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Influence of Technical Support on Technology Acceptance Model to Examine the Project PAIR E-Learning System in Distance Learning Modality

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Adopting technology in this new normal education improved students' engagement and motivation to learn. This paper aimed to investigate the impact of technical support on Technology Acceptance Model to examine Project PAIR (Portable and Accessible Instructional Resources) in the distance learning modality employing Partial Least Squares-Structural Equation Modeling. Applying a convenience sampling technique, the investigation involved 305 senior high school learners from a secondary school in Cagayan, Philippines. Sample sizes were calculated using the inverse square root and gamma-exponential methods. Results showed that technical support directly impacts the perceived ease of use, usefulness, and attitude toward using. The findings also revealed that the perceived ease of use of PAIR has a direct impact on its perceived usefulness and attitude toward use. In contrast, perceived usefulness directly influences the attitude toward using and behavioral intention to use. Likewise, attitude towards using directly impacts the behavioral intention and actual use, while behavioral intention directly influences actual use. This paper concluded that technical support is a reliable external variable of the technology acceptance model. Hence, the application of PAIR for remote learning is strongly recommended for the school and the public. It is also recommended that the schools must ensure that they have provided technical support to ensure the PAIR functioning runs appropriately. Further implications for institutions and future studies are also discussed in this paper.

Introduction

The COVID-19 outbreak has created substantial barriers and affected educational institutions worldwide. A distance learning approach has been developed since each country's response, such as community lockdown and quarantine, has resulted in students not going to

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schools and teachers working from home. The learning intervention will be implemented via online, television, radio, and printed materials, as the government restricts face-to-face interaction (Amir et al., 2020; Caratiquit, 2022; Lassoued et al., 2020).

With the commitment of delivering quality education to the students, the Department of Education in the Philippines adopted printed materials as one of the options for distance learning. A self-learning module will be given to every student that can be completed without the assistance of teachers (Agaton & Cueto, 2021). As a result, educators spent considerable time developing and printing modules and learning activity sheets for distribution to students in the classroom (Caratiquit & Pablo, 2021). Additionally, as contact with other stakeholders responsible for module distribution increases, individuals are exposed to health and safety issues. Some teachers may even encourage them to ride exhaustingly across rocky, muddy, or uneven terrain or across rivers to deliver materials to their students in various conditions (Alea, 2020; Bassok et al., 2021).

Technological developments and innovations have contributed to the advancement of educational options during the outbreak (Alqahtani & Rajkhan, 2020). These encounters emphasize the importance of utilizing new media, such as the e-learning platform, which enables the collecting and organizing knowledge in a digital format to maximize advantage (Lynch, 2020). E-learning platforms have become a viable alternative to traditional learning in a different field and are predicted to have an innovative effect, particularly in low- and middle-income nations (Ruggeri et al., 2013). Digital learning is described as the process of delivering education via computer technology, either online or offline (Moore et al., 2011). Its objective is to build knowledge effectively by applying individual experience, practice, and knowledge (Shanahan, 2008). E-learning includes web learning, computer-aided learning, online classes, and digital collaboration, to name a few.

Distance learning and computer-assisted instruction are two types of e-learning. In contrast to traditional approaches, computer-assisted instruction is an interactive methodology in which a workplace and students' progress delivering educational content is monitored and assessed throughout the course (Moore et al., 2011: Caratiquit & Caratiquit 2022). Numerous academic analyses have demonstrated the effectiveness of digital instruction as an instruction technique (Favale et al., 2020; Rotimi et al., 2017; Radha et al., 2020). Researchers discovered that incorporating technology like electronic books and internet articles into the classroom boosted students' involvement in the learning process (Jena, 2020; Rotimi et al., 2017)

One secondary school in Cagayan, Philippines, developed Project Portable and Accessible Instructional Resources (PAIR), an e-learning platform of modules, learning activity sheets, video and audio lessons, and quarterly examinations, both web-based and android-based. Through the platform, teachers, parents, and students can access instructional resources anywhere, anytime, even beyond office hours, if there is an internet connection. Everything learners need, like modules, learning activity sheets, video, and audio lessons, will be available through the application. Unfortunately, with this current technology adaptation, there has been no empirical study of the acceptance of the said platform.

The researchers would propose a model based on Davis, Bagozzi, and Warshaw (1989)'s Extended Technology Acceptance Model (TAM) to examine the variables influencing Project PAIR's adoption as an e-learning system in the new normal of education. The objectives of this paper are to determine the current use of Project PAIR in the distance learning in a secondary school in Cagayan, Philippines, identify other external factors influencing Project

PAIR in the distance learning in a secondary school in Cagayan, Philippines, and develop a model for Project PAIR in the distance learning in a secondary school in Cagayan, Philippines based on the TAM.

