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Exploring the Structural Relationship of Bahraini Pre-Service Teachers' Attitudes towards the Use of Technology in Education: A Test of the Technology Acceptance Model

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Abstract

For several years, researchers and educators have focused on establishing and testing models that could help in predicting the use of technology in education. The technology acceptance model (TAM) developed by Davis (1989) is one of the commonly applied models. This study was conducted in Bahrain to examine the structural relationship of pre-service teachers' attitudes to using technology. The hypothesized model included perceived usefulness, perceived ease of use, attitude towards technology use, behavioural intention to use technology, facilitating conditions, and subjective norm. Structural equation modelling analysis was conducted to test the hypothesized relations between the variables in the model based on the data collected from 203 Bahraini pre-service teachers. The results indicated that attitude towards technology use was significantly predicted by perceived usefulness and perceived ease of use. Furthermore, perceived usefulness highly and significantly predicted behavioural intention to use technology. Besides, perceived ease of use significantly predicted perceived usefulness. This research has validated TAM on a sample of pre-service teachers in the Kingdom of Bahrain.

Keywords: technology acceptance model (TAM), pre-service teachers, structural equation modelling (SEM), confirmatory factor analysis (CFA), technology integration.

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استطلاع العلاقة الهيكلية لاتجاهات المعلمين البحرينيين قبل الخدمة نحو استخدام التكنلوجيا في التعليم: اختبار نموذج القبول التكنلوجي

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الملخص

طيلة سنوات، ركز الباحثون والمعلمون على إنشاء واختبار النماذج التي يمكن أن تساعد في التنبؤ باستخدام التكنولوجيا. يعد نموذج قبول التكنولوجيا (TAM) الذي طوره Davis (١٩٨٩)أكثرها تطبيقا ، وهو يعتبر أحد النماذج أحد النماذج الشائعة التطبيق. حيث هدفت هذه الدراسة التي أجريت في البحرين، إلى استكشاف العلاقة الهيكلية لاتجاهات معلمي ما قبل الخدمة نحو استخدام التكنولوجيا في التعليم. تضمن النموذج المفترض عدة متغيرات هي: الفائدة المتصورة، سهولة الاستخدام المتصورة، الاتجاه نحو استخدام التكنولوجيا في التعليم، النية السلوكية لاستخدام التكنولوجيا في التعليم، تسهيل الظروف والمعايير الذاتية. تم إجراء تحليل نمذجة المعادلات الهيكلية لاختبار العلاقات المفترضة بين المتغيرات في النموذج بناءً على البيانات التي تم جمعها من ٢٠٣ معلم بحريني قبل الخدمة. أشارت النتائج إلى أن الموقف تجاه استخدام التكنولوجيا تم التنبؤ به بشكل كبير من خلال الفائدة المتصورة وسهولة الاستخدام المتصورة. علاوة على ذلك، فإن الفائدة المتصورة تنبأ بدرجة عالية وبشكل كبير بالنية السلوكية لاستخدام التكنولوجيا في التعليم. بالإضافة إلى ذلك، فإن سهولة الاستخدام المتصورة تنبأت بشكل كبير بالفائدة المتصورة. وقد أكدت نتائج الدراسة صحة نموذج قبول التكنولوجيا (TAM) على عينة من المعلمين قبل الخدمة في مملكة البحرين.

الكلمات المفتاحية: نموذج القبول التكنلوجي (TAM)، معلمون قبل الخدمة، نمذجة المعادلة الهيكلية (SEM)، التحليل العاملي التوكيدي (CFA)، تكامل التكنلوجيا.

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Introduction

Due to the Covid-19 pandemic situation and its impact on the educational sector, several policies and practices have been revised and reshaped accordingly, with more emphasis on using online utilities and learning platforms to ensure positive learning interaction between teachers and their students (Ferri, Grifoni, & Guzzo, 2020). In this regard, several educational institutions have benefited from the advancements that have occurred in educational technology. Accordingly, this has led to an increase demand on using these utilities and platforms in in various aspects of the educational process in order to provide diverse teaching and learning experiences (Teo, 2009).

Specifically, the issue of implementing educational technology in the learning process has become a priority to educators and policy makers since it has been facing a problematic acceptance among many educators in the educational field (Aydin, Ozfidan, & Carothers, 2017). Despite the resistance of the application of educational technology in the teaching and learning process by educators, the demand has continued to increase due to the Covid-19 pandemic and the different needs has come up, such as communication between students and their teachers, continuation of offering training programmes to teachers, assessing students' work and progress, and communicating with students' parents about their kids (Ferri et al. 2020).

This issue of accepting educational technology as a major means for making learning happen and continuing the educational process has become an attractive area for researchers and educational experts to further investigate and explore issues and factors that interfere while utilizing technology in the teaching learning process (Smarkola, 2007; Teo, SuLuan, & Sing, 2008).

