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Saudi EFL University Students' Perceptions of Using Blackboard in Writing Activities: An Application of Technology Acceptance Model

MOHAMMAD HUSAM ALHUMSI

Saudi Electronic University, Kingdom of Saudi Arabia
husam101010@gmail.com

Abstract

Several higher educational institutions have employed Learning Management Systems. The Blackboard Collaborate system, featured as one of the technological instructional systems, is an example of considerable and outstanding Learning Management Systems utilized by most universities. Nevertheless, literature revealed that there is a missing association between the application of Blackboard and its inadequate practice in learning and teaching. Hence, this paper aims to investigate Saudi EFL university students' perceptions of using Blackboard in doing their writing activities at the Saudi Electronic University. An online survey was administered to 210 participants. Using the Technology Acceptance Model (TAM) as an analytical framework, six hypotheses, namely participants' perceived ease of use (PEOU) positively impacts their perceived convenience (PC), participants' PC positively impacts their perceived usefulness (PU), participants' PEOU positively impacts their PU, participants' PEOU positively impacts their attitude toward use (ATU), participants' PU positively impacts their ATU, and finally participants' ATU positively impacts their behavioral intention (BI), were used to investigate the impact of TAM constructs. The study found that all six hypotheses were supported. The results revealed strong, positive connections between the different constructs. The model proposed in this paper identifies PEOU as the best indicator of PC. The researcher suggests that future studies could expand the sample to include professors and students from other departments.

Keywords: Blackboard system, Saudi EFL students, Technology Acceptance Model (TAM), writing activities

Data Availability Statement: *All relevant data are within this paper.*

Introduction

The concept of e-learning was conceived, and its demand has been increasing steadily each year. With the rapid advancement of the internet and technology, the language education sector, learning in particular, has been enhanced (Kazemi & Kahnamuei, 2025) and compelled to integrate online learning resources for students ranging from elementary through to higher education (Singh & Kumar, 2024). In the context of higher education, many conventional procedures in higher educational institutions such as manual tasks, paper-based systems, and in-person interaction are dramatically altered using technology to move to prosperity and achievements (Alhumsi & Alshaye, 2021). According to recent studies, creative and interesting online activities and course design have a significant impact on students' retention (Jayanthi & Rajalakshmi, 2022; Leeds et al., 2013). In addition, literature affirmed that technology has a remarkable reputation for being used to offer courses online (Bower et al., 2014), enhances learners' language learning skills, and encourages their creativity (Ahmadi, 2018; Al-Sharqi & Abbasi, 2020). The above reasons make it clear why both educators and students extensively utilize technology to increase student participation and involvement in the classroom and to improve student achievements by gaining more linguistic knowledge (Zhang, 2021; Yang & Chen, 2007). It should be noted that learning management systems (hereafter LMS) enable personalized online learning resources that combine interactive learning environments with engagement (Ifenthaler, 2012).

Ifenthaler (2012) defined an LMS as "a web-based software application using a database on which various types of information are stored" (p. 1925). It is important that in higher education institutions, a wide variety of technological applications support the learning process. For example, Mohsen and Shafeeq (2014) stated that "Learning Management Systems [have] been adopted by many institutions due to [their] ubiquity, easiness, and accessibility" (p. 108). Interestingly, one of the most popular and widely used LMS in Saudi higher education is Blackboard (Al-Mamary, 2022).

Across the world, institutions use the Blackboard system (Al-Mamary, 2022). Its system has features supporting the teaching and learning process in a number of ways (Alhumsi & Alshaye, 2021; Al-Naibi et al., 2015). For instance, Al-Naibi et al. (2015) argued that among these features is the ability of the Blackboard system to improve communication between students and their educators. According to Iffat Rahmatullah (2021), Blackboard's suite of synchronous and asynchronous tools fosters an interactive digital learning ecosystem, facilitating content delivery, communication, assessment, and collaboration, thereby enabling a comprehensive virtual educational experience. Moreover, this type of LMS provides ample opportunity for learners to learn outside of the classroom whenever they need to; this goes through employing a variety of tools that have been made available to students so they can interact and access the course materials (Alhumsi & Alshaye, 2021; Almijlad et al., 2022). Additionally, Blackboard is a well-known platform that facilitates blended learning, which combines traditional (face-to-face) instructions with online resources, allowing for efficient communication and material exchange (Uziak et al., 2018). This type of technology has emerged as one of the most widely adopted educational systems globally, particularly in certain Saudi universities (Alhumsi & Alshaye, 2021; Zaki & El Zawaidy, 2014).

To identify its tasks, Blackboard is an LMS that serves as a communication tool highlighted in discussion forums, email, announcements, and other channels in addition to being a store of information, such as course materials and information (Alokluk, 2018). The effectiveness of users is the only factor that determines how Blackboard is used. For effective learning, students need a strong command of this educational platform (Alokluk, 2018). Technology also aids instructors by providing tools to organize students into groups and facilitating a live chat feature that is directly controlled by the

educators (Alokluk, 2018; Schier & Shields, 2009). Therefore, a shift to the educational applications provided by the Blackboard LMS is strongly advised as a means of gaining knowledge in a creative approach and giving students multiple chances to enhance their academic writing skills (Alhumsi & Alshaye, 2021).

