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Using the TPB model to determine factors affecting e-learning adoption in Jordanian higher education

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Abstract

The purpose of this study was to use the TPB Model to identify the variables influencing the adoption of e-learning in Jordanian higher education. The worldwide trend towards e-learning has resulted in considerable operational changes for Jordan's higher education institutions (HEI). There were 850 students in the sample. The proportionate stratified random sample approach was used to select them at random from the general population. To gather information, a questionnaire was developed. The tool's validity and dependability were guaranteed. An analysis of regression was done to evaluate the associations between the constructs. The findings demonstrated that attitude (AT), subjective norm (SN), and perceived behavioral control (PBC) significantly influence behavioral intention (BI). In light of the results, the researchers proposed rerunning the study in various contexts (such as additional Jordanian universities) in order to assess the validity of the enlarged research model. The sample could comprise both actual users of online learning and non-users in order to compare the findings and ascertain why e-learning is being adopted or not. The study's findings provide a framework for understanding the factors influencing faculty members' and students' intents to use e-learning at Jordanian institutions, which can be useful for students, policymakers, and system developers.

Keywords: Adoption, Attitude, Behavioral intention, E-learning, Perceived behavioral control, Subjective norm, Theory planned behavior.

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1. Introduction

Due to the rapid technological improvement in the sectors of information and communication, the world is changing in general and education in particular. As a result, modern education uses technology and the Internet, and e-learning has been accepted by higher education institutions (HEI) due to its benefits that boost educational effectiveness and quality [1-3]. Using e-learning in school results in a significant increase in our knowledge and information. In the area of education, a lot of fresh ideas have been introduced through the use of information technology. Together with the principles, instructors and students continue to face a growing number of obstacles [4, 5]. As a result, the role of the instructor has broadened and become more inclusive, turning the traditional classroom into a global classroom. Novel concepts like e-content, e-books, e-training, distant learning, and virtual classrooms are among the new ones that e-learning has introduced [2, 3, 6, 7].

E-learning technologies have a ton of benefits for education; they can provide quick access to knowledge, expedite locating and retrieving information, minimize time, effort, and expenses, and enhance overall academic performance. They can also help instructors and students create engaging learning environments that are independent of time and location [3]. To be able to create a flexible, interesting, and responsive learning environment and experience, ongoing academic development techniques in today's workplace increasingly make use of new technologies [7-9]. Additionally, the use of e-learning in the classroom can give students access to constantly updated knowledge and facilitate online interactions between students and teachers [2, 7, 8, 10, 11].

2. Research Problem

E-learning technologies are advancing the methods for disseminating and delivering knowledge. By overcoming the constraints of location and the amount of time needed to acquire and distribute information, they can significantly contribute to modernizing the educational system [3]. Despite the many studies and research studies that have been conducted on e-learning [3], rarely has research been done on the variables influencing a user's adoption of e-learning [3]. Most of the previous studies focused on the factors that affect the adoption of e-learning by teachers and administrators, although students have a major role in disseminating and applying e-learning [12]. Understanding the factors influencing any new system's adoption can help with its introduction and execution, which is crucial to ensuring user happiness [13]. Numerous studies have been done in the past on users in industrialized nations [14, 15], and very few studies in developing countries [14] the Middle East, and the Arab world [15]. Nonetheless, there is little evidence to suggest that studies conducted in affluent nations may apply to other areas [14, 15]. Regarding this, Jordan is making an effort to incorporate ICT into all areas, especially in the domains of education and higher education, where Jordan is thought to have one of the greatest systems in the area [3, 15]. Previous studies support the necessity for additional research on e-learning at Jordanian universities. The research problem is represented in the following question: What are the factors Affecting e-learning adoption in Jordanian higher education institutions (HEI)?

3. Literature Review

E-learning is a relatively new idea, but it has generated a lot of discussion and research in education as well as other areas. Research on e-learning generally focuses on two areas: its effectiveness and impact on the educational process, as well as comparisons with more conventional methods [16]. Compared to other research topics, including e-learning, there are still very few studies of the determinants affecting e-learning-related variables like acceptance, adoption, satisfaction, usage, and persistence of use [17]. Although e-learning systems are being used more often, Pituch and Lee [18] stated that there is little theory-driven research available that examines the causes of e-learning acceptance and use. The current literature only provides basic details regarding the experiences of the students [19] and their personalities [19, 20].

