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The Relationship among Perceived Quality, Perceive Control, Perceived Usability, Student Satisfaction, and Persistence of Intention to Use Web-Based Distance Learning Systems in Iraq Educational Institutions

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ABSTRACT

This study investigates the factors influencing the intention to utilize web-based distant learning persistently in Iraqi distance-learning universities. After a comprehensive examination, it was determined that perceived quality, perceived control, perceived usability, and satisfaction is significant characteristics that could influence the persistent intention to utilize web-based distance learning. The study employed cross-sectional research in which 400 distance-learning university students completed a self-administered survey questionnaire to obtain data. The "quantitative research approach and Partial Least Square (PLS)-Structural Equation Modeling (SEM)" was used to examine the influence of perceived quality, perceived control, perceived usability, and satisfaction on the intention to use a product persistently. Persistent intention to use was demonstrated to be directly and indirectly affected by perceived quality, perceived control, perceived usability, and satisfaction. Therefore, with these findings, the research has provided substantial material to the existing literature, which can help the author investigate the topic in a novel approach. In addition, many distant universities and learning centers that provide distance learning services may conduct comparative research with diverse student/user groups. Studies undertaken in these environments could contribute to the proliferation of web-based distance learning systems, which are gaining popularity among corporations.

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Introduction

Globally expanding in popularity, distance learning eliminates the temporal and spatial constraints associated with conventional means of education. The primary objective of distance education is not just to improve the quality of education while reducing its cost and making it more economical (Bates, 1997). The most common modalities of distance education delivery are "synchronous and asynchronous" (Nuryatin, Zulaeha, & Handoyo, 2021). In addition to face-to-face learning, industry, and academics successfully employ distance learning with positive outcomes (Al Rawashdeh et al., 2021). Consequently, remote learning is a method of education in which the teacher and student do not need to be in the same room simultaneously. (Bozkurt, 2019). In keeping with this trait, the concept of remote learning has received multiple new and distinct definitions following advanced models, understandings, and technology since its origin (Bagci & Celik, 2018). Since distance learning has no time or location constraints, all learners have equal access to materials and a more democratic learning environment (Girginer, 2001). Users can learn at any time and in any location, allowing them to study independently and regardless of the specified start time of a session. The student and the computer interact most frequently in the distance learning setting. The student is provided with a customized learning environment based on their particular preferences. To meet the educational needs of persons who, for various reasons, cannot benefit from traditional schooling, a method known as distance learning was devised (Altıparmak, Kurt, & Kapıdere, 2011).

Therefore, it is vital to have a greater understanding of the framework of such a system, which continues to expand due to enormous expenditures made worldwide in terms of time and money. Panigrahi, Srivastava, and Sharma added to the argument's strength (2018). Despite the numerous benefits of distance learning, such as expanded accessibility of training and education, improved quality of education, decreased cost, and enhanced cost-effectiveness of learning, retaining students on these systems is a key issue with a high attrition rate. For the objective of recruiting and engaging students, several strategies, such as briefing, buddying, and providing feedback on the platform, have been suggested (Panigrahi et al., 2018). Due to the lack of or restriction on the teacher's capacity to add a personal touch, it may be challenging to maintain students' engagement and interest in the delivered subject (Prensky, 2002). The perceived quality (PEQ), perceived control (PEC), and perceived usability (PEU) could boost student satisfaction, hence increasing their intent to employ distance learning web-based programs (Lee, 2010).

According to the findings, this is the case. Perception not only shapes how we comprehend the world around us but also permits us to participate in that environment actively. Understanding human behavior necessitates a deep understanding of perception due to the individual variances in how people perceive the world and respond to the numerous difficulties of life (Mezirow, 1990). As a result, previous research has placed a larger emphasis on these components to increase student happiness, which will help to increase the intention to use. Žabkar, Brenčič, and Dmitrović (2010), for instance, stated that PEQ is an important signal that can indirectly raise the choice to use. In a further study, De Meyer et al. (2016) posited that PEC could indirectly influence the desire to utilize when student satisfaction levels rise. However, Udo, Bagchi, and Kirs (2010) discovered that PEQ and PEC have a positive and statistically significant effect on SAT.

They claimed that these indicators might indirectly improve the intention to use. Keeping in mind the significance of previous indicators, there are still gaps in the literature, indicating the need for additional research. Previous research focusing on these indicators and other nations has paid little attention to Iraq, where distance learning classes are in their infancy (Lu & Chiou, 2010; Roca, Chiu, & Martínez, 2006).