While Blackboard has been widely implemented as an LMS a learning management system in higher education, research indicates significant challenges in its effectiveness, particularly in terms of student engagement and learning outcomes (Al-khresheh, 2022; Alhumsi & Alshaye, 2021; Basabrin, 2019). Studies have reported technical difficulties, a lack of interaction, and user dissatisfaction with the platform, which may hinder its potential to enhance learning (Al Meajel & Sharadgah, 2018; Hossain et al., 2017). Moreover, some studies suggest that traditional face-to-face instruction may be more effective in promoting student satisfaction and academic success compared to Blackboard-based learning environments (Tichavsky et al., 2015). These findings raise critical concerns about whether Blackboard is truly meeting its educational goals, necessitating a deeper investigation into its limitations and a comparison with traditional teaching methods. With respect to writing skills, Fageeh and Mekheimer (2013) emphasized the paucity of research regarding the role of Blackboard as a computer-mediated communication in supporting students' involvement in their process of learning academic writing. In short, literature showed that there is a critical gap between the adoption of Blackboard and its underutilization in the teaching and learning process (Alhumsi & Alshaye, 2021; Sneller, 2004). Another significant challenge is the poor writing performance of English majors in writing courses (Kassem, 2018), as evidenced by low scores in standardized writing assessments. This underachievement in writing is likely a result of current teaching practices, which fail to provide students with enough opportunities to practice and improve their writing skills, ultimately hindering the quality of their work (Kassem, 2018). Furthermore, studies on English writing pedagogy have demonstrated that online instruction via the Blackboard LMS leads to significant improvements in the writing abilities of English as a Foreign Language (EFL) learners. A key advantage of this platform is its provision of dedicated tools that facilitate the editing and revision processes essential for academic writing (Ahmed & Mohammed, 2020; Kassem, 2018; Motlhaka, 2020; Ta'amneh, 2020).

Consequently, there is a need to shift the instructional practices associated with the use of the Blackboard LMS For that purpose, this study assesses Saudi EFL students' perceptions of using Blackboard Collaborate in their writing activities at Saudi Electronic University by employing the theory of Technology Acceptance Model (TAM). This model is a highly effective and versatile framework for forecasting the uptake of technology within higher education (Venter et al., 2012).

In short, this study used the TAM analysis approach, which was adapted from Ahmed (2016), to determine how students felt about their use of Blackboard Collaborate in doing their writing activities. To find out how Saudi students felt about using Blackboard in EFL writing activities, six hypotheses were put forth: PC, PEoU, PU, ATU, and BI. The present study attempts to address the following question: How do Saudi EFL students' opinions about using Blackboard for writing activities relate to their attitudes, behavioral intentions, perceived usefulness, ease of use, and convenience? Sub-questions for this study involving the six hypotheses are as follows:

1. To what extent do the participants' PEOU influence their PC over their tasks?
2. How do the participants' PC affect their PU?
3. What is the nature of the relationship between PEOU and PU among participants?
4. How do the participants' PEOU influence their ATU?
5. To what degree do the participants' PU affect their ATU?
6. How do the participants' ATU influence their BI?

Literature Review

Learning Management System (LMS) and Blackboard

Gautreau (2011) defined LMS as "a self-contained webpage with embedded instructional tools that permit faculty to organize academic content and engage students in their learning." (p. 2). By collaborating with several educational institutions worldwide, research has shown that technology—particularly the Blackboard platform—and the development of self-efficacy facilitate English learning (Al-khresheh & Alkursheh, 2024; Dabeel, 2024). Blackboard allows students to engage in environmental learning, meaning they can begin their learning process from any place and at any time. This flexibility demonstrates how Blackboard extends learning beyond the physical classroom, offering opportunities that traditional learning environments cannot provide. Such features, including flexible scheduling and continuous access to course materials, have been shown to positively influence students' learning (Lim, 2004). Furthermore, Al-Oqaily and Salam (2022) noted that the use of technology, as seen in systems like Blackboard, offers previously unheard-of chances for engaging and dynamic language-learning experiences. Features like online forums, multimedia materials, and instant feedback systems can help students communicate and collaborate more easily, increase language acquisition, and encourage independent learning (Leba & Temaja, 2023). Students can use their English language proficiency more successfully in the digital age by utilizing technology in language learning, which opens up new opportunities for individualized and flexible learning (Al-khresheh & Alkursheh, 2024; Albar, 2023).

Use of Blackboard

As for related studies conducted within the same domain, Goh et al. (2014) investigated how instructors recognize using LMS in terms of perceived usefulness and ease of use for instructional purposes. The Technology Acceptance Model (TAM) served as the study foundation for the questionnaire's creation. The results showed that lecturers' opinions of Moodle's perceived ease of use for teaching were not favourable. The findings also showed how the lecturers' perceptions are adversely impacted by issues related to communication, usability, and interaction. In another study, Ismail and Salih (2018) investigated how the Blackboard system was integrated and utilized to improve the results of a research methodologies course that was based on blended learning at the Arabian Gulf University. Specifically, their research employed a developmental methodology to examine challenges encountered by graduate students in technology programs while developing their master's thesis proposals. The findings showed that the ease of learning research methodologies was validated using Blackboard. Students' satisfaction with the learning process and learning outcomes were both enhanced by using Blackboard.