Moreover, finding studies on Jordanian students is much more difficult. Therefore, it is crucial to do a study on the variables influencing the uptake of e-learning. Understanding the elements that influence e-learning adoption can help to improve the adoption environment and support the creation of adoption promotion strategies [19]. This will help to improve understanding of the factors influencing teachers' and students' acceptance of e-learning at Jordanian institutions.

E-learning-related behavior is influenced by research on factors like “acceptance, adoption, and usage,” which frequently looks at four dimensions: the individual user, social pressure, system characteristics, and institutional problems [21]. But none of the studies that were analyzed incorporated these dimensions into a single study. Researchers looked into the impact of a few unique features of an e-learning system on e-learning adoption and acceptance [16, 18, 19]. For instance, they extended TAM to incorporate three attributes of a system: system functionality, interaction, and response time. Their analysis concentrated on the effects of these system components on the intentions of 259 college students to utilize an e-learning system. The results of this significant study supported the validity of TAM as a tool for examining user acceptability of new technology.

The functionality of the system, in particular, has had the biggest impact on users' intents to utilize it. All other system characteristics, including TAM's fundamental ideas, were crucial in determining intentions [18]. Due to the quick development of internet technology and the web-based environment, e-learning is seen as essential by all Arab countries. Using this type of education looks to be the answer to many problems relating to human growth, but it is not as simple as it first appears [8]. Due to the quick development of internet technology and the web-based environment, e-learning is seen as essential by all Arab countries. Using this type of education looks to be the answer to many problems relating to human growth, but it is not as simple as it first appears [4, 22]. The majority of e-learning materials are still created using traditional educational methods, and Jordanian government universities have used various approaches to establishing e-learning systems [4].

Most nations have embraced e-learning, and top colleges have put it into practice. Jordan will fall behind if it doesn't take proactive and sincere steps to implement this new educational system. Jordan is an ambitious nation, as are most, and it often considers using the right strategies in order to expand its educational system. As of today, this goal can only be accomplished by implementing the idea of "information and communication technology“ (ICT) and integrating various electronic and digital gadgets in nearly every aspect of Jordanian life, particularly at universities [4, 23]. Owing to the fact that e-learning improves educational quality and lowers student costs, applying it at institutions is essential. Additionally, because more students will accept this new approach, enrollment rates will rise. Because of this, there is an unavoidable need for universities to adopt new technology and increase their investment in doing so by building labs and/or specialized online learning facilities for their students [24].

The study came to the conclusion that the factors are crucial in influencing students' behavior intentions regarding the adoption of an e-learning system in Libya's colleges and recommended doing so [3]. The effects of influencing factors on learning outcomes were the study's main focus. It can help provide further insight into the students' behavioral tendencies. Future studies must take into account these elements to create a model that is both more thorough and still understandable. The study's primary focus on e-learning in Palestine's and Pakistan higher education institutions also obscures how employees generally feel about e-learning in corporate environments. Future research should examine how learners perceive corporate employees in order to compare and contrast these two types of samples. This study also makes this recommendation [2, 4].

However, Jordan has merely observed as this area of development—which is being fueled by the use of e-learning technologies to enhance the teaching and learning processes at both public and private educational institutions—has expanded since the year 2000 [3, 4, 9].

3.1. Behavioral Intention to Adopt E-Learning

A psychological notion called intention depicts a person's motivation as a conscious decision to try to engage in an activity [25]. The concept of intention dominates cognitive explanations of human behavior [25]. Since the early 1950s, the idea has been studied in the study of social psychology [26]. In the tripartite model of attitude, the "conative" or behavioral component is typically interpreted as intention [27]. As a result, measurements of attitude and intention are frequently used in conjunction to indicate a person's attitude [25]. This perspective demonstrates the close relationship between the two ideas [25]. Stated that BI is "a person's subjective likelihood that he will engage in some behavior" in TRA [25].

The TRA theory also asserts that a person's intention to engage in a particular conduct is influenced by their attitude and subjective norm toward that conduct. Later, perceived behavioral control (PBC) was introduced as a further main factor of BI by Ajzen [25]. For instance, an instructor's or a student's intention to adopt e-learning is influenced by their attitude toward doing so, their SN with regard to doing so, and their PBC with regard to doing so. The relationships between behavior intention and the research's hypothesized variables, that is attitudes (AT), subjective norms (SN), and perceived behavioral control (PBC), are supported by empirical data. For instance, a student's or an instructor's attitude toward adopting e-learning, their SN with regard to doing so, and their PBC with regard to doing so all affect their intention to do so. Empirical data support the relationships between BI and the research's hypothesized variables, namely attitudes, SN, and PBC. From a larger viewpoint, many meta-analyses of the TRA and TPB literature provided solid evidence in favor of these connections [28, 29].