On the other hand, earlier research has focused on the individual influence of intention to use or other variables, while PEC, PEQ, PEU, and SAT on persistent intention to use (PIU) have received scant attention (Li & Shang, 2020; Schifter & Ajzen, 1985; Zhao & Lu, 2012). Moreover, the results of the prior investigations are inconsistent (De Meyer et al., 2016; Li & Shang, 2020; Oghuma et al., 2016; Udo et al., 2010). There is a need for research on these variables and the mediating influence of the SAT, as indicated by the gaps. Therefore, this study aims to investigate the mediating effect of SAT on the relationship between PEQ, PEC, PEU, and Iraqi distance-learning persistence.

It has already been noted that developed nations place a high focus on this issue; nevertheless, while developing or undeveloped nations have made tremendous strides in integrating distance learning platforms into higher education, impoverished nations have yet to effectively adopt such technology (Tarus, Gichoya, & Muumbo, 2015). In the bulk of Middle Eastern educational systems, the deployment of distance learning has been noticeably delayed (Al-Azawei, Parslow, & Lundqvist, 2016). Numerous academics have highlighted substantial barriers to effective e-learning integration in higher education (Al-Azawei et al., 2016; Ali & Magalhaes, 2008). Consequently, while evaluating the benefits of remote learning as a strategy for enhancing educational delivery, barriers to adoption should also be assessed, especially in countries such as Iraq, where relevant research is few. Surprisingly, Iraq is the latest Middle Eastern nation to accept improvements in distance education (Al-Azawei et al., 2016; Matar et al., 2011). estimate that less than one percent of the Iraqi population has an internet connection. As a result, Iraq is at the tail end of the big ICT revolution in higher education. The "Iraqi Ministry of Higher Education and Scientific Research" (MHESRI) has recently taken significant steps to acclimate this sector. At the same time, e-learning implementation strategies are constrained compared to traditional learning approaches. The global distance learning market is projected to reach $65.41 billion in 2023, expanding at a cumulative average growth rate of 7.07 percent, demonstrating the e-learning market's growth (Research and Markets, 2018a). In addition, the global market for learning management systems (LMS) is expected to increase by 15.52 percent from $5.05 billion in 2016 to $18.44 billion in 2025. However, Iraq is still in its infancy (Mirza & Al-Abdulkareem, 2011).

The primary objective of this project is to investigate the relationships between various organizational structures and to develop an ongoing strategy for utilizing a web-based platform for distance education. The "Technology Acceptance Model (TAM)," "Expectation Disconfirmation Theory (EDT), and Theory of Reasoned Action (TRA)" were found to be the three main theoretical frameworks that these models were based on when they were examined in the literature for models associated with a continuing intention to utilize web services (Ajzen, Albarracin, & Hornik, 2007). In this study, the model was improved through experimentally validated model strengths. Therefore, this study contributed to the existing body of literature by offering noteworthy research findings.

Literature Review

Theoretical Review

Technology Acceptance Model and Expectancy Disconfirmation Theory

The study's core structural model comprises the Technology Acceptance Model (TAM) and the Expectation Disconfirmation Theory (EDT). TAM (Davis, 1989) examines the factors influencing user decisions regarding new technologies. Van der Heijden (2004) initially proposed TAM as a supplement to TRA. TRA is a well-known social psychology paradigm that asserts a person's conduct is determined by their purpose to engage in an activity, attitude toward the activity, and subjective standard. TRA arises from observation, with a propensity to engage in a particular set of behaviors as a precursor for actual activity (Ajzen et al., 2007). Their views towards the activity determine a person's attitude toward an activity. A person's behavioral proclivity is established when this attitude is mixed with subjective norms, such as views learned from surroundings concerning attitude (Ajzen et al., 2007).

According to the Technology Acceptance Model, perceived ease of use and perceived usefulness (PEU) are the two most influential factors in accepting technological advances. PEU relates to the extent to which an individual believes a system can be used without expending physical or mental effort. In contrast, perceived usefulness refers to the degree to which an individual believes a system can assist them in enhancing their work performance. Like TRA, perceived usefulness and perceived usability influence an individual's decision to utilize a system. This outlook, in turn, affects whether or not a person will begin using the system in question (Hamid et al., 2016). Numerous experimental experiments support the existence of this causal relationship (Mathieson, 1991; Venkatesh, 2000). To make TAM more complete, structures such as computer self-efficacy and online self-efficacy, as well as subjective standards, have been incorporated (Bhattacherjee, 2000).