In the Saudi settings, numerous studies have been carried out to investigate how university students and lecturers feel about using Blackboard as one of the LMS. For example, in a very recent study conducted by Al-khresheh and Alkursheh (2024), the researchers examined the connection between Saudi EFL students' language learning outcomes, technology integration using the Blackboard management system, and self-efficacy. Using a quantitative correlational methodology, 590 participants from two universities were given three questionnaires to complete to gauge the main factors. Their results demonstrated how self-efficacy directly improves academic performance and how Blackboard integration enhances academic success and English competence. Such results highlighted the manner how crucial self-efficacy is to academic success and how crucial e-learning platforms are to raising students' motivation and language proficiency.

In another study, Almijlad et al. (2022) investigated the viewpoints of lecturers regarding possible barriers to using Blackboard in the classroom. Their research study was conducted at Arar University College in Saudi Arabia. Nine lecturers participated in semi-structured interviews. The results showed

that the primary topics that arose from the lecturers' interviews were institutional, cultural, and technological constraints. Based on such results, the researchers concluded that ongoing technical support, training, and technological advancements in both hardware and software infrastructures are necessary for the efficient use of the Blackboard system. Moreover, the effectiveness of Blackboard in improving the speaking abilities of Saudi EFL students was investigated in Al-Oqaily and Salam's (2022) study, which again emphasized the platform's beneficial effects during the COVID-19 outbreak. The researchers emphasized the importance of past knowledge and experience with online learning and its role in overcoming challenges with English-speaking abilities.

Furthermore, Alqurashi (2005) investigated how students felt about using Blackboard for group learning in composition classes. The study used the Blackboard program to compare students who underwent in-person instruction with those who underwent online instruction. No discernible differences were found between the groups that received in-person instruction and those that received online instruction. The researcher clarified that there are three potential explanations for that result; they most likely result from technical difficulties, the collaborative learning described as a novel approach, and the low dependability of one of the metrics included in the survey.

Blackboard and EFL Writing Skill

Research has demonstrated that online English writing instruction positively impacts the writing skills of EFL learners. For example, a study by Nappu et al. (2022) at Universitas Muhammadiyah Makassar found that using the Google Meet platform significantly improved students' academic writing abilities, confirming the beneficial effects of this mode of learning (Almekhlafy, 2020; Nappu et al., 2022). Further evidence from the Saudi context confirms the effectiveness of the Blackboard LMS. Almekhlafy (2020) found that both students and instructors at Najran University perceived the platform as enhancing all aspects of English language learning, including writing. Similarly, Sheerah et al. (2022) reported that students in intensive writing courses at King Khalid University felt their skills improved through the online instruction delivered via Blackboard. Extending these findings, Motlhaka (2020) demonstrated that the Blackboard LMS acts as an effective mediator for writing development by enabling peer collaboration. The study showed that when second-language writers used the platform to form an online learning community, they engaged in collaborative editing and revision. The resulting peer feedback directly led to higher-quality academic essays, underscoring the importance of social interaction in the writing process. The positive impact of LMS platforms on writing skills is further supported by Ta'amneh (2020), whose research at Taibah University demonstrated that using Blackboard significantly improved the writing abilities of EFL students. In conclusion, the body of research confirms that online writing instruction via an LMS like Blackboard leads to significantly greater improvement in EFL students' writing skills compared to traditional face-to-face teaching.

In the same vein, the purpose of Alhumsi & Alshaye's (2021) study was to determine how students think about utilizing Blackboard Collaborate to learn academic writing in English as a foreign language. In their research, 248 responders were given access to an online survey. The Technology Acceptance Model hypothesis was used in this quantitative study to assess the adoption of LMS at LMS at Saudi Electronic University. During the analysis process, six hypotheses were tested. The results demonstrated that each was supported, and that all the constructs were correlated with one another and had positive associations. The suggested model in this research expresses that the best predictor of behavioral intention is attitude toward use.

In short, while previous studies in Saudi Arabia have explored Blackboard's role in general language learning (Al-khresheh & Alkursheh, 2024), speaking skills (Al-Oqaily & Salam, 2022), or institutional barriers (Almijlad et al., 2022), this study uniquely investigates its application to English writing

activities—a critical yet underexamined area in Saudi EFL contexts. Unlike prior TAM-based research (Alhumsi & Alshaye, 2021), which focused on Blackboard LMS adoption, this study introduces Perceived Convenience as a novel construct tailored to writing-specific challenges.

Theoretical Framework (Technology Acceptance Model)

Davis (1989) created the Technology Acceptance Model (TAM) based on Fishbein and Ajzen's (1975) theory of reasoned action. TAM is a model that is frequently employed in the field of interpreting technology acceptance. Notably, it has been utilized in several empirical investigations (Alhumsi & Alshaye, 2021; Goh et al., 2014; Mohammadi, 2015; Shroff et al., 2011; Yoon, 2016). To define the Attitude (A) of human behavioral intention (BI) to the usage of IT applications (AU), the TAM model incorporates any likely external element that can affect Perceived Ease of usage (PEOU) and Perceived Usefulness (PU). Figure 1 shows the constructs of the TAM model.