Project PAIR E-Learning System

Project PAIR stands for Portable and Accessible Instructional Resources, is a web and mobile-based tool that provides students and teachers with free and convenient access to learning materials such as modules, activity sheets, video lessons, and audio lessons. In addition, the platform can also be used to administer quarterly examinations.

Through the e-learning platform, the school department can save time, money, and effort. The platform eased the problems encountered last school year wherein teachers were sending the file of modules to the respective Group Chats or Facebook Pages of the learners. Consequently, learners were confused because there was no organized way of compiling the learning resources. In response to this, the project allowed for a more regulated and organized distribution of modules, as it is divided into strands and is arranged by track, namely, Academic, Arts and Design, and Technical-Vocational-Livelihood. When students access the PAIR, they select their track and strand, and all their subjects are readily available. Each track or strand offered a different collection of subjects such as Core, Applied, and Specialized.

PAIR can also be used as a teaching tool extending beyond the classroom walls in terms of teaching and learning. Teachers can post useful educational links and other teaching materials in the PAIR, accessible to students. Aside from serving as a distribution platform for teaching materials, the PAIR will also serve as the school's examination portal, where quarterly exams, summative tests, and quizzes are administered.

Instructional materials developed by teachers in the school, such as video lessons, audio lessons, activity sheets, or worksheets, were posted and downloaded on the platform, making them more accessible to learners. Project PAIR also served as a database and storage of learning resources.

Prior research indicated that an educational technology tool surpasses other social media platforms in educational usefulness for students (Deepika et al., 2021; Deng & Tavares, 2013; Gismalla et al., 2021; Caratiquit, 2021). This is because the e-learning platform is a self-contained, online platform that can be accessed at any time. Through computer-aided learning, the scope of what can be accomplished in a traditional classroom setting can be expanded. Students can use the system to locate links to educational materials and other resources provided by their teachers. Apart from collecting instructional resources, it will serve as a platform for the school's quarterly evaluations, summative assessments, and other student feedback forms (Fitzgerald et al., 2021; Kristanto & Mariono, 2017).

Besides, instructors and students can exchange and download classroom resources such as videos, audio courses, activity sheets, and worksheets. Apart from that, it will gather educational content. Further, students and other school stakeholders can also submit requests for technical support for the learning tools they are using.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information-systems theory that outlines how customers acquire and utilize modern technology. The concept was developed to investigate the impact of usage intention in a variety of scenarios and user demographics (Teo et al., 2008). It is founded on Ajzen and Fishbein's Theory of Reasoned Action (1980). Al-Suqri et al. (2015) reported that individuals' intents to engage in a particular act or behavior are influenced by their attitudes toward the relevant conduct or behavior and societal standards and expectations. The perspective establishes the objective, and the purpose controls the actual action.

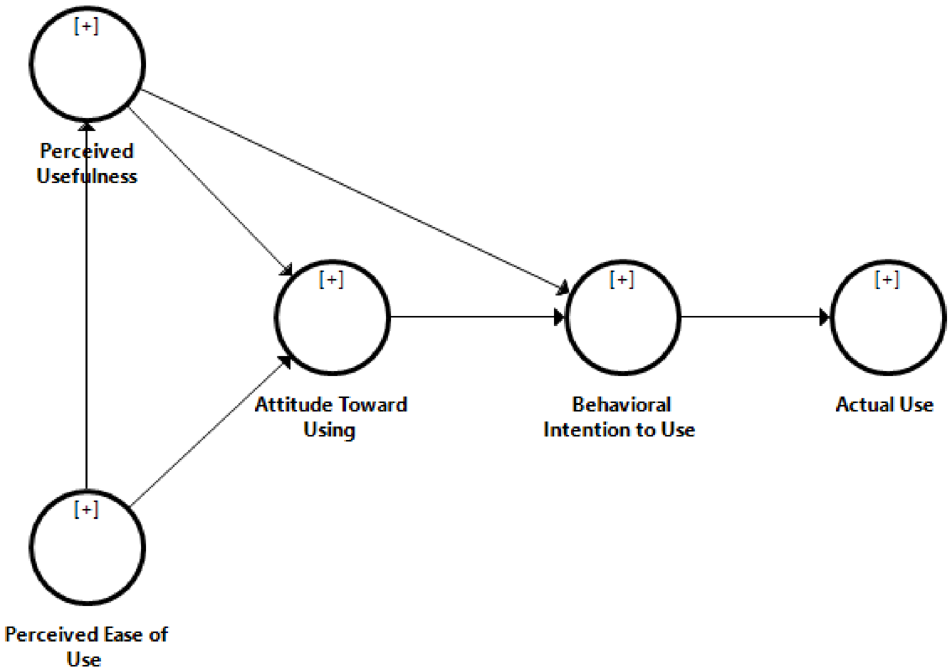

Figure 1. Davis' (1989) Technology Acceptance Model (TAM)