Disconfirmation of Expectation Theory, sometimes called EDT, is a popular consumer behavior model used to measure and explain consumer SAT and repurchase intention. According to EDT by Chan et al. (2003), the consumer compares the performance they received after purchasing or employing a product to the performance they anticipated before making the purchase. Confirmation is gained if the comparison reveals that both performances are equivalent (Devebakan, 2006). In this scenario, the desired consequence is fulfillment.

Empirical Review

Perceived Quality and Perceived Usability

The perceived usability structure's "perceived ease of use (PEU) and cognitive absorption" components were investigated. According to Saadé and Bahli (2005) and Teo and Noyes (2011), both PU and PEU remain crucial components of the TAM's dynamics. In addition to PU, PEU has also been the research subject (Chen, Shing-Han, & Chien-Yi, 2011; Saadé & Bahli, 2005). PEU actively participates in software and information systems (Agarwal & Karahanna, 2000). The term "pleasure" refers to the personal satisfaction of utilizing a computer system and the technology's supportive function (Davis, Bagozzi, &

Warshaw, 1992). According to Benbasat and Barki (2007), CA influenced PU and PEU considerably. Perceived pleasure is one definition of PEU (Gomez, Wu, & Passerini, 2010). In addition to PU and PEU, the literature also uses the component of perceived pleasure. Teo and Noyes (2011) demonstrated that perceived quality influences PEU. A separate study also determined that perceived quality has a favorable and significant effect on perceived usability. Islam (2012); Lin (2010) demonstrates a significant relationship between PE.U and perceived system quality. In a study examining the effect of perceived quality on educators' continuous intent to deploy motivation and e-learning systems, perceived quality was found to have a significant impact. According to Cheng (2011), perceived quality influences perceived usability significantly. Based on the discussion thus far, the following research hypothesis is formulated:

H1: The perceived quality and perceived usability have a positive and significant relationship.

Perceived Control and Perceived Usability

Perceived control (PEC) is defined by Bandura (2002) as a person's perceptions their judgments and ability to choose the organization and strategy to follow to achieve desired performance levels. PEC is discovered here, from the standpoint of information systems, the user's judgment of their computer skills in connection to attaining the set objectives. This perspective allows for independent consideration of internet self-efficacy and computer self-efficacy. A person can successfully demonstrate a set of required behaviors to utilize the internet or for its utilization without having core knowledge of computers (Eastin & LaRose, 2000). According to Cheng (2011), Internet experience is another factor that may influence e-learning. E-learning may affect a user's basic technological skills when using the internet. According to Hong, Cheng, and Liau (2005) online experience influences how individuals perceive control over their behavior. Teh and Yong (2011) evaluated Internet and computer self-efficacy under information-sharing self-efficacy. Wu and Zhang (2014) afocused on the computer and online self-efficacy components in their research on perceived control structure. Bhuasiri et al. (2012) evaluated "online experience, internet self-efficacy, and computer self-efficacy under the aspect characteristics of users" in their study on the success factors for e-learning in developing nations.

According to research by Hwang and Yi (2002), there is a connection between PEU and computer PEC. According to Davis et al. (1992), who developed the notions of PEU and PU based on the PEC, which is also considered self-efficacy, PEU is related to the theory of self-efficacy, which is defined as a person's estimation of how well they can complete the tasks they would be assigned in the future. Experimental research has demonstrated a causal relationship between PEU and computer self-efficacy (PEC). Specifically, Venkatesh and Davis (2000) found that PEU was directly influenced by computer self-efficacy (PEC). Similar to this, prior TAM research has shown that PEC influenced PEU (Strong, Dishaw, & Bandy, 2006). According to Igbaria and Iivari (1995), PEC had an immediate effect on PEU but none on PU. Using the frameworks of "e-learning self-efficacy" and "online self-efficacy," Holden and Sinatra (2014) and Grandon, Alshare, and Kwun (2005) determined the influence of consumers on technological acceptance (Ma & Liu, 2004). Consequently, based on prior discussion, the hypothesis is that;

H2: perceived control significantly affect perceived usability.