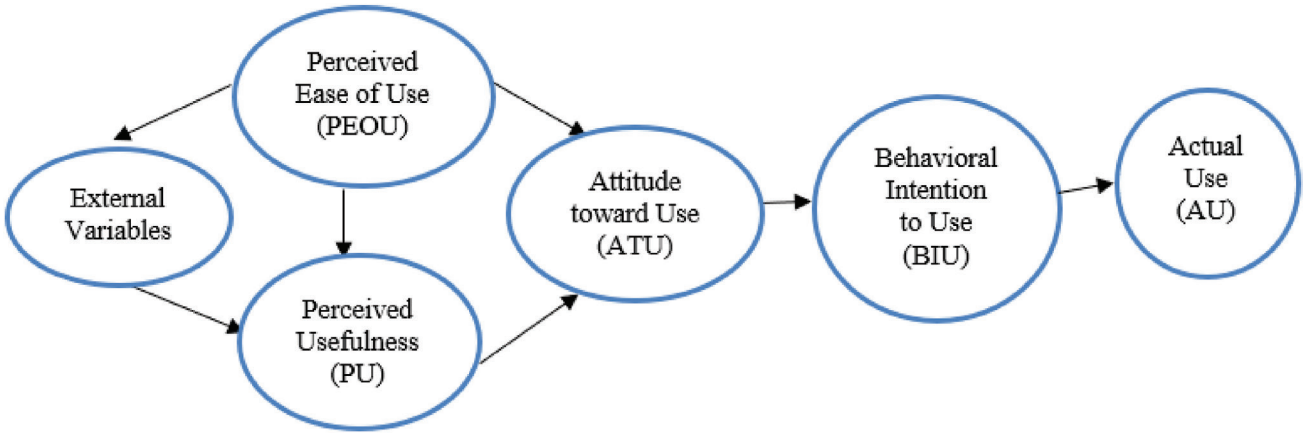

Figure 1 *Technology Acceptance Model (TAM). (Davis, 1989).*

It is interesting to note that TAM operates as follows: five determinants—perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU), behavioral intention to use (BIU), and actual usage (AU)—can be evaluated to estimate the acceptance of new technologies. PU is the degree to which an individual believes that using the system could improve their performance (Davis, 1989). PEOU measures the degree to which a person believes that using the system will not be challenging and will not require any cognitive effort (Davis, 1989). According to Holden and Rada (2011), TAM provides users' behavioral, emotive, and cognitive reactions to systems and technology. More precisely, ATU describes affective responses, BIU describes behavioral responses, and PEOU and PU describe cognitive attempts.

Numerous studies examining technology acceptance have shown that TAM can predict and explain why users would choose to employ information systems across a range of disciplines. Because of its ease of use and intelligibility, Sumak et al. (2011) argued that TAM is widely utilized in information system research. It is also noteworthy that Gefen and Straub (2000) noted that TAM has been applied in an e-commerce context to examine the ways in which PEOU affects IT adoption. The results of the latter study demonstrated that TAM is ideal for both business-to-business and business-to-commerce systems. TAM has also been used to look into how well doctors accept telemedicine technologies. Accordingly, TAM is applicable as an intention-based model for predicting and interpreting computer technology user acceptance (Hu et al., 1999).

TAM has emerged as a key theoretical tool for ICT in the study of education. By presenting ten prior studies that used TAM as a theoretical framework, for instance, Venter et al. (2012) confirmed that

TAM has a broad ability to predict the technology adoption in higher education settings. With reference to earlier research on hardware acceptance, studies that attempted to use TAM in an IT environment demonstrated that TAM has been successful in explaining human behavior in a way that accepts the existence of certain IT applications (Hossain & Prybutok, 2008). By providing certain antecedent aspects, research claimed that TAM has been used well in the e-learning acceptance field. The easiness of applying TAM, for instance, was also corroborated by other e-learning researchers (Escobar-Rodriguez & Monge-Lozano, 2012). Based on the previously described research, TAM can be used as a theoretical framework and to construct the present research survey, which is the Blackboard Learning Management System measurement model.

For the current study, the research model and hypotheses are also provided, and this model is an extension of the TAM. Figure 2 illustrates how its proposal was founded on relevant research and theories (Alhumsi & Alshaye, 2021). The five components that make up TAM are Perceived Convenience (PC), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitude toward Use (A), and Behavioral Intention (BI), as shown in Figure 2.