A meta-analysis of studies on how individuals use technology was conducted [30] and found that 16 out of 17 studies that took into account the intention-behavior link produced results that were statistically significant. It has been discovered that intention predicts system utilization more accurately than rival predictors like realistic expectations, driving force, and satisfaction. Similar to this, the study by Jeyaraj, et al. [31] observed an overall link between intention and future behavior after reviewing a substantial body of literature (99 studies) on the adoption and spread of innovations based on IT. Nonetheless, there can occasionally be differences between intentions and actions [25, 32]. Time, for instance, might have an impact on a person's intention to do a certain activity. With passing time, it becomes more likely that unexpected events will affect intentions.

Huang, et al. [33] conducted a field study in Taiwan with a valid sample size of 224 doctors. The study's findings show that the research model can accurately predict whether or not doctors will use the Medline system (the proposed TPB could successfully explain doctors' acceptance of the Medline system with an explanatory power of.51). The deconstructed TPB may be a trustworthy study model for predicting physicians' intentions to adopt information technology, according to this suggestion. The adoption of ICT innovation, including understanding and usage of it, at Nigeria's higher education institutions [32, 34].

The integration of the desire to utilize a particular technology with the actual utilization of that technology in a number of technology acceptance and use models forms the theoretical basis for behavioral intention. Because intention is a good predictor of use, it is therefore considered that if someone has the intention to utilize ICT, they will likely do so. Although relatively modest, the adoption rate among university professors. Abbasi, et al. [26] performed a cross-sectional survey with 504 full-time professors employed at public and private universities offering higher education. It was discovered that because the internet is still a relatively new phenomenon in Pakistan, academics have difficulty navigating and utilizing it. Lack of familiarity with internet processes and procedures has a detrimental impact on academics' inclination to use it, making them frustrated when utilizing it and unable to reap the benefits of its purported use.

The results imply that expecting people to behave in an accepting manner based just on TAM's constructs is insufficient when presenting new IT technology. According to Almahamid and Abu Rub [35] survey, Jordanian respondents from Petra University (PU) are pleased with the existing e-learning system and intend to keep utilizing the

current system. To encourage students to adopt e-learning technologies, Jordanian universities should focus more on the need for a continuous intention to do so. They could also provide incentives for students.

3.2. Attitude

According to Ajzen [25], attitude is a “disposition to respond favorably or adversely to an item, institution, or event." According to the latter method, attitude is made up of three parts: affective, cognitive, and behavioral. Eagly and Chaiken [36] offer the most recent definition of attitude that is consistent with this tripartite stance; they define attitudes as "tendencies to judge an item with some degree of favor or disfavor, generally reflected in cognitive, affective, and behavioral reactions." The cognitive reactions cover attitudes, ideas, and thoughts related to the attitude object. With respect to attitude objects, people's feelings, moods, and emotions are referred to as the affective component. The overt behaviors and behavior intention that people exhibit in regard to the attitude object make up the behavioral or conative responses and Attitude has frequently served to explain human behavior [36]. But a lot of research has shown that attitude is a pretty poor predictor of actual behavior [25]. The seminal work on attitude by Fishbein and Ajzen [37] is one of the many lines of inquiry that made an effort to fix the tenuous link between attitudes and conduct.

The primary aims of the Fishbein and Ajzen [37] study were to comprehend attitudes and forecast behavior. Their work is significant because it gave the subject of attitude research and its measurement the respect they both deserved. Furthermore, their attitude theory has received considerable validation and been shown to be reliable [38].

A big step forward in the understanding of attitude was made by Ajzen and Fishbein [39], who distinguished between beliefs, attitudes, and intents. Formerly, attitude was understood to be a multi-component construct that included all of a person's practices in relation to an aim, including beliefs, feelings, and propensities for action. According to Ajzen and Fishbein [39] formulation, the concept of attitude is only comprised of the affective component. Their theory identifies these occurrences independently as conceptions linked with attitude instead of recognizing beliefs and BI as components of the attitude idea.