Perceived usability and satisfaction

Mammadov (2019) defines satisfaction (SAT) as "the dissatisfaction resulting from the mismatch between individual expectations and the perceived performance of a product or service" (Bagci & Celik, 2018). Lindgaard (2007) defines user SAT as "the subjective result of an interactive activity or experience" that is emphasized as a vital aspect of retaining customers (Kotler & Armstrong, 1994). Bhattacherjee (2001) has established that PU substantially influences the SAT. Hayashi et al. (2004) found a correlation between the PU and SAT in three distinct online learning environments. Rai, Lang, and Welker (2002) discovered in their analysis of the success model in information systems that PU and PEU have a small but discernible effect on user SAT. Urbach and Müller (2012) hypothesized that perceptions of the usefulness and quality of information influence user satisfaction. Woszczynski, Roth, and Segars (2002) devised a paradigm that theorizes playfulness in computer interaction. It has been discovered that user satisfaction may result from enjoyable behavior and that a user who enjoys more may be more content. Lin, Wu, and Tsai (2005) found a link between the SAT and the perceived playfulness of a website. According to research by Joo, Lim, and Kim (2011), the SAT scores of students enrolled in online university courses were related to PU, PEU, and cognitive presence. The link between PU, PEU, and SAT was experimentally examined in several studies (Wang, Lin, & Liao, 2012; Wen, Prybutok, & Xu, 2011). According to the earlier discussion, the following hypotheses have been demonstrated:
H3: perceived usability significantly affects satisfaction

Satisfaction and use of Continuance Intention

Previous research has demonstrated that SAT positively affects buying intent (Bitner, 1990; LaBarbera & Mazursky, 1983). Early analysis of the SAT information system revealed a link between these structures (Chiu & Wang, 2008). Using the SERVQUAL scale to gauge the quality of e-learning, Udo, Bagchi, and Kirs (2011), discovered that user satisfaction influenced their propensity to continue utilizing e-learning platforms. Limayem and Cheung (2008), proved a connection between these structures.

H4: Satisfaction is significantly associated with web-based distance learning's persistent intention to use.
H5: Satisfaction significantly mediates the relationship between perceived quality, perceived usability, and web-based distance learning intention.
H6: Satisfaction significantly mediates the relationship between perceived control, perceived usability, and the persistent intention to use web-based distance learning.

Research Methodology

This study employed quantitative research and cross-sectional research methodologies. This investigation involved two steps for this strategy. During the first step, a review of the relevant literature, the approach employed, and the conceptual framework were chosen. In the second step of this research model, hypotheses were identified, and data were collected. The collection of data required

the application of an evaluation technique. The questionnaire for the investigation was developed from earlier studies. The satisfaction (SAT) was measured in the research variables' components using four questions drawn from the study (Ejdys, 2022). The persistent intention to use (PIU) was determined by adapting four questions from the study (Ejdys, 2022). The perceived quality (PEQ) was measured by five items adapted from the study by Ailawadi, Neslin, and Gedenk (2001), and perceived control (PEC) was measured by five items taken from the study by Ailawadi, Neslin, and Gedenk (2001). Perceived usability (PEU) was measured by seven items taken from the study by Flavián, Guinalíu, and Gurrea (2006). When adapting the instrument's items to the English language and translating them into the Iraqi language, the questionnaire, as pre-tested by specialists in the field of educational sciences, was examined to confirm the validity of the data collection method. In a cross-cultural study, the translated items must have the same stimulation as the originals and be equivalent (Przeworski, 1970). Cronbach's alpha coefficients were used to test the reliability of each subscale, and Partial Least Square (PLS)-Structural Equation Modeling was utilized to analyze the causal linkages based on the suggested theoretical model (SEM). All the items were evaluated using a five-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree).

After confirming the instrument's content validity, the questionnaire was distributed to university students in a web-based distance learning system. We employed both probability and non-probability sampling strategies. Probability sampling is favored when the research population is known, and there are ample resources. However, when the population is known and there are limited resources, non-probability sampling is preferable (Sekaran & Bougie, 2016). The present study employed a non-probability sampling method using a straightforward sample strategy. This instrument was distributed to 500 students. However, only 400 questionnaires were returned, which is a sufficient sample size (Bougie & Sekaran, 2019). After data collection, information was encoded in an Excel spreadsheet in preparation for data analysis.