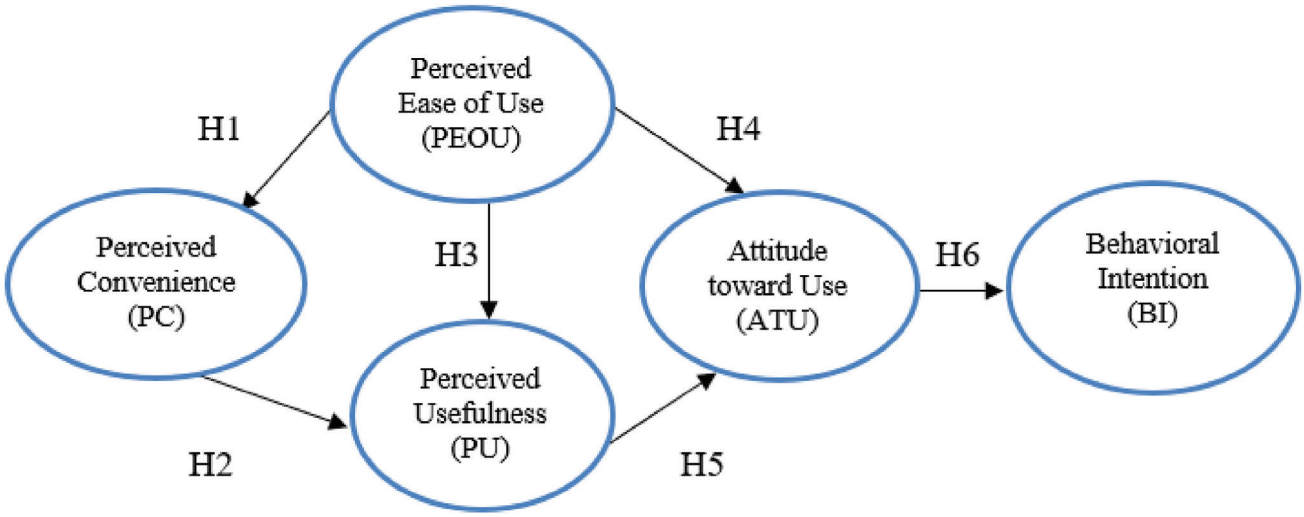

Figure 2 *TAM adapted from Ahmed (2016).*

It is important to note that perceived convenience (PC) is used as an additional element because there are two different kinds of convenience: service and product. According to Berry et al. (2002), determining whether a product or service is convenient requires time and effort. Five factors—time, use, place, execution, and acquisition—were used to examine the convenience of a product or service (Brown, 1990). Interestingly, perceived convenience has been described in the current study and based on the opinions of Yoon and Kim (2007) as a form of convenience related to place, time, and execution that one experiences when participating in the Blackboard LMS. While completing tasks in Blackboard LMS, it is interesting to think about how time convenience relates to how convenient a person feels about their time. It is also important to note that Yoon and Kim (2007) found that PC positively influenced PU and PEOU positively influenced PC. Conversely, the findings of Yoon and Kim (2007) were in conflict with those of Hossain and Prybutok (2008). According to Hossain and Prybutok's (2008) research, convenience encompasses both practicality and usability. Therefore, more research is needed to determine how perceived convenience and TAM factors relate to one another.

Specifically, to find out how Saudi students felt about using Blackboard in EFL writing activities, six hypotheses were put forth: perceived convenience, perceived ease of use, perceived usefulness,

attitude toward use, and behavioral intention. Based on Figure 2., the following six hypotheses were used to investigate the impact of TAM constructs:

H1: Participants' PEOU positively impacts their PC.
H2: Participants' PC positively impacts their PU.
H3: Participants' PEOU positively impacts their PU.
H4: Participants' PEOU positively impacts their ATU.
H5: Participants' PU positively impacts their ATU.
H6: Participants' ATU positively impacts their BI.

Methodology

Research Methodology

The quantitative approach was chosen for this study since it is suitable for TAM analysis in light of TAM theory (Alhumsi & Alshaye, 2021; Binyamin et al., 2017; Ahmed, 2016) to examine university students' perceptions of using Blackboard in their writing activities. An online survey was used to gather information (Alharbi & Drew, 2014), as they provide many benefits to most researchers. For example, online surveys are mostly used on the internet to gather data (Wright, 2005).

Sampling

The research employed convenience sampling where participants were selected based on availability and willingness to participate. This survey included 500 undergraduate students, both male and female, majoring in English language and translation at Saudi Electronic University. All participants belonged to a similar social rank, as they were enrolled in the same program and institution, which may influence shared academic experiences. However, only 210 students completed the online survey, and incomplete responses were excluded.

Data Collection

Utilizing an online questionnaire adopted from Alhumsi and Alshaye (2021) and distributed online through students' emails, this study sought to determine how students at Saudi Electronic University felt about utilizing Blackboard in doing their English writing activities. Hence, 210 male and female students made up the study's sample. The distribution of the online survey took place in January 2025. It is critical to acknowledge that every student within the university settings has access to a range of online resources and tools that are intended to improve their academic performance, satisfying the needs for university goals and strategies. One of the main objectives of the university is to empower students to fulfil their dreams and goals by skillfully applying knowledge and technology. Moreover, the educational community at their university, which consists of students, instructors, professors, staff, and administrators, is dedicated to the idea that technology presents substantial opportunities. Incorporating technology into teaching methods improves student-instructor relationships and increases student engagement, especially among the digital generation. Technology also increases the efficacy and efficiency of staff operations and university administration. Therefore, determining the usefulness of current technologies and predicting the adoption of future advances require analyzing how various groups within the educational community accept technology. To attain such aims, every professor has met the university's technical competence standards and has access to a wide range of technologies including the Blackboard Collaborate. Interestingly, Saudi Electronic University has been using the Blackboard Collaborative System from its beginnings, and all students in this institution are proficient in using both Blackboard and the Internet.