More precisely, attitudes are seen as being determined by beliefs and BI, as well as their effects. Consequently, despite the fact that attitudes are sometimes considered to have all three components, researchers typically only evaluate and treat the evaluation, or "affective component," as being the core of attitude [39].

According to Ajzen and Fishbein [39], beliefs about an object have an impact on attitudes toward it. People establish attitudes about an object by instinctively and simultaneously connecting it with multiple attributes, leading to opinions about that object. By way of explanation, people will develop a favorable attitude toward something they perceive as having positive qualities, and they will develop a negative attitude towards something they perceive as having positive qualities [39]. To put it another way, the person associates the thing with a variety of traits and develops ideas about the object, other people, organizations, behaviors, events, etc. [37]. These convictions serve as the main factor influencing a person's attitudes. These are the fundamental components of attitudes. According to Ajzen and Fishbein [39], one can have a lot of ideas about a certain thing, but they can only focus on a relatively limited subset of those views at any given time, which they refer to as salient beliefs. In this sense, a person's salient opinions about something influence how they feel about it [37]. As an illustration, consider how a student's attitude toward adopting e-learning depends on his ideas about doing so.

The students’ attitudes will largely be positive if these beliefs link their actions to positive qualities and outcomes. In contrast, if the student contacts e-learning with undesirable qualities and outcomes, a negative attitude will be held. According to Ajzen and Fishbein [39], attitude can indirectly affect behavior by persuading BI to engage in that conduct. Strong empirical evidence backs up the validity of attitude as a BI predictor [29]. 309 students' acceptance of e-learning in the context of using it for public jobless vocational training was evaluated by TAM using this method. Huang et al. [40] found a significant influence of attitude on students' BI to adopt e-learning. Comparable to the Egyptian students used in this study, attitude was also discovered to be a significant factor in the likelihood of accepting e-learning [41]. In a similar vein, Park [42] discovered attitude to be a crucial factor in BI's decision to adopt e-learning in Korea. The intention of students to use the technologies of “Web 2.0” to enhance in-class learning was also strongly influenced by attitude [43]. The factors impacting students' increasing intention to use online learning systems were examined by Kim, et al. [29] using an integrated technology acceptance model (TAM) and the theory of planned behavior (TPB). The findings of this study show that attitude (AT) significantly influences behavioral intention. In other words, students' intentions to adopt new technology will be positively impacted by their attitudes toward it [3, 29, 42, 44, 45]. In this study, e-learning will be used as a complement to explain actions. In light of the material reviewed here, both theoretical and empirical, it is therefore hypothesized that:

H_1: Attitude will affect the students BI to adopt e-learning.

3.3. Subjective Norm

According to Hartshorne and Ajjan [43], the procedure of adoption is primarily a process of communication that includes several social impact mechanisms. Even if they may not have a favorable opinion of the conduct or its effects, a person may decide to act in a certain way if they believe that significant individuals think they should [39]. Within the Fishbein and Ajzen [37] theoretical framework, this kind of social influence is known as the subjective norm. However, the concept of SN provided by Ajzen and Fishbein [39] is more constrained than the social psychology definition of norms. Sociologists use the term "norms" to describe a broader range of acceptable behaviors or general principles and guidelines that are not always required [36]. According to Ajzen and Fishbein [39], a person's subjective norm (SN) refers to “his

perceptions that most people who are important to him think he should or should not perform the behavior in question." According to the Ajzen and Fishbein [39] concept, the "important others" are those people who have an impact on a person's conduct in a certain domain [36]. However, SN might or might not represent what significant others genuinely believe the person should do.

According to TRA [37], the likelihood that someone will plan to engage in a behavior increases if they believe significant individuals in their lives think they should, regardless of what the relevant referent actually thinks about doing the activity. In other words, people are assumed to have the intent to act in ways that they believe their significant others will expect them to act. On the other hand, if they think it's vital that others don't engage in the conduct, they'll make an effort not to, according to Ajzen and Fishbein [39]. In the literature, the impact of SN on BI performance behavior is well established [42].