Data analysis and results

Measurement Model

In this study, the PLS-SEM approach was utilized. PLS-SEM is, without a doubt, the most prevalent technique in quantitative research (Ahmad et al., 2020). It computes measurement errors and addresses the mistake of forecasting relationships. Additionally, the model can be examined as a whole rather than focusing solely on certain links. This differs from typical regression analysis (Henseler, Ringle, & Sarstedt, 2015). PLS-SEM was utilized to test and analyze the proposed model. PLS-SEM is one of the most popular quantitative research packages (Hair Jr et al., 2017). It has numerous benefits regarding distribution criteria, variable kinds, sample size, and evaluable model complexity (Hair, Ringle, & Sarstedt, 2012). PLS-SEM, unlike CB-SEM, works well with complex models and makes no assumptions about the data (Hair et al., 2012). PLS-SEM makes use of two primary models, measurement and structural. The discriminant and convergent validity of the model's measurement are initially examined. Cronbach's alpha, factor loadings,

average variance, and composite reliability (CR), which were established, might be used to determine convergent validity (AVE). Cronbach alpha should be more than or equal to 0.7, factor loadings should be similar to or greater than 0.5, CR should be equal to or greater than 0.7, and AVE should be equal to or greater than 0.5. (Hair et al., 2012). All of the projected values in Table.1 are greater than the proposed values, demonstrating that the construct meets the criteria for convergent validity.

Table.1

Convergent validity

Construct and Indicators	Loadings	AVE	CR	Chrohnbach Alpha
Persistent Intention to Use (PIU)		0.714	0.892	0.874
PIU1	0.784			
PIU2	0.894			
PIU3	0.912			
PIU4	0.894			
Perceived Quality (PEQ)		0.794	0.894	0.847
PEQ1	0.894			
PEQ2	0.741			
PEQ3	0.854			
PEQ4	0.824			
PEQ5	0.784			
Perceived Control (PEC)		0.707	0.907	0.871
PEC1	0.850			
PEC 2	0.789			
PEC3	0.888			
PEC4	0.842			
PEC5	0.784			
Satisfaction (SAT)		0.772	0.920	0.901
SAT1	0.744			
SAT2	0.785			
SAT3	0.784			
SAT4	0.790			
perceived Usability		0.737	0.894	0.840
PEU1	0.758			
PEU2	0.825			
PEU3	0.875			
PEU4	0.847			
PEU5	0.784			
PEU6	0.779			
PEU7	0.944			

The third criterion for a measurement model is discriminant validity. The discriminant validity can be evaluated according to three standards. Fornell and Larkar demonstrate that all diagonal values must be greater than the minimum (Fornell &

Larcker, 1981; Hair Jr et al., 2017). Cross-loading is the following criterion; in cross-loading, all values must be loaded on their respective constructs, and factor loadings of each item must be equal (Hair Jr et al., 2017). Hetrotrait Monotrait Correlation is the third criterion (HTMT). This is the expanded discriminating validity criterion proposed by Henseler et al. (2015), and the construct correlation for the HTMT should not exceed 0.85 or 0.90. (Henseler et al., 2015). All values were less than 0.85, and Fornell & Lacker values are bigger than those below, indicating that the construct possesses discriminant validity. In Table.2, the researcher gave just Fornell & Larcker data.

Table.2

Discriminant validity

	PIU	PEQ	PEC	SAT	PEU
PIU	**0.784**				
PEQ	0.421	**0.894**			
PEC	0.450	0.452	**0.784**		
SAT	0.452	0.742	0.572	**0.786**	
PEU	0.452	0.742	0.572	0.452	**0.894**

As demonstrated in Tables 1 and 2, these conditions, i.e., loadings, reliability, and validity, have been satisfied, thus validating the measurement model. The degree of multicollinearity was then computed with a variance inflation factor (VIF). A VIF greater than 5 is regarded as a sign of multicollinearity worry (Hair et al., 2017). Every single VIF score was below 5. This study contains no multicollinearity as a result. The CMB was then analyzed using VIF. Because all VIF values were less than 3.3, CMB was not classified as a concern (Kock, 2015).