According to the developers of TAM, perceived ease of use (PEOU) and usefulness (PU) are critical parts of customer adoption of technology (Davis, 1989; Bagozzi et al, 1992). The perceived ease of use (PEOU) is well-defined as one's confidence in the ease with which a specific technology may be implemented. Davis (1989) characterizes a person's belief that deploying one specific system will increase job performance as a desire for useful technology that is simple to use. The model makes use of various constructs like attitude toward using (ATT), behavioral intention to use (BI), and actual use (AU) to explain the association of the two constructs.

According to Ajzen and Fishbein (1977), attitude toward using (ATT) has either favorable or unfavorable behavior when a system is used. TAM believes that the perceived ease of use (PEOU) and usefulness (PU) influence how clients see technology utilization. Corresponding to this concept, when technology is useful and simple to use, the probability of acceptance increases. It is characterized as one's intentional choice to engage in or refrain from future activities (Davis, 1989). TAM argues that perceived usefulness (PU) and attitude toward using (ATT) have a positive impact on behavioral intention to use (BI). Users are more sensitive to perceived usefulness when they believe new technology will benefit them. According to Davis (1989), users' behavioral intentions (BI) influence actual use (AU). When users are enthusiastic about technology, it is more likely to be accepted.

TAM was chosen as the study's model since it is presently the most extensively used and extensively employed model of information technology adoption (Lee et al., 2003; Venkatesh & Davis, 2000). In recent years, TAM has become a tool for cultivating students and teachers about education technology (Fathema et al.,2015; Jang et al., 2021; Mustafa et al., 2022; Park, 2009; Park et al.,2022; Unal & Uzun, 2021). This paper aimed to investigate the effect of technical support on TAM to examine Project PAIR in the distance learning modality. The five original TAM components were discussed in this investigation as being impacted by one external variable.

Technical Support

The proposed external construct of TAM referred to as technical support (TS), affects how individuals perceive the ease or complexity of accomplishing a task (Fathema et al., 2015). Technical support, according to Venkatesh and Bala (2008), is connected with users' control perceptions increasing the provision of institutional resources and associated structures required for system usage. The term technical support in this research describes the accessibility of teachers and instructors in providing technical assistance, training, and online instruction for the utilization of Project PAIR.

Prior studies on learners' acceptance of various technologies indicate that technical support contributes to user acceptance (Panda & Mishra, 2007; Teo, 2010, 2012). Numerous researchers have discovered that technical support affects teachers' and learners' adoption of computing technology (Chen & Chen, 2021; Kumar & Ayedee, 2021). As demonstrated by Ngai et al. (2007), operating assistance has a substantial effect on perceived ease of use (PEOU), usefulness (PU), and attitude toward utilizing a technology (ATT). Thus, it was anticipated that instructors' technical support (TS) towards PAIR influenced students' perceived ease of use (PEOU), usefulness (PU), and attitude toward using (ATT).

Research Model and Hypotheses

According to AlQudah (2014), technical support directly influences technology acceptance. Sánchez and Hueros (2010) and Ngai et al. (2007) also discovered the same results. They found that technical support influences perceived ease of use and usefulness. Therefore, technical support was included in this paper as an antecedent variable to the original TAM to increase the learners' understanding of Project PAIR acceptability. According to the prior studies investigated by the researchers, perceived ease of use and usefulness were commonly utilized in directly correlating with technical support. Thus, the researchers would consider this gap to explore further the influence of technical support on perceived ease of use and usefulness during this new normal of education and include it as a predictor of attitude towards the use of PAIR.

Furthermore, the studies mentioned above were conducted before the COVID-19 pandemic that is why the researchers would also consider this gap that there is a need to investigate the educational technology tools in this new normal of education.

The proposed model is presented in greater detail below.