In Bahrain, the use of technology in schools has started about three decades ago before the Covid-19 pandemic. This is shown in the digital literacy strategy launched by the Ministry of Education in the Kingdom of Bahrain, side by side to other several efforts such as establishing the regional centre for information technology and communication with the cooperation with UNESCO to provide training to teachers and make them more efficient in utilizing the provided technological facilities and founding King Hamad's Digital Library that offers the opportunity for students and researchers to seek a huge database of information and knowledge.

The Economic Vision 2030, a comprehensive economic vision for Bahrain, was launched by the King of Bahrain, His Majesty King Hamad bin Isa Al Khalifa in October 2008. This provides a clear direction for the continued development of Bahrain's economy. In an attempt to move from an oil to a knowledge-based economy, education was selected as an essential area of importance within the Bahrain Economic Vision 2030 (Hajjar, & Al Adel, 2016). According to Hajjar and Al Adel (2016), technology is increasingly transforming the education system in Bahrain. For example, the convenience of carrying laptops, smart-phones, and iPads has allowed students to be further engaged with creating their knowledge.

To ensure that students in Bahrain's public schools are familiar with electronic education, public schools have been provided with computers through projects like the 2004 "King Hamad Schools of the Future". The Ministry of Education (MoE) has also carried out a large-scale project to train thousands of teachers, administrators, and specialists on the use of information technology (IT). Such training, assisted MoE with the transition to distance learning to all students at all grade level without any obstacles due to Covid19 Pandemic, once the government of Bahrain decided to close schools in February, 2020.

In many educational systems, technology has been acknowledged as one of the main drivers for the improvement of teaching and learning (Teo, 2009). Technology adoption and use, often referred to as user acceptance, has become one of the most investigated areas in the information science literature (Smarkola, 2007; Teo, SuLuan, & Sing, 2008). Among the most widely-used and tested models in technology acceptance studies (see Teo, & Noyes, 2011; Teo, Lee, Chai, & Wong, 2009) is Technology Acceptance Model TAM (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989).

TAM is a simple and robust framework and has been widely adopted to explain user acceptance of information technology (Diop, Zhao, & Duy, 2019). TAM shows how the individual's salient beliefs (perceived usefulness and perceived ease of use) predict his/her behavioural intention to use a given system, which, in turn, predicts his/her actual system use (Davis, 1989; Davis et al. 1989). In the last four decades, technology acceptance has received substantial attention and researchers have been trying to find factors that affect a person's acceptance of technology (Yucel, & Gulbahar, 2013). The present study sheds light on one of the major models for utilizing technology in the educational process, which is TAM (Technology Acceptance Model).

The Technology Acceptance Model

Technology Acceptance Model (TAM) (Figure 1) was adapted from Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA) by Davis (1989) to explain users' intention and behaviour regarding the use of IT. According to TRA, a person's intention to perform behaviour is a function of his/her attitude towards the act or behaviour (Fathema, Shannon, & Ross, 2015). Later on, Ajzen (1991) extended TRA by including the non-motivational factor of perceived behavioural control in the theory of planned behaviour (TPB). As a competing model, the technology acceptance model (TAM) (Davis 1989) specified the key antecedents to attitude (perceived usefulness and perceived ease of use) and received an extensive empirical support for its predictive ability among researchers (e.g., Joo, Park, & Lim, 2018; Teo 2009; Teo, Huang, & Hoi, 2018). According to Davis (1989), perceived ease of use (PEU) and perceived

usefulness (PU) are the two fundamental determinants of user acceptance of technology. PEU is defined as the "degree to which a person believes that using a particular technology would be free from effort" (Davis, 1989, p.320). PU is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p.320).

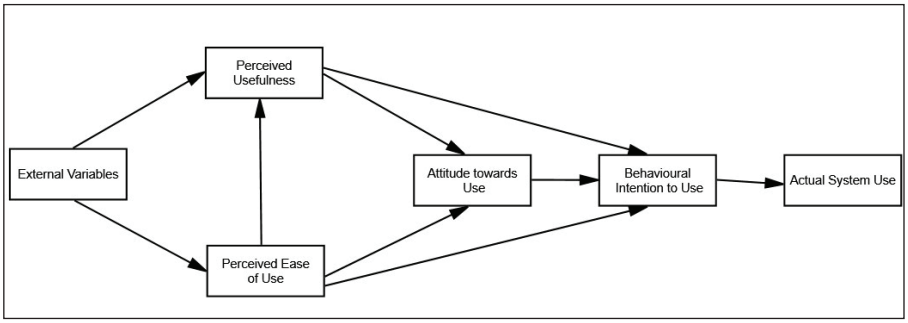

Figure (1)
Technology Acceptance Model
(Adapted from Davis, Bagozzi, & Warshaw, (1989). User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982–1003.)

