention and use behavior. The finding is provided in Table 5, which suggests that intention's impact on behavior is different for males and females. The effect is marginally more for females (0.814) than for males (0.779). The path is significant for both groups ($t>1.96$, $p<0.01$).

Table 5: MGA Path Coefficient

	Path Coefficients Original (Male)	Path Coefficients Original (Female)	Path Coefficients Mean (Male)	Path Coefficients Mean (Female)	STDEV (Male)	STDEV (Female)	t-Value (Male)	t-Value (Female)	p-Value (Male)	p-Value (Female)
Behavioural Intention -> Use Behaviour	0.779	0.814	0.779	0.815	0.035	0.035	22.033	23.177	0	0

Source: Authors (2021)

Further, the parametric test provided the significance of the difference obtained in the bootstrapping. The result is provided in Table 6, which suggests that the difference is insignificant ($t<1.96$; $p>0.01$). Hence, the finding does not support the proposed Hypothesis (H8).

Table 6 : MGA Parametric Test

Hypothesis	MGA	Path Coefficients-diff (Male - Female)	t-Value (|Male vs Female|)	p-Value (Male vs Female)	Result
H8	Behavioural Intention -> Use Behaviour	-0.035	0.639	0.523	Not Supported

Source: Authors (2021)

Lastly, the moderating role of age was tested on the intention-behavior relationship (H9). For this, the students were divided into two age groups— under 22 years and those above 22 years. For the statistical test, the former was termed as Lower Age Group (LAG) and the latter as Higher Age Group (HAG).

MGA bootstrapping provided a significant difference for the intention-behavior impact among LAG and HAG. The result suggests a marginal difference for HAG (0.801) and LAG (0.796). The path of both age groups was found to be significant ($t>1.96$; $p<0.01$).

Table 7: MGA Path Coefficient

	Path Coefficients Original (HAG)	Path Coefficients Original (LAG)	Path Coefficients Mean (HAG)	Path Coefficients Mean (LAG)	STDEV (HAG)	STDEV (LAG)	t-Value (HAG)	t-Value (LAG)	p-Value (HAG)	p-Value (LAG)
Behavioural Intention -> Use Behaviour	0.801	0.796	0.802	0.8	0.033	0.034	24.132	23.537	0	0

Source: Authors (2021)

The result of Parametric Test provided that the difference is not significant ($t<1.96$; $p>0.01$), and hence Hypothesis (H9) was also not supported in our study.

Table 8: MGA Parametric Test

Hypothesis	MGA	Path Coefficients-diff (LAG - HAG)	t-Value (|LAG_HAG|)	p-Value (LAG vs HAG)	Result
H9	Behavioural Intention -> Use Behaviour	-0.005	0.097	0.922	Not Supported

Source: Authors (2021)

The result , suggests that Performance Expectancy(PE), Effort Expectancy(EE), Facilitating Condition (FC), and Habit (HAB) impact the intention to accept social media technology by the students of higher education. Hence, providing support for Hypothesis H1 to H4. The study further reveals that Hedonic Motivation (HM) and Social Influence (SI) do not play a significant role in building the intention toward Social Media Technology acceptance. Thus, Hypothesis H5 and H6 were not supported in the present study. The intention was found to have a significant impact on the use behavior of students, supporting Hypothesis H7. Lastly, Age and Gender were not found to moderate the intention behavior relationship, and hence, Hypothesis H8 and H9 were not supported in the study.

6. Discussion

Behaviours can become automatic through the process of habit formation (Verplanken, 2006). In the present technological world, students are in the habit of using technology from a very young age. Life without a computer, mobile, internet, and other electronic gadgets is unimaginable for students, especially in higher education. The present study supports the view that habit is the single most important factor influencing the intention to use and acceptance of Social Media. The finding is in line with the finding of Chávez Herting et al. (2020) and Ye & Potter (2011).

Performance expectancy and effort expectancy relate to the performance student expect after accepting the technology and the effort made for this technological adoption. Facilitating condition refers to the organizational or technical infrastructure support, which individual believes exist for technology adoption. These antecedents for intention toward social media technology acceptance were found to be significant in the study. Students believe that technology that can enhance their skills and is easy to adopt is imperative toward framing their intention. Also, the infrastructure influences the intention toward acceptance of technology. The finding supports the previous finding of Chua et al., (2017)

Hedonic motivation relates to the pleasure or pain influencing the intention toward technology acceptance, and social influence applies the impact of a social group on the intention. Both factors were not found to be significant, indicating that the pain or pleasure felt for using the technology and the peer-pressure and other social pressure to adopt the technology do not play an important role in framing the intention toward technological acceptance. It contradicts the previous study of Venkatesh & Morris, (2000)

The study provides strong support for the positive and direct relationship between intention and use behavior. It indicates that the intention to use social media technology gets converted into the actual use of social media for education. Thus, an intention is an important antecedent of actual use behavior. The study, however, does not provide any

significant gender or age difference in the intention behavior relationship. Hence, suggesting that the response does not differ from their female counterparts for intention and use behavior factors. Similarly, intention behavior relation does not differ for students of different age groups. The finding supports the finding of Odewumi et al. (2018).

7. Conclusion and Implication

The study reveals several important findings that will be useful to students, parents, policymakers, and management of higher educational institutions.

The importance of effort expectancy suggests that educational institutions should be careful while selecting the web platform for their course or program. An erroneous selection of a complicated platform or an erroneous website design that is not user-friendly may distract students from learning.

The proper technological infrastructure is the pre-requirement for any successful social media education program. Any interruption due to poor internet connection or slow machine from the educators' end may hamper the learning experience. Hence, the government agencies should take the initiative for providing dedicated broadband specifically for educational institutions to ensure that intention toward social media technology adoption remains positive

The study reveals that performance expectancy is important for students of higher education. The educational institutions should ensure that the programs offered via various social media platforms lead to unique skill development that can assist in attaining the job offers. It should not be a mere degree addition to the student's credential. It would strengthen students' belief that completing these courses will enhance their opportunity to get the job and, hence, would positively influence the intention toward acceptance of social media technology for learning.

Since the intention is indifferent among age and gender, Governments should make an effort to use this emerging technology. It will ensure that quality education can reach the remotest area. Also, with the effective use of this technology, even the best institution with limited seats can offer their program to more students.

There are very few studies that have explored the relationship of social media technology acceptance in higher education. By investing this relation, the present study adds to the existing body of literature for technological acceptance in a new dimension.

The study also opens the avenue to analyze the use and adoption of social media in primary education. Since primary education is the building block, it will be interesting to find how this education segment is reacting toward the adoption of social media technology. Also, the moderating role of other identified factors like experience and geographical location of students in the direct relationship of identified factors and intention may unearth some findings to investigate in future research. Lastly, researchers may also be interested in exploring the role of parents' income in the intention-behavior relations toward social media technology use and acceptance to find whether income groups moderate this relation.

This study, like others, has a few limitations. Firstly, the study has involved students from the University of GCC and India only. In order to generalize the findings, the applicability to other countries must also be investigated. Second, the data is self-reported by students; hence bias~~ed~~ can not be denied in reporting the responses.

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