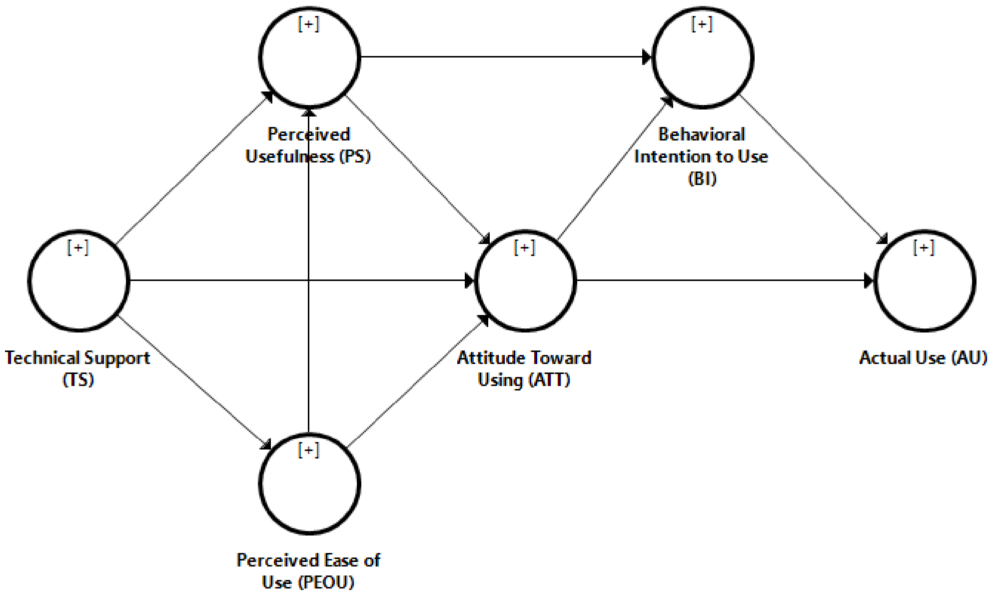

Figure 2. Proposed Structural Equation Model

Based on prior literature and studies investigated, the hypotheses were formulated.

(1) Technical Support (TS) has a beneficial impact on PAIR's perceived ease of use (PEOU).
(2) Technical Support (TS) has a beneficial impact on PAIR's perceived usefulness (PU).
(3) Technical Support (TS) has a beneficial impact on attitude (ATT) towards PAIR use.
(4) Perceived ease of use (PEOU) positively impacts PAIR's perceived usefulness.
(5) Perceived ease of use (PEOU) positively impacts attitude (ATT) towards PAIR use.
(6) Perceived usefulness (PU) has a beneficial impact on attitude (ATT) towards PAIR use.
(7) Perceived usefulness (PU) has a beneficial impact on behavioral intention (BI) to use the PAIR.
(8) Attitude (ATT) towards using PAIR has a beneficial impact on behavioral intention (BI) to use.
(9) Attitude (ATT) towards using PAIR has a beneficial impact on the actual use (AU).
(10) Behavioral intention (BI) has a beneficial impact on PAIR's actual use (AU).

Methods

The study was quantitative in nature and employed a causal approach. This paper aimed to examine the impact of technical support on the Technology Acceptance Model to evaluate the Project PAIR E-Learning System. The platform is an online and mobile app that provides free and convenient access to educational resources like quizzes, modules, worksheets, and instructional videos to students and teachers. Additionally, the construct parameters were assessed applying the Partial Least Squares – Structural Equation Modeling (PLS-SEM) method.

Participants

This study focused on 305 Grade 11 senior high school learners who were enrolled in a secondary school in the Division of Cagayan, Cagayan, Philippines. The students were

PAIR users in distance learning who were selected using a convenience sample technique. The data collection started in November 2021 and ended in February 2022.

The challenge of determining the required sample size in PLS-SEM is critical. Even though it regularly produces erroneous estimates, the "ten-time rule" has long been popular due to its ease of application (Kock & Hadaya, 2018). Meanwhile, they also investigated the three Monte Carlo experiments to indicate that the inverse square root and gamma-exponential techniques are more accurate than ever. So, the two methods were proposed in this paper. As seen in Table 3, the baseline total sample size will be between 206 and 220. As a result, the sample size is sufficient for the suggested model to draw conclusions and achieve at least 0.8 percent statistical power.

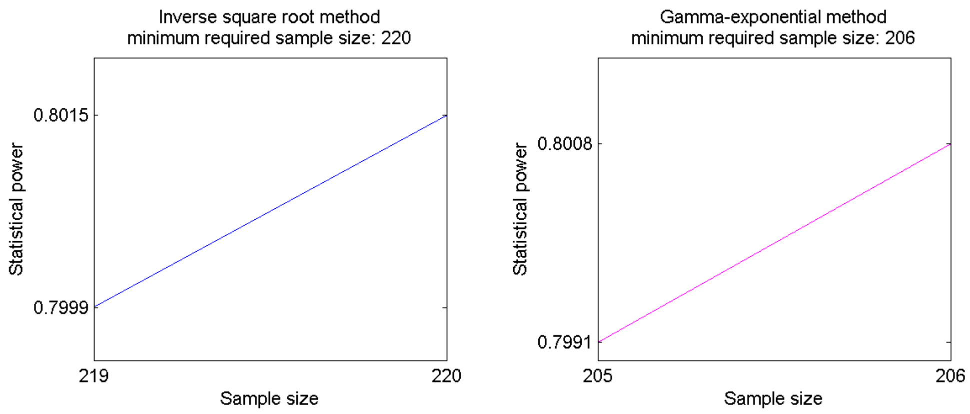

Figure 3. Results of the Required Sample Size

Table 1 shows that most respondents were 17-18 years of age (65.7 percent). Furthermore, 61.3 percent of those who responded were female. Regarding monthly family income, the majority of the respondents have less than 10 000 (76.4 percent). Besides, most respondents (76.4 percent) were enrolled in the academic track.