Intention to use an online course is significantly predicted by subjective norm, according to Park [42]. Similar findings were made by Saadé, et al. [46], who looked into students' opinions and usage of an online course. They discovered that SN was strongly and favorably related to BI's decision to utilize the course [42]. It was also discovered that the most powerful factor influencing BI's adoption of e-learning was SN. Moreover, SN played a major role in predicting students' propensity to use Web 2.0 tools to support classroom instruction [43]. Instructor's acceptance of e-learning was examined by Yuen and Ma [47]. Nevertheless, they did not discover any statistically significant SN influence on intention. According to Venkatesh and Davis [38], only in forced settings does subjective norm matter; in optional ones, it doesn't. In addition Shaheen, et al. [2] and Kim, et al. [29] found a statistically significant effect of SN on intention in a study to investigate student's e-learning acceptance in universities. The following hypothesis was developed in light of the abundant empirical data supporting SN's significant influence on BI, despite the fact that the effect of SN on BI is still unclear:

H_2: "Subjective Norm will affect the students BI to adopt e-learning."

3.4. Perceived Behavioral Control

Ajzen [25] added the extra construct of perceived behavioral control (PBC) to account for explaining non-volitional acts: "people's perception of the ease or difficulty of performing the behavior of interest" [25]. PBC refers to an individual's perception of how simple or complex an action will be to carry out, which is based on the availability of the necessary knowledge, tools, and opportunities' [48]. PBC expressly hypothesizes that constraints may prevent behavior from being performed both in the desire to do so and in the actual execution. It is crucial to keep in mind that TPB measures perceived control over behavior rather than actual control over conduct. According to Ajzen [25], control elements can be either internal (such as abilities, willpower, skills, and compulsions) or external (opportunity, time, limitations imposed by the environment, and reliance on others, etc.,).

According to Terry [49], internal effects, such as self-efficacy views, are related to an individual's own capabilities and restrictions and are "focused primarily on consideration of control factors that emerge from the person rather than from external control factors." On the other hand, external limitations are elements that are outside of the person's control, such as social support from others and the availability of resources needed to carry out the desired action. Psychology and ISM research both provide theoretical and empirical evidence for this line of thinking. Key dependent factors, including intention and behavior, have been demonstrated to be impacted by PBC in a number of different domains [4, 25].

Also, a number of meta-analyses have offered proof of how PBC affects intention. For example, Godin, et al. [50] studied 75 TPB applications and found that PBC and intention had an average sample-weighted correlation of 0.46. After adjusting for TRA variables, PBC predicted intention in 65 studies in their review and, on average, explained an additional 13% of variation. Many researchers have used TPB to study behaviors related to technology and discovered that PBC is a major predictor of intention [2, 51, 52]. Perceived behavioral control (PBC) was found to be significant in predicting intentions to utilize a Blackboard system in an e-learning study [4, 29, 45].

Chia, et al. [53] Conducted research in Singapore on the factors influencing non-users' intentions to utilize the eLearning. The researcher looked at the impact of various internal and external control factors as potential indicators of people's future intentions to use the internet. Their research revealed that the most important precursors to BI's internet adoption were control factors. This suggests that PBC had a crucial part in helping them make the decision to go online [18]. Discovered that PBC has a significant role in BI's decision to continue using e-learning systems.

The factors impacting students' increasing intention to use online learning systems were examined by Kim, et al. [29] using an integrated technology acceptance model (TAM) and theory of planned behavior (TPB). The results of this study demonstrate that behavioral intention is significantly influenced by perceived behavioral control (PBC). In light of this, the following is hypothesized:

H_3: Perceived Behavioral Control will affect the students BI to adopt e-learning.

3.5. Theoretical Framework

TPB, an extension of Ajzen [25] Theory of Reasoned Action (TRA), served as the framework for this study. TPB is a popularly used model for analyzing the impact of e-learning adoption on university instructors and students [33]. TPB uses perceptions of behavioral control, subjective norms, and attitudes to predict "intention" with a considerable amount of accuracy. It is based on the premise that purpose and perceived behavioral control can predict behavior more accurately than other models when combined [25]. The requirement that the behavior to be anticipated must be under volitional control is a key premise of TRA, as initially stated. Due to the fact that so few behaviors are entirely within our control, the

theory's range of behavior is severely limited [25]. He refined the TRA model by including the antecedent of purpose, Perceived Behavioral Control (PBC), and called it the Theory of Planned Behavior (TPB), as seen in Figure 1.