Instrumentation

An online questionnaire addressing the constructs in TAM theory represented the research instrument for this study. Two components comprised the research instrument. Participants were requested about their demographics such as students' gender, occupation, and academic status in the first part. As for the second part, eighteen items were used to measure five components, which were represented by behavioral intention (BI), attitude (ATU), perceived usefulness (PU), perceived ease of use (PEOU), and perceived convenience (PC). A five-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to score these 18 items. To verify the instrument's validity and reliability, 18 items were adopted from Alhumsi and Alshaye's (2021) study, which reported a high reliability range of 0.82 to 0.89. It is important to note that these 18 items forming the following constructs:

1. BI (3 items),
2. PEOU (4 items),
3. PU (4 items),
4. PC (4 items), and
5. ATU (3 items).

Data Analysis

This section presents data analysis, including hypotheses testing and descriptive demographics pertaining to the respondents' profiles. Following the data collection process, SPSS Statistics version 22 for Windows was used to calculate participants' responses as well as measuring their descriptive demographics. This software was run to measure the reliability of the instrument. As for hypotheses testing, the TAM constructs were evaluated for reliability using Cronbach's alpha (Alhumsi & Alshaye, 2021; Alharbi & Drew, 2014; Holden & Rada, 2011). Additionally, linear regression analysis was utilized to measure the given TAM (Muniasamy et al., 2014). Specifically, the Pearson correlation coefficients test was used to assess the relationships between the five TAM components (Alhumsi & Alshaye, 2021; Holden & Rada, 2011). Thus, path analysis was chosen because it fits the study's objectives and provides benefits that help it accomplish them.

Ethical Considerations and Informed Consent

Ethical approval for this study was granted by the Ethical Committee of the Saudi Electronic University in Saudi Arabia (Ref. No. SEUREC- 4610). Data collection was conducted via an online survey. The first page of the survey was a dedicated informed consent form. It provided information on the research aims, the estimated time (around 10–15 minutes), assurance of anonymity and confidentiality, and the voluntary nature of participation. Participants were informed that by proceeding, they were providing their consent.

Findings

To examine the suggested hypotheses, the results of the present study included demographic data, descriptive statistics, instrument reliability, and Pearson correlation coefficients between dependent and independent variables.

Demographic Information

Table 1 presents the demographic data of the participants. There are 135 female students (64.3%) and 75 male students (35.7%), representing the entire group of participants. Most of the participants

Table 1 *Demographic Information of the Participants*

Item	Frequency	Percentage (%)
Students' Academic Status		
Freshman (levels 3&4)	134	63.8
Junior (levels 5&6)	59	28.1
Senior (levels 7&8)	17	8.1
Total	**210**	**100**
Occupation Status		
Working	70	33.3
Full-time student	140	66.7
Total	**210**	**100**
Gender		
Male	75	35.7
Female	135	64.3
Total	**210**	**100**

(63.8%) are categorized as freshmen based on their academic status, in addition to 17 seniors (8.1%) and 59 juniors (28.1%) involved within the same category. Regarding occupation status, the majority of participants (66.7%) are unemployed and study full-time, while the remaining students (33.3%) are employed.

Descriptive Statistics

To answer the main research question "How do Saudi EFL students' opinions about using Blackboard for writing activities relate to their attitudes, behavioral intentions, perceived usefulness, ease of use, and convenience?", Table 2 displays the descriptive analysis of the responses provided by the participants for the 18 items. The overall mean values are higher than 3.42. This outcome demonstrates how well the participants' replies evaluated the LMS. The standard deviation values fall between 0.66 and 1.13. Additionally, this outcome indicates that the data is near the mean.

To evaluate the reliability of TAM, Orfanou et al. (2015) noted that Cronbach's alpha is commonly used to measure the reliability of TAM. Specifically, Field (2013) pointed out that reliability is the ability of different constructs or variables to provide comparable outcomes under the same circumstances. It should be noted that when the Cronbach's alpha value exceeds 0.70, reliability evaluation (internal consistency) can be achieved (Sekaran & Bougie, 2013). In literature, TAM's internal consistency has a solid reputation. For example, the Cronbach's alpha values in the studies of Ma et al. (2013), Alharbi and Drew (2014), and Alhumsi and Alshaye (2021) varied from 0.71 to 0.85, 0.8 to 0.92, and 0.89 to 0.82, respectively. Therefore, Cronbach's alpha was used in this study to evaluate TAM's internal consistency. As shown in Table 2, all the assessments showed an acceptable degree of reliability, ranging from 0.85 to 0.70, indicating that the questionnaire is considered reliable (Sekaran & Bougie, 2013). Regarding validity assessment, an expert panel with a focus on applied linguistics has reviewed the questionnaire items. Their insightful remarks and recommendations have been carefully considered.

Correlations among TAM Constructs

The correlations among the TAM constructs were gauged using the Pearson correlation coefficients. To answer the sub-question for this study "To what extent do the hypotheses hold true regarding