Table 1. Attributes of the Respondents

Levels	Frequency	Percentage
Age		
16-below	83	27.4 %
17-18	199	65.7 %
19-20	11	3.6 %
21-above	10	3.3 %
Sex		
Female	187	61.3 %
Male	118	38.7 %
Monthly Family Income		
10,000-29,999	55	18.0 %
30,000- 59,000	11	3.6 %
60,000 and above	6	2.0 %
Less than 10, 000	233	76.4 %
Senior High School Track		
Academic Track	233	76.4 %
Technical-Vocational-Livelihood Track	72	23.6 %

Research Instrument

Since face-to-face education is still restricted in the locale of the study, the data was accumulated via a Google Forms survey. The component of the questionnaire is divided into three sections, namely: (1) Introduction (2) Demographics Profiles (3) Survey Questionnaire. The survey questionnaire is a widely used scale for assessing the revised Technology Acceptance Model (TAM), consisting of 21 statements that are weighed on a seven-point Likert scale derived from an earlier research paper (Fathema et al., 2015). Meanwhile, the items were rephrased to make them more contextually appropriate to the current research (e.g., "I find the PAIR APP to be easy to use"). In the original study, the internal reliability reliabilities for all the measures ranged from.875 to.963. Thus, the scale is acceptable for the study.

Data Analysis

The PAIR was statistically evaluated using Technology Acceptance Model (TAM). PLS-SEM and SmartPLS 3.0 were employed in the analysis. SmartPLS is a well-known PLS-SEM software application created by Ringle et al. (2005) that is used in a wide scale of applications.

On the other hand, PLS-SEM is an advanced multivariate statistical analysis procedure that can find correlations between a large number of variables (Haenlein & Kaplan, 2004, Wong, 2013). PLS-SEM is a modeling method that would not make assumptions about data distribution. PLS-SEM is preferred to CB-SEM in the following circumstances: small sample size, applications with dubious theoretical foundations, and the necessity to produce exact predictions (Wong, 2013). Parametric significance tests like those employed in regression analysis cannot be utilized to establish the significance of outer weights and loadings and path coefficients, among other parameters, since PLS-SEM makes no hypotheses about the normality of the data. That is not the case with PLS-SEM, which assesses path coefficients using a nonparametric procedure known as bootstrapping (Davison & Hinkley, 1997). Thus, PLS-SEM was considered in this paper.

Results

Reliability and Validity Measurements

Two types of validity assessment are frequently employed in PLS-SEM data analysis: convergent and discriminant validity. As Barclay et al. (1995) specified, the degree to which constructs within a model differ from one another is referred to as discriminant validity. The construct should explain an immense variation with a lower measurement error than other constructs. Numerous PLS models are validated using AVE square roots and cross-loadings (Fornell & Larcker, 1981).

Composite reliability measures the reliability of the construction process that is frequently used in structural equation modeling (Fornell & Larcker, 1981). The procedure of establishing whether a scale is convergently valid is referred to as "internal consistency." The correlations or loadings between items and the factors with which they are associated illustrate the items' consistency (Barclay et al., 1995). A factor loading of 0.5 is reasonable if the weight of the other factors in the same construct is substantial (Chin, 1998; Keil et al., 2000). Meanwhile, the AVE statistic is employed to contrast the variance explained by items with the variation generated by measurement error (Chin, 1998). Fornell and Larcker (1981) demonstrated that convergent validity could be guaranteed even though the AVE is less than 0.5 if the reliability coefficient is more than 0.6. As a result, an AVE of 0.4 or less is still considered within adequate parameters in most circumstances.

Moreover, SmartPLS 3.0 was used to determine the construct's overall reliability and AVE. Table 2 shows that the study's measures have discriminant validity. Table 3 shows that all variables are within convergent validity ranges.