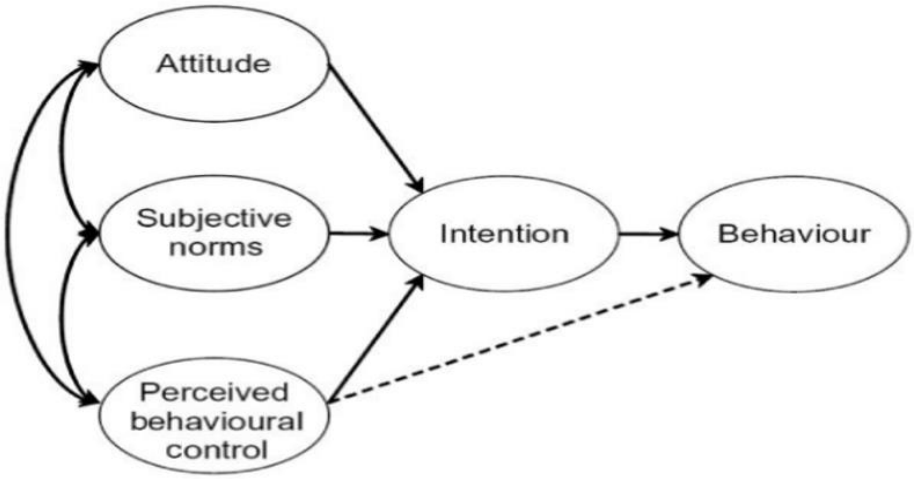

Figure 1.
Theory of planned behavior (TPB).

The TPB, which is depicted in Figure 1, is a broader interpretation of the TRA model. TPB states that a person's attitude, subjective norm, and PBC together make up their behavioral intention. However, it was also discovered that people's actual behaviors were directly impacted by their perception of behavioral control [54]. Based on the idea of planned behavior, the research's theoretical framework is shown in Figure 2 [25]. This complete theory uses three dimensions to explain every behavior. It was demonstrated that TPB was more specific than TAM, TAM2, and TRA.

The TAM model no longer incorporates the subjective norm present in the theory of planned conduct. A valuable conceptual framework for understanding technology use is the theory of planned behavior [33]. While TPB has been used to explain adoption, the Theory of Reasoned Action, Technology Acceptance Model, and Extend of Technology Acceptance Model are used to anticipate acceptance (behavior) given an individual's intention to accept. The desire to adopt e-learning as a behavior is the dependent variable. E-learning adoption refers to the arbitrary acceptance of e-learning by student and instructor. According to the theoretical framework, attitude, SN, and PBC are the three aspects that most strongly influence a student's decision to use e-learning. The first dimension, attitude, describes how students feel about adopting e-learning, whether positively or negatively (evaluative affect). SN refers to the opinion of the student's important people regarding whether or not they believe that the student should adopt e-learning, and it identifies the social effects of that adoption. PBC stands for the obstacles to e-learning adoption and relates to how easy or difficult e-learning adoption is thought to be.

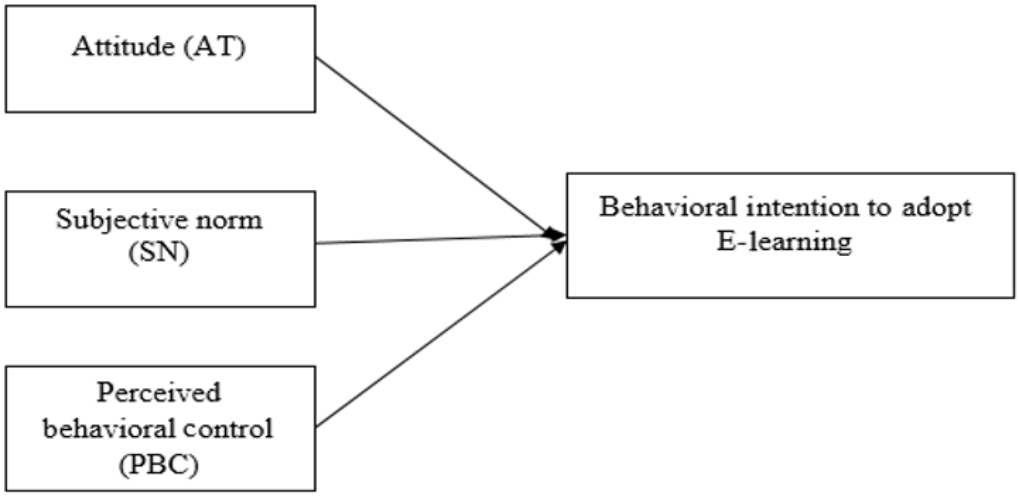

Figure 2.
The basic theoretical framework.