The core variables of the TAM are user motivation (i.e., perceived ease of use, perceived usefulness, and attitude towards technology) and outcome variables (i.e., behavioural intentions, technology use) (Scherer, Siddiq, & Tondeur, 2018). According to Marangunic and Granic (2015), Perceived Usefulness (PU) and Perceived Ease of Use (PEU) are considered key variables that directly or indirectly explain the outcomes. External variables such as Subjective Norms (SN) and Facilitating Conditions (FC) are often accompanied by these variables and explain variation in PU and PEU and were significantly related to the TAM core variables (Abdullah & Ward, 2016). TAM offers relationships of PU and PEU with attitude towards use (ATU) and behaviour intention to use (BIU). ATU is defined as "an individual's positive or negative feeling about performing the target behaviour (e.g., using a system)" (Ajzen, & Fishbein, 1980, p.216). According to TAM, both PU and PEU are significantly related to ATU

(Fathema et al. 2015). BIU is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour (Davis, 1989). According to TAM, perceived usefulness and the attitude towards use directly related to behavioural intention to use (Fathema et al. 2015).

The Technology Acceptance Model has been demonstrated and replicated through the study of many applications (Davis, & Venkatesh, 1996; Fathali, & Okada, 2018; Tarhini, hassouna, Sharif Abbasi, & Orozco, 2015; Venkatesh, & Morris, 2000). Previous researches have indicated that perceived ease of use can be a predictor of the perceived usefulness of a system (Davis, 1989; Park, Rhoads, Hou, & Lee, 2014; Tarhini et al., 2015; Venkatesh, & Davis, 2000). Some studies have indicated that strong relationship exists between learners' perceived usefulness and behavioural intention to use a system (Lee, Lee, & Hwang, 2015; Pedrotti, & Nistor, 2016). A study by Park, Roman, Lee, & Chung (2009) revealed that perceived ease of use is positively related to behavioural intention to use technology. However, some other studies did not find any significant relationship between PEU and BIU (Karahanna, & Straub, 1999; Park et al., 2014).

In South Korea, Joo et al. (2018) investigated structural relationships between TPACK, teacher self-efficacy, perceived ease of use, perceived usefulness for preservice teachers who intend to use technology, based on the technology acceptance model (TAM). 296 participants from three Korean Universities were involved in the study. The findings of their study revealed that teacher's self-efficacy, perceived ease of use, and perceived usefulness of using technology affected teachers' intention to use technology.

The purpose of this study was to examine the relationship of Bahraini pre-service teachers' attitudes towards the use technology within the context of the TAM as a research framework.

Aim of the Study

The aim of the study is to investigate the structural relationship of the attitudes of preservice teachers towards the use of technology. The

following research questions guide the present research:

1. To what extent is the TAM a valid model to explain the intention to use technology among pre-service teachers?

2. To what extent does each construct in the TAM affect the intention to use technology among pre-service teachers?

Research hypotheses

Based on the literature review and theoretical framework, this study examined the structural relationship between factors relating to pre-service teachers' perceived usefulness, perceived ease of use, behavioural intention, and attitude to use technology in teaching. The research hypotheses for this study are presented in Figure 2.

Hypothesis 1: Pre-service teachers' perceived usefulness positively predicts attitude towards use.

Hypothesis 2: Pre-service teachers' perceived ease of use positively predicts attitude towards use.

Hypothesis 3: Pre-service teachers' perceived usefulness positively predicts behavioural intention to use.

Hypothesis 4: Subjective norm positively predicts behavioural intention to use.

Hypothesis 5: Attitude towards use positively predicts behavioural intention to use.

Hypothesis 6: Facilitating conditions positively predicts behavioural intention to use.

Hypothesis 7: Pre-service teachers' perceived ease of use positively predicts perceived usefulness.

Hypothesis 8: Subjective norm positively predicts perceived usefulness.

Hypothesis 9: Facilitating conditions positively predicts perceived ease of use.