Table 2. Fornell and Larcker Criterion Results

	AU	ATT	BI	PEOU	PU	TS
AU	(0.871)					
ATT	0.738	(0.883)				
BI	0.734	0.87	(0.902)			
PEOU	0.733	0.826	0.788	(0.855)		
PU	0.731	0.867	0.843	0.792	(0.885)	
TS	0.643	0.795	0.784	0.801	0.779	(0.895)

Non-diagonal elements represent construct correlation, while diagonal elements are AVE square roots.

Table 3. Latent Variable Reliability and Validity

Constructs/Statements	**Item Loading**	**AVE**	**rho_A**	**CR**	**Cronbach Alpha**
Technical Support (TS)					
1. “When I need help to use the PAIR APP, teacher's guidance is available to me”	0.896	0.802	0.876	0.924	0.876
2. “Teachers are available for assistance with any difficulties related to PAIR APP use”	0.914				
3. “Specialized instruction concerning PAIR APP use is available to me”	0.876				
Perceived Ease of Use (PEOU)					
1. “My interaction with the PAIR APP is clear and understandable”	0.894	0.731	0.892	0.915	0.877
2. “Interacting with the PAIR APP does not require a lot of my mental effort”	0.75				
3. “I find the PAIR APP to be easy to use”	0.882				
4. “I find it easy to get the PAIR APP to do what I want it to do”	0.886				
Perceived Usefulness (PU)					
1. “Using the PAIR APP improves my performance as a faculty member”	0.88	0.784	0.91	0.935	0.908
2. “Using the PAIR APP in distance learning increases my productivity”	0.85				
3. “When I use the PAIR App, I can learn more effectively in distance learning”	0.899				
4. “I find the PAIR APP to be useful in distance learning”	0.911				
Attitude toward Using (ATT)					
1. “I think it is worthwhile to use the PAIR APP”	0.899	0.78	0.91	0.934	0.905
2. “I like using the PAIR APP”	0.906				
3. “In my opinion, it is very desirable to use the PAIR APP for academic and related purposes”	0.917				
4. “I have a generally favorable attitude toward	0.806				

	using the PAIR APP”					
Behavioral Intention to Use (BI)						
1.	"I intend to use the functions and content of the PAIR APP to assist my academic activities"	0.924	0.813	0.886	0.929	0.885
2.	"I intend to use the functions and content of the PAIR APP as often as possible"	0.9				
3.	"I intend to use the functions and content of the PAIR APP in the future"	0.881				
Actual Use (AU)						
1.	“Overall, to what extent do you use the PAIR APP?”	0.863	0.759	0.845	0.904	0.842
2.	“To what extent did you use the PAIR APP last month?”	0.869				
3.	“To what extent did you use the PAIR APP last week?”	0.881				

AVE = average variance extracted; and CR = composite reliability

Model Fit and Quality Indices

The Goodness of Fit Model (GoF) can be employed to evaluate the structural equation model. It is exemplified by Tenenhaus et al. (2005) as the average model R-squared added to the squared of the average communality index. The construct's communality index is calculated by dividing the total squared factor loading by the number of indicators in the sample population. According to Wetzels et al. (2009), the AVE for every observed construct correlates to the comparable communality index for that variable. As a solution, the model's average AVE can be substituted for the model's average communality index. Wetzels et al. (2009) developed the formula:

(GoF = square root of (average AVE) x (average R-squared))

Table 4 shows that the structural equation model is well-fitting and that the required quality index standards were satisfied. The findings suggested that the model's Goodness of Fit was excellent. Thus, the recently presented model can be utilized for hypothesis testing.

Table 4. Goodness of Fit Results

	AVE	R^2	R^2 Adjusted
AU	0.759	0.579	0.577
ATT	0.78	0.812	0.81
BI	0.813	0.789	0.788
PEOU	0.731	0.642	0.64
PU	0.784	0.686	0.684
TS	0.802		
Average	0.778	0.702	0.6998
Tenenhaus GoF	0.739	Large	

GoF = Wetzels et al. criterion: small=0.1, medium=0.25, and large=0.3

Structural Equation Model Results

The beta coefficients (β), coefficient of determination (R2), and effect sizes (f2) are calculated to evaluate the structural equation model. Figure 4 depicts the PLS-SEM results in further detail.

All external loadings in every construct are significant at p<0.05. The direct influence of technical support on perceived usefulness (β = 0.403, p<0.001), ease of use (β = 0.801, p<0.001), and attitude toward employing (β = 0.168, p=0.016) have a positive beta value and statistically significant. Meanwhile, the direct correlation of perceived ease of use to usefulness (β = 0.470, p<0.001) and attitude toward utilizing (β = 0.291, p<0.001) also have a positive and significant beta coefficient. Perceived usefulness, on the other hand, has a positive influence on attitude toward applying (β = 0.506, p<0.001) and intention to utilize behavior (β = 0.357, p<0.001). The direct correlation between attitude toward utilizing and intention to employ behavior is positively significant (β = 0.561, p<0.001). The same is true with actual application (β = 0.411, p<0.001). Lastly, the influence of intention to employ behavior on actual application is positively significant (β = 0.377, p<0.001).