Structural Model

The structural model is examined when the measurement model has been determined to be satisfied. Figure.1 depicts the structural model's results, which are also reported in Table.3. The structural model investigates R^2 (coefficient of determination), f^2 (effect size), Q^2 (predictive relevance), and model fit assessment. R^2 denotes the predictive power of the model. PLS-SEM variance (R^2 values) were retrieved at 0.56, which shows 56 percent, which is within acceptable ranges for the predictive strength of the model (Hair et al., 2017) The t and p scores are used to determine whether or not the scores are significant. Two had low t and p scores (t 1.96 and p > 0.5) and are hence negligible. The p score can show the existence of an effect but not its size (Hair et al., 2017). In PLS-SEM, f^2 allows you to evaluate the effect magnitude of each path. f^2 values of 0.35, 0.15, and 0.02 indicate large, moderate, and minor effects, respectively (Hair et al., 2012). The study's effect size was under the above-recommended values. In PLS-SEM, Q^2 was tested using the blindfolding process. Q^2 values above zero indicate that the model is predictively relevant (Hair et al., 2017). The Q^2 scores were greater than zero, demonstrating the model's predictive relevance for the latent endogenous variables. After the model fit, the hypothesis was tested using the bootstrap 5000 resampling technique.

Table.3

Direct and Indirect effect results

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
PEC-> PEU	0.193	0.186	0.053	22.447	0.000
PEQ -> PEU	0.468	0.446	0.077	6.093	0.000
PEU -> SAT	0.706	0.706	0.029	24.307	0.000
SAT -> PIU	0.948	0.949	0.014	67.441	0.000
PEC -> PEU -> SAT-> PIU	0.799	0.794	0.056	14.34	0.000
PEQ -> PEU-> SAT-> PIU	0.313	0.299	0.056	5.62	0.000

The expected regression findings are presented in Table.3 indicates that perceived quality (PEQ) positively and substantially affects perceived usability (PEU), supporting the stated hypothesis. The perceived control (PEC) likewise exhibits a favorable and statistically significant effect on PEU, supporting the recommended theory. Similarly, the PEU has a favorable and statistically significant impact on satisfaction (SAT), supporting the stated hypothesis. In other words, the SAT has a positive and statistically significant effect on persistent intention to use (PIU), supporting the hypothesized theory. On the other hand, web-based distance learning is indirectly affected positively and significantly by all variables through the mediating effect of SAT. The projected outcomes are displayed in Table.3 and Figure.1 below.

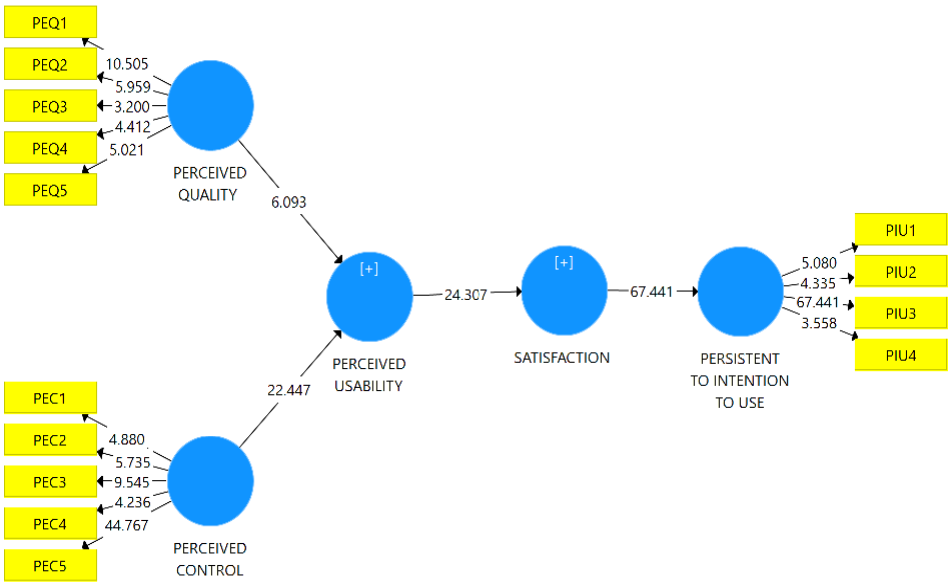

Figure.1: *Regression Model*

Discussion and Contributions

Due to the advent of the internet and communication, web-based distance learning programs, and other factors, there are now numerous study methods. These platforms administer the majority of web-based distant learning. These systems have numerous names and learning settings. Among the learning environments are harmonized education, M-learning, virtual learning, and vastly enhanced learning environments. Providing effective learning environments using e-learning tools is essential. Due to advancements in the Internet and learning environments, e-learning is moving consumers further away from third parties throughout the learning process. These environments are now more socially engaging and include users in the learning process due to Web 2.0 and Web 3.0.