4. Research Methodology

The descriptive survey methodology was employed by the researchers since it was the most suitable approach for this study. The questionnaire was used to gather information.

4.1. Research Population and Sample

All Jordanian university students, both those attending public and private institutions, make up the study's population. The population of this study consisted of 344,796 university students with various specializations. Students who have taken

part in e-learning at Jordan's public and private universities make up the study's sample. The method of stratified random sampling was used to choose the samples. 850 university students were chosen from the general public, according to Sekaran [55], who calculated the sample size from the population.

4.2. Research Design

In this study, an electronic questionnaire was utilized. Responses to a five-part questionnaire were evaluated. The demographic information on students addressed in Part One includes gender, age, university, speciality, internet experience, and frequency of use. Six items derived from [17] are used in Part Two to assess the intention to adopt e-learning. In section three, attitudes regarding online learning are evaluated using five questions from [56]. In parts four and five, five items each from [37, 38, 52, 57] are used to measure perceived behavioral control and subjective norm. The survey's questions were graded on a Likert scale of 1 to 5, with 1 being the highest disagreement and 5 representing the strongest agreement. The survey's questions were graded on a Likert scale of 1 to 5, with 1 being the highest disagreement and 5 representing the strongest agreement. Table 1 shows the data analysis of study factors.

Table 1.
Mean and standard deviation of the study factors.

Factors	Items	Mean	Std. dev.
BI	BI1	2.68	0.71
	BI2	2.69	0.72
	BI3	2.70	0.69
	BI4	2.49	0.65
	BI5	2.79	0.71
	BI6	2.70	0.72
	Total	2.69	0.70
AT	AT1	3.3	0.80
	AT2	3.2	0.82
	AT3	3.23	0.84
	AT4	3.01	0.82
	AT5	3.04	0.87
	Total	3.15	0.83
SN	SN1	3.12	0.79
	SN2	3.07	0.89
	SN3	3.18	0.86
	SN4	2.77	0.88
	SN5	3.20	0.85
	Total	3.05	0.86
PBC	PBC1	3.00	0.83
	PBC2	3.2	0.76
	PBC3	3.3	0.81
	PBC4	3.2	0.77
	PBC5	3.01	0.82
	Total	3.13	0.81

Using the statistical software SPSS, it was possible to determine the questionnaire's reliability. Table 2 demonstrates the Cronbach Alpha reliability for the overall degree (0.84). The reliability coefficients' values were all between (0.88-0.80). According to Hair, et al. [58], a Cronbach alpha value of 0.8 is considered acceptable, which is a high level and improves the accuracy, appropriateness, and comfort of using and accomplishing the study's objectives. Consequently, the survey is thought of as a reliable measurement tool.

Table 2.
Cronbach alpha.

Scale	Cronbach alpha
BI	0.88
AT	0.86
SN	0.81
PBC	0.80
Total	0.84

4.3. Research Findings

The study employed SPSS software to examine its hypotheses. An analysis of 720 valid surveys produced an approximate 84.7% response rate. Regression analysis was used to evaluate the hypothesis "H1: Attitude will affect the students BI to adopt e-learning." Table 3 summarizes the regression analysis that was done to assess the hypothesis.

Table 3.
Hypothesis1 results.

Factor	B	Standard error of β	t	P	R^2
AT	0.314	0.044	6.045	<0.01	0.247

As can be observed, behavioral intention (BI) has been considerably influenced by attitude (AT) (P 0.01). As a result, AT affects BI. As a result, hypothesis (H1) is supported.

Table 4.
Hypothesis2 results.

Factor	B	Standard error of β	t	P	R^2
SN	0.409	0.132	4.102	<0.01	0.125

According to Hypothesis 2 (H2), the regression analysis demonstrates that behavioral intention (BI) and subjective norm (SN) are both significantly influenced (P0.01). The findings in Table 4 show that SN significantly affects BI.

The examination of Hypothesis 3 (H3) demonstrates, as shown in Table 5, that Perceived Behavioral Control (PBC) significantly influences behavioral intention (BI) (P < 0.01). PBC consequently has a significant effect on students' behavioral intentions (BI).

Table 5.
Hypothesis3 results.