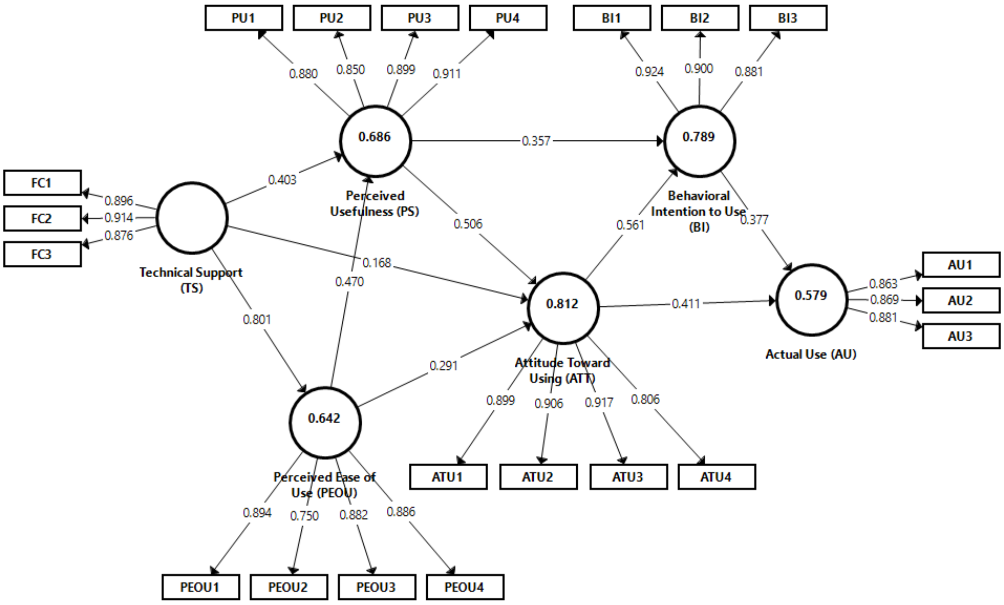

Figure 4. Effects of the Structural Equation Model

Effects

Table 5 summarizes the direct effects of the structural equation model. The analyses revealed that instructors' technical support has a large effect on learners' ease of use of PAIR (β = 0.801, p<0.001, Cohen's f^2 = 1.79). As a result, H1 is justified. Additionally, the analyses discovered that technical support has a positive influence on the usefulness of the PAIR (β = 0.403, p<0.001). The size of the effect of the TS ⇒ PU path is medium (Cohen's f^2 = 0.185). As a result, H2 is permitted. The same result holds for technical support, which has a positive impact on attitudes (ATT) toward use (β = 0.168, p=0.016). The path TS ⇒ ATT has a quite small effect (Cohen's f^2 = 0.045). As a result, H3 is acceptable.

In terms of perceived ease of use, the findings indicate that the construct has a positive effect on learners' perceived usefulness in PAIR (β = 0.47, p<0.001), with a modest magnitude of the impact (Cohen's f^2 = 0.252). As such, H4 is supported. The analyses revealed that ease of use influences students' attitudes toward technology. The impact of the path PEOU ⇒ ATT is small (Cohen's f^2 = 0.129). As a result, H5 is permitted.

The analyses revealed a significant effect size between usefulness and attitude toward PAIR use (β = 0.506, p<0.001, Cohen's f^2 = 0.428). As a result, H6 is recommended. Likewise, intention to employ is positively and significantly associated with usefulness, with a moderate impact (β = 0.357, p<0.001, Cohen's f^2 = 0.15). As a result, H7 is recommended.

Additionally, the analyses revealed that students' attitudes toward the use of PAIR have a significant effect on their intention to utilize (β = 0.561, p<0.001, Cohen's f^2 = 0.37). As a result, H8 is recommended. Additionally, the results indicated that one's attitude toward PAIR use has a positive effect on actual application (β = 0.411, p<0.001). The magnitude impact of the path ATT ⇒ AU is small (Cohen's f^2 = 0.097). As a result, H9 is permitted. Finally, in terms of intention to utilize, the construct has a small effect on actual PAIR use (β = 0.377, p<0.001, Cohen's f^2 = 0.082). As a result, the H10 is supported.