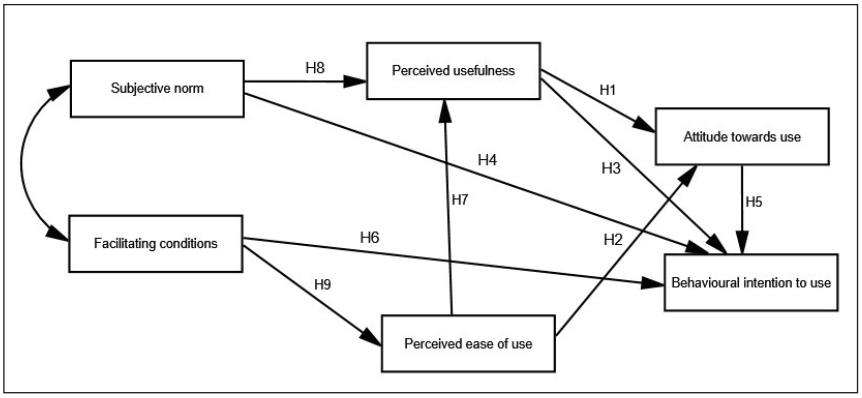

Figure (2)
Hypothesized model of the research

Method

Research design

Exploratory factor analysis (EFA) was performed to explore the interrelationships among the set of variables. After the factor analysis, all the six factors were retained, namely, 'subjective norm (SN)', 'facilitating conditions (FC)', 'perceived usefulness (PU)', 'perceived ease of use (PEU)', 'attitude towards use', and 'behavioural intention to use'. The present study used the survey method and employed a structural equation modelling (SEM) approach to analyzethe research model (figure 1) and the six constructs within the it. Analyses were conducted using MPlus 7.4 (Muthen, & Muthen, 2015) and the usual steps for doing SEM were followed. Data was screened for missing values and outliers, and the convergent and discriminant validities were established.

Participants and data collection procedures

Convenience sampling was used because it is a commonly used data collection method in social science studies. According to Etikan, Musa, & Alkassim (2016), this data collection method ensures geographical proximity, easy accessibility and availability at a given time, as well as willingness to participate. To be specific, participants were contacted by three of my colleagues' research who are professors at the Bahrain Teachers

College. They then contacted their own students. Altogether, participants of this study were 203 pre-service teachers attending Bahrain Teachers College. Students' ages ranged from 19 to 21, of whom 170 (83.7%) were female. Before conducting the study, approval was obtained from the research committee of Bahrain Teachers College, University of Bahrain. All the participants signed an informed consent form that explained the purpose and procedure of the study. The participants were told that they had the right not to participate in the study and also, they had the right to withdraw from the study at any time. The names of the participants were not disclosed, and data collected has remained confidential.

Measures

The data was collected using a survey questionnaire in which items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were adapted from Teo (2011). The questionnaire used for the study contained 20 items underlying six main constructs designed to measure pre-service teachers` technology acceptance, namely, perceived ease of use (PEU, 5 items), perceived usefulness (PU, 4 items), attitude towards use (ATU, 3 items), facilitating conditions (FC, 3 items), behavioural intention to use (BIU, 3 items), and subjective norm (SN, 2 items).

Data analysis

Analyses were all carried out in the program Mplus version 7.4 (Muthen, & Muthen, 2015), using full information maximum likelihood estimation. Exploratory factor analysis (EFA) was conducted using the MLR estimator to test the appropriateness of the items of each factor of the questionnaire and also to explore the constructs and internal reliability of the questionnaire. The factors were rotated with Geomin factor rotation. Confirmatory factor analysis (CFA) was also conducted with a robust maximum likelihood (MLR) estimator to estimate model parameters and to further confirm the construct convergent and discriminant validity of the model (see; figure 2). Structural equation modelling (SEM) techniques were utilized to test this model. According to Hyland, Shevlin, Adamson,

& Boduszek (2014), SEM is a combination of two analytical procedures: CFA, which assesses the measurement component of a theoretical model, and path analysis, which assesses the relationship between latent variables. SEM analysis was also conducted with a robust maximum likelihood (MLR) estimation.

The chi-square statistics, the root mean squared error of approximation (RMSEA; Steiger, 1990), the standardized root mean square residual (SRMR; Joreskog, & Sorborm, 1981), the comparative fit index (CFI; Bentler, 1990) and the Tucker Lewis index (TLI; Tucker, & Lewis, 1973) were used as measures of overall goodness-of-fit. For CFI and TLI, values above .90 indicate reasonable fit, and values above .95 indicate good model fit (Bentler, 1990; Hu & Bentler, 1999). Also, for RMSEA and SRMR, values less than .05 indicate good model fit, and values less than .08 indicate adequate fit (Bentler, 1990, Hu, & Bentler, 1999; Joreskog, & Sorborm, 1993).

Results

Descriptive statistics

The descriptive statistics were computed using SPSS 26.0. All the means of the items in this study were above the midpoint of 3.00 and indicated an overall positive response of the participants to the constructs. The standard deviation of all the constructs were less than one, indicating a narrow spread around the mean of the item scores. The values of the skewness and kurtosis for the items were within the recommended cutoffs of 3.0 and 8.0 respectively, indicating univariate normality in data (Kline, 2016).

The mean, standard deviation, factor loadings, Cronbach's alpha coefficients and composite reliability are reported in Table 1. The Cronbach's alpha coefficients of all the scales ranged from 0.713 to 0.820, suggesting good internal consistency reliability for the scales with this sample. Values above 0.7 are considered acceptable; however, values above .8 are preferable (Pallant, 2013). The results of EFA revealed the presence of six components with a total of 66.591% of variance extracted. All the