Factor	B	Standard error of β	t	P	R^2
PBC	0.329	0.048	5.627	<0.01	0.240

Table 6 presents the results of evaluating the study hypotheses. The results showed that there is a statistically significant correlation between the anticipated orientations of the and students' behavioral intentions (BI). Overall, the obtained evidence supported three of the hypothesis.

Table 6.
The summary of hypothesis testing.

	Path	Path coefficient	T-value	Result
H1	AT →BI	0.25	2.12	Supported
H2	SN → BI	0.49	4.10	Supported
H3	PBC →BI	0.29	5.62	Supported

5. Discussion

The findings indicated that three factors had an effect on the behavioral intention of students' to adopt e-learning.

These factors are the students' attitudes toward adopting e-learning, their SN with regard to doing so, and their feelings of control over doing so. The presence of classmates and teachers places the learner directly under their direct control in the traditional learning environment. According to the TPB theory [2, 25, 59, 60], people may engage in particular conduct even though they do not have a positive attitude towards it because they believe that an important other expects them to do so and they are motivated to do so. In a semi-mandatory situation, the instructor might ask the students to use e-learning, and even if they have negative opinions about it, the students typically abide by this request. Venkatesh and Davis [38] consult the process behind this SN action for amenability.

It is commonly accepted that the intention is directly impacted by SN's effect on compliance acts in an environment comparable to the classroom "whenever an individual perceives that a social actor wants him or her to perform a specific behavior and the social actor has the ability to reward the behavior or punish non-behavior [35]. Consequently, SN appears to matter more in the traditional face-to-face situation, although this impact may be diminished in circumstances where specific social groups (instructors and peers) aren't having a significant impact. The students' attitude toward using e-learning had a statistically significant impact on their intention to do so. This demonstrates that the demands of the students themselves are probably more important than other factors in the decision to accept online education. This outcome is consistent with past research by Zandi, et al. [3]; Altawalbeh [8]; Altawallbeh, et al. [9]; Budu, et al. [60]; Yang and Su [61] and Qashou [62], which found that attitude significantly influenced intention. The study's findings demonstrated that PBC had a considerable impact on students' intentions to adopt e-learning. Additionally, the students' perception of their ability to govern e-learning was not great, according to the descriptive data.

6. Recommendations

Considering the findings, the researchers suggested repeating the study in several settings (such as other Jordanian universities) in order to evaluate the expanded research model's validity. In order to compare the results and determine why e-

learning is being embraced or not, the sample could include both genuine users of online learning and non-users. One of the more reliable statistical methods that can be used to analyze the study model is called Structural equation modeling (SEM).

With the aid of this study, policymakers and university administration may address the conditions and problems under discussion and create a system that allows students to express their interest in using the e-learning system in a particular way.

In order to strengthen the system, bring about better decision-making, and raise system efficiency, as well as foster student faith in the adoption of e-learning and technology, this research will assist management in putting those tactics into practice. This study is a supplement to the e-learning system that Libyan universities must upgrade in order to focus on system adoption and acceptance by upgrading their learning management system.

7. Conclusion

The higher education institutions (HEI) in Jordan have undergone significant operational changes as a result of the global trend towards e-learning [6, 8, 9]. Yet, the use of e-learning has brought up a number of difficulties, most notably user acceptance. The results of this study, like those of research that is comparable to it [3, 29, 61], showed that TPB may be used as a valuable theoretical foundation to predict and comprehend users' intents toward e-learning. Also, it was proven that fostering a good attitude toward technology, especially among students, is crucial for inspiring students to want to use it in their learning environments.

The study's findings give students, policymakers, and system developers a framework for understanding the variables impacting faculty members' and students' intentions to use e-learning in Jordanian universities. In order to explain the university students' intention to use e-learning, this study developed a model. The theory of planned behavior [3, 4, 25, 29, 59, 62] which was developed to describe generic human behavior, serves as the foundation for the model.

Two points can be used to sum up the implications of these discoveries for promoting e-learning among students. First off, it would be foolish to think that students in this situation have full influence over the adoption of e-learning. Thus, it is crucial to evaluate the students' access to and proficiency with technology before making a bold decision to offer e-learning. Second, because PBC is significant, in order to improve the acceptance of e-learning and to give students more influence over their engagement, efforts should be made. This can be accomplished by raising their level of digital self-efficacy, eliminating challenges with access, and providing necessary assistance.

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