Table 2 *Descriptive Statistics and Reliability Check of TAM*

Construct	Measure	Mean	SD	Cronbach's alpha
Perceived convenience (PC)	(1) I can use a Blackboard collaborate tool to finish my writing activities anywhere.	4.04	0.92	
	(2) I find it more convenient to complete my writing tasks when I use a Blackboard collaborate tool.	3.96	0.79	
	(3) The Blackboard collaborate tool is useful for my additional writing tasks.	3.88	0.91	**0.85**
	(4) By utilizing the Blackboard collaborate feature, I can complete my writing tasks whenever it's most convenient for me.	3.90	0.93	
Perceived Ease of Use (PEOU)	(5) The use of the Blackboard collaborate platform to complete writing activities would be simple for me.	4.00	0.79	
	(6) My interactions with the Blackboard collaborate platform are transparent and easy to comprehend.	3.99	0.87	
	(7) Learning how to use the Blackboard collaborate tool would be simple.	4.00	0.80	**0.77**
	(8) It would be simple for me to learn how to use the Blackboard collaborate tool when I was doing my writing activities.	3.75	1.06	
Perceived Usefulness (PU)	(9) I could complete writing activities faster if I used the Blackboard collaborate tool.	3.94	0.99	
	(10) My writing skills would be enhanced by using the Blackboard collaborate feature.	3.79	0.95	
	(11) I would be more likely to do more writing activities if I used the Blackboard collaborate tool.	3.89	0.96	**0.70**
	(12) When it comes to writing activities, I would find the Blackboard collaborate tool to be encouraging and useful.	3.93	0.85	
Attitude Toward Use (ATU)	(13) I think using a Blackboard collaborate platform for writing exercises is a smart idea.	3.82	0.93	
	(14) Instead of going to in-person classes to complete writing activities, I enjoy the idea of using a Blackboard Collaborate tool.	3.42	1.13	**0.72**
	(15) It is a positive idea to use a Blackboard collaborate tool.	3.90	0.91	
Behavioral Intention (BI)	(16) In the future, I want to employ a Blackboard collaborate platform.	4.10	0.68	
	(17) I plan to use the Blackboard collaborate platform, if I have access to it.	3.90	0.71	**0.76**
	(18) The Blackboard Collaborate platform facilitates my future application of the knowledge I have gained.	4.12	0.66	

Table 3 *Pearson Correlation Coefficients Analysis*

		PC	PEOU	PU	ATU	BI
PC	Pearson Correlation	1	.641**	.378**	.577**	.758**
	Sig. (2-tailed)	0.0	0.000	0.000	0.000	0.000
	N	210	210	210	210	210
PEOU	Pearson Correlation		1	.520**	.512**	.607**
	Sig. (2-tailed)		0.0	0.000	0.000	0.000
	N		210	210	210	210
PU	Pearson Correlation			1	.466**	.374**
	Sig. (2-tailed)			0.0	0.000	0.000
	N			210	210	210
ATU	Pearson Correlation				1	.470**
	Sig. (2-tailed)				0.0	0.000
	N				210	210
BI	Pearson Correlation					1
	Sig. (2-tailed)					0.0
	N					210

** Correlation is significant at the 0.01 level (2-tailed).

Saudi EFL students' use of Blackboard for writing activities?", Table 3 describes the findings of the correlations among PEOU, PC, PU, ATU, and BI. It has been found that all investigated constructs are correlated with each other. The results showed that PC is strongly correlated with BI and PEOU. Besides, there is a moderate association between PEOU on one hand and PU and AT on the other. Table 3 shows the Pearson correlation matrices for the relationships among the variables, showing that the variables under consideration have strong correlations with one another. With the exception of multicolinearity, however, none of the correlation coefficients were higher than 0.80 (Pan, 2020; Tabachnick & Fidell, 2007).

The Test of Hypotheses

In this section, path analysis was used to check whether the sub-questions involving the six hypotheses hold true regarding Saudi EFL students' use of Blackboard for writing activities:

1. To what extent do the participants' PEOU influence their PC over their tasks?
2. How do the participants' PC affect their PU?
3. What is the nature of the relationship between PEOU and PU among participants?
4. How do the participants' PEOU influence their ATU?
5. To what degree do the participants' PU affect their ATU?
6. How do the participants' ATU influence their BI?

According to path analysis, the model and hypotheses were tested (Alhumsi & Alshaye, 2021; Shroff et al., 2011; Tarhini et al., 2013). Table 4 demonstrates that all 6 hypotheses are supported. All associations between constructs exhibit a significant relationship. It is crucial to indicate that the association between PEOU and PC represents the strongest path coefficient (.641, $p < .001$), whereas

Table 4 *Results of Path Analysis*

Path		B	t-value	Finding
H1	PEOU → PC	.641**	12.04	Supported
H2	PC → PU	.378**	5.89	Supported
H3	PEOU → PU	.520**	8.77	Supported
H4	PEOU → ATU	.512**	8.59	Supported
H5	PU → ATU	.466**	7.59	Supported
H6	ATU → BI	.470**	7.67	Supported

**p < 0.001

the association between PC and PU is described as the weakest path coefficient (.378, $p < .001$), in comparison with other associations. Significantly, the strong association of PEOU with other constructs such as PU (.520, $p < .001$) and ATU (.512, $p < .001$) is noticeable.

Discussion

The findings of this study, analyzed through the Technology Acceptance Model (TAM), reveal significant relationships between all examined constructs: PEOU, PC, PU, ATU, and BI. The Pearson Correlation Coefficients Analysis demonstrated strong interconnections between these factors, while path analysis provided complete support for all six proposed hypotheses. These results not only validate the theoretical framework but also offer important insights into the factors influencing students' acceptance of Blackboard for English writing activities. A key finding was the strong mediating role of ATU in shaping BI. This relationship aligns with previous studies by Mailizar et al. (2021) and Kuo and Yen (2009), confirming that students' willingness to adopt educational technology is significantly influenced by their overall attitude toward the system. The study further found that this attitude is itself shaped by perceptions of usefulness and ease of use, suggesting a cascading effect where positive evaluations of the system's functionality translate into favorable attitudes and ultimately greater intention to use. This finding reinforces the importance of considering affective factors when examining technology adoption in educational settings. For example, students enjoy using Blackboard LMS, describing it as a positive idea to use this tool.