Table 5. Modified TAM Parameter Estimates

Direct Effect	β	T Statistics	f^2	p-value
H1. TS ⇒ PEOU	0.801	0.031	1.79	<0.001
H2. TS ⇒ PU	0.403	0.072	0.185	<0.001
H3. TS ⇒ ATT	0.168	0.07	0.045	0.016
H4. PEOU ⇒ PU	0.47	0.071	0.252	<0.001
H5. PEOU ⇒ ATT	0.291	0.072	0.129	<0.001
H6. PU ⇒ ATT	0.506	0.058	0.428	<0.001
H7. PU ⇒ BI	0.357	0.059	0.15	<0.001
H8. ATT ⇒ BI	0.561	0.059	0.37	<0.001
H9. ATT ⇒ AU	0.411	0.078	0.097	<0.001
H10. BI ⇒ AU	0.377	0.076	0.082	<0.001

f^2 = Cohen’s (1988) effect size: 0.02=small, 0.15=medium, 0.35=large

Discussion and Conclusion

The current study investigated the characteristics that influence students’ acceptability of the Project PAIR e-learning system. Technical support was included as an external variable in the study, and its influence was assessed using a revised Technology Acceptance Model (TAM). According to the findings, technical assistance directly influenced PAIR's perceived ease of use, effectiveness, and attitude toward utilizing. This suggests that if students are given proper technical support, such as appropriate supervision, individual and group help, and specific instructions on using e-learning, they are more likely to get a favorable impression of the PAIR. As previously suggested, students would also find it easier to use the platform and eventually find it advantageous if teachers offered technical assistance as part of their course requirements. However, this argument contradicts the findings of McGill et al. (2011), who discovered that the availability of technical assistance did not affect the usage of an e-learning system. Meanwhile, the current findings reinforce Ferran's (2021) findings in his study, which show that technical assistance significantly influences attitudes toward utilizing technology. Furthermore, Pearroja et al. (2019) observed that technological aid improved the efficacy of digital communities of practice. They found that perceived usefulness and reported ease of use had a moderating effect on the effectiveness-enhancing results of enabling conditions via a sense of virtual community. Furthermore, Teo et al. (2018) discovered that technical help influences users' views toward using a system. Besides, the current findings are consistent with Panda and Mishra's (2007). They observed that inadequate enabling conditions and technical assistance are two of the most significant variables affecting the adoption of a learning system.

Furthermore, the research demonstrated that the simplicity of use directly impacted practical usefulness and attitude toward PAIR usage. These findings imply that when students emphasize ease of use, they consider e-learning highly valuable, which significantly affects their viewpoints and overall intentions to utilize it. In the context of consumers' technological usage, Fathema et al. (2015) discovered significant correlations between usefulness, simplicity, and attitude toward adopting. Ho et al., 2020 found that customers' satisfaction indirectly influenced their willingness to use mobile banking via their attitude toward adoption. Furthermore, it was shown that self-efficacy and technical assistance indirectly influenced the desire to use mobile banking. Moreover, the convenience of a digital classroom was shown to be significantly associated with ease of use, and academic staff intention to use was found to be highly associated with performance expectancy (Hu et al., 2003). Furthermore, these results are consistent with earlier research (Holden & Rada, 2011; Lee et al., 2013)

The PAIR's perceived benefits influence the customer's attitude about it and their developmental desire to utilize it. According to the findings, learners develop positive impressions toward e-learning technology and expect to use it when they believe it is beneficial to them and crucial in enhancing their productivity despite the outbreak. The current study also revealed that attitude toward utilizing and actual usage directly affected developmental reason to use PAIR. Meanwhile, the intention to utilize has a direct influence on actual usage. According to Teeroovengadum et al. (2017), convenience dramatically affects students' attitudes about technology use. The same is true with the conclusions of Granić and Marangunić (2019), and Fearnley and Amora (2019). Another study found that students' positive attitudes to using the internet for academic purposes are impacted by their perspective toward the internet as well as their impression of its actual application (Mallya & Lakshminarayana, 2017). Furthermore, this research suggests that attitudes toward using have a beneficial impact on intention to utilize behavior, which has a good effect on actual usage. (Wang & Wang, 2009; Farahat, 2012).

In conclusion, and as a recommendation, it was discovered that technical support is a very consistent external variable of the technology adoption model. As a result, the use of Project PAIR for remote learning is strongly recommended for the school and the public. It is also recommended that the schools must ensure that they have provided technical support to ensure the PAIR functioning runs appropriately. Additionally, schools should give the students substantial online and in-person support and guidance to foster good attitudes regarding the e-learning system. This investigation would highlight numerous limitations—initially, the utilization of convenience sampling in the study. The investigation was only conducted in one institution. Future research should replicate the study utilizing various external factors to ensure the generalizability of the research methodology. Future researchers must also consider mixed methods to understand the extended technology acceptance model components' effectiveness comprehensively.

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