Consequently, it is essential to investigate the factors influencing users' intentions to continue using the selected e-learning systems. In this work, the structures that may affect the PIU of an e-learning system have been investigated by examining the relevant literature in the context of previous studies and analyses, as well as by employing Partial Least Square (PLS)-Structural Equation Modeling (SEM). The link between perceived quality (PEQ), perceived control (PEC), perceived usability (PEU), satisfaction (SAT), and persistent to-use intention (PUI) were examined for this aim (Chiu & Wang, 2008; Wang et al., 2012). The structures of the Technology Acceptance Model (TAM) and the Expectancy Disconfirmation Theory (EDT) were combined with new structures. The regression analysis revealed that PEQ has a positive and substantial effect on PEU. This demonstrates that PEU is more relevant than PEQ. These results are consistent with prior research (Ali et al., 2022; Daryanto, 2022). In contrast, the PEC had a positive and statistically significant effect on the PEU, indicating that the PEC is also an essential predictor for the PEU. This demonstrated that as PEC increased, PEU increased as well. These findings are backed by prior research (Anastasia & Santoso, 2020; Putwain & Aveyard, 2018). In contrast, the PEU has a positive and substantial relationship with satisfaction (SAT). As PEU is defined as the degree to which people are confident that technology can be used easily, PU is the extent to which people believe technology can be advantageous (Davis, 1989). Based on these data, it can be concluded that public university students are more adaptable to web-based learning, which they find satisfying. Existing literature uncovered identical outcomes (Calisir & Calisir, 2004; Daud et al., 2018). In contrast, the data indicate that the SAT has a favorable and significant effect on PUI. According to Salim et al. (2021), the SAT's total impact is stronger on PUI. The results contradict earlier research (Haddad, 2018). In Iraq, SAT is more relevant than PU regarding the user acceptability of E-web-based learning systems. This is consistent with the results of Ohliati and Abbas (2019). This implies that Iraqi university students are satisfied with web-based-distance learning technologies, which has enhanced their desire to use them. In addition, the indirect impact demonstrated that PUI is also indirectly affected by PEQ, PEC, and PEU via the mediating influence of SAT, indicating that these variables are extremely important for PUI and have both direct and indirect effects.

This study identifies the elements influencing university students in Iraq's intent to continue using e-learning. Students' attitudes toward web-based distant learning systems

can be enhanced based on the study's findings mentioned above. Students' PEQ, PEC, PEU, and SAT scores should be the primary emphasis of colleges planning to implement web-based learning. This will assist in increasing their interest in web-based distance education. Some outputs of this study's analysis qualify as innovations due to the formation of a new model by integrating existing analysis models from prior results. Some findings of this investigation are listed below.

The research provided a substantial amount of theoretical and empirical literature. According to the researcher's best knowledge, this study is a pioneering effort alongside PEQ, PEC, PEU, and SAT to improve the Web-based distance learning system. This research could also aid future researchers in understanding the significance of this topic for their research. This research can also assist in bridging the gap between academia and education to increase the significance of web-based distance learning systems and students' attitudes toward them. In addition, the findings of this study are useful for providing information to the library and remote learning providers so that they can improve their services. Numerous variables, such as PEQ, PEC, PEU, and SAT, may influence a student's commitment to distance learning. Although the study has validated the hypotheses, extra research may be undertaken to zero down on a single factor or another user subgroup. This finding would benefit the deployment of web-based distant learning in university settings. Therefore, it is hoped that the research will advance in web-based remote learning at universities. In addition, the study could help policymakers and regulatory authorities of universities understand the significance of the aspects that can boost students' intentions to participate in web-based distance learning systems.

Limitations and Future directions

For future research on the factors influencing the intention to utilize web-based learning, it will be necessary to conduct further empirical investigations and repeat this study with a new population. That might map and identify the progenitor of perpetuation purposes for specific web-based remote learnings for a particular user group. The same study paradigm can likewise be applied to a different technology implementation or system for information science research in other nations or cultures. This study will enrich the information and conclusions of various castigations and present various element patterns for the perpetuation of particular technologies or systems. Future research might be conducted using a longitudinal research design because this study primarily utilized a cross-sectional research style in which data was obtained all at once, hence decreasing the generalizability of the research. Future studies should rely mostly on longitudinal designs to maximize the generalizability of research.

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