The analysis revealed PU as another critical factor influencing technology acceptance. The significant impact of PU on ATU, which in turn affects BI, supports earlier research by Alhumsi and Alshaye (2021) and Chang et al. (2012). This suggests that students are particularly motivated to adopt Blackboard when they perceive clear benefits to their English writing performance. These findings have important practical implications, indicating that highlighting the system's advantages for academic work could significantly enhance adoption rates. Educators and platform designers might therefore focus on demonstrating how specific Blackboard features can improve writing outcomes.

Perhaps the most influential factor identified was PEOU, which emerged as the strongest predictor of multiple constructs including PC, PU, and ATU. This finding, consistent with studies conducted by Binaymin et al. (2017) and the Alhumsi and Alshaye (2021), underscores the fundamental importance of usability in educational technology adoption. When students find a system intuitive and straightforward to navigate, they are more likely to perceive it as both convenient and valuable. This suggests that institutions should prioritize user-friendly design and provide adequate training to minimize technological barriers that might hinder adoption.

The study's incorporation of PC extends traditional TAM frameworks and provides valuable new insights. The significant relationship between PEOU and PC indicates that students' perceptions of a system's convenience are closely tied to its ease of use. This finding contributes to the growing body of research examining additional factors that influence technology acceptance beyond the core TAM constructs. The results suggest that in educational contexts, convenience considerations may play a particularly important role in shaping students' evaluations of learning technologies.

While these findings largely align with existing literature, some nuances merit discussion. The strong mediating role of ATU presents a slightly different emphasis from some earlier TAM studies (e.g., Davis, 1989) that highlighted more direct relationships between PU and BI. This variation may reflect contextual factors specific to this study's setting, such as the particular ways Blackboard is implemented at this university or cultural aspects influencing technology adoption. Such differences underscore the importance of considering contextual factors when applying theoretical models across different educational environments.

Conclusion

A significant improvement in education in academic organizations and institutions is made possible by the urgent application of contemporary information and communication technology advancements. The purpose of this study was to gauge how EFL students felt about the English language department's usage of Blackboard Collaborate in doing their writing activities, given the widespread use of LMS technology (such as Blackboard) in Saudi Arabian higher education institutions. Hence, this paper examined students' acceptance of Blackboard for English writing activities using the Technology Acceptance Model (TAM) as its theoretical framework. The analysis yielded several important findings that contribute to both theoretical understanding and practical implementation of LMS learning management systems. The results confirmed all six proposed hypotheses, demonstrating significant relationships between the key constructs of PEOU, PC, PU, ATU, and BI. Three major insights emerged from the analysis: First, ATU served as a crucial mediator between students' perceptions and their behavioral intentions, underscoring the importance of affective factors in technology adoption. Second, PU significantly influenced ATU, highlighting that students prioritize practical benefits when adopting educational technology. Third, and most notably, PEOU emerged as the strongest predictor, directly affecting PC, PU, and ATU, which emphasizes the fundamental role of usability in technology acceptance. In addition, the results clarified why LMS was accepted in one of the Saudi universities representing higher education institutions. It is important to note that by using Cronbach's alpha scale, this study helps to provide another high scale of reliability for TAM. Furthermore, this study shows a certain comfortable trend toward the implementation of LMS technology, which is new to Saudi Arabian higher education institutions. It is likely that this tendency has a big impact on the courses that students must take at the university level. Furthermore, the results of the study demonstrate the significant impact that online learning—as demonstrated by Blackboard—has on facilitating students' learning, improving their academic achievement, and the ease of use of such technologies. These results are consistent with the trend in higher education toward the integration of many learning modes for the best possible learning outcomes.

To strengthen the study's contribution regarding writing performance, the findings also indicate that Blackboard had a direct positive influence on students' academic writing development. The platform provided structured writing tasks, timely instructor feedback, and interactive writing spaces that enabled students to revise and improve their drafts more efficiently. Students reported that features such as discussion boards, file-sharing tools, and real-time collaboration enhanced their ability to generate ideas, organize content, and refine grammatical accuracy. The high levels of perceived usefulness and ease of use suggest that Blackboard not only facilitated access to writing activities but also supported

deeper engagement with the writing process itself. This implies that LMS-based writing instruction can improve writing quality by promoting continuous practice, scaffolded learning, and immediate feedback—elements that are essential for effective EFL writing development. The study's findings support the positive association among all of the constructs connected to the adoption of technology integration (Blackboard), which has pedagogical consequences. In addition, it is interesting to note that using tools like Blackboard in language skills is essential. Blackboard facilitates communication, teamwork, sharing of interactive learning resources, and individualized feedback, all of which improve language proficiency and engagement. Another implication is that instructors need to continue their professional development to learn more about motivational techniques, technology integration, and successful teaching practices. A technology-rich learning environment that supports students' learning and raises their academic accomplishment will be created by putting these implications into practice in the Saudi EFL context.

It is worth mentioning that there are certain limitations on the sample size of the current study, which includes students majoring in translation and English. It may be possible to expand the sample in future research by including professors and students from different departments. Furthermore, because the participants were students at Saudi Electronic University, the study's scope can be expanded to include participants from other Saudi Arabian higher education institutions. Since this study examined students' attitudes regarding utilizing Blackboard Collaborate to learn EFL academic writing, another concern is if alternative e-learning platforms, such as Moodle, would yield outcomes that are comparable. This might be an interesting topic for further research.

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Conflict of Interests

The author declares that there is no conflict of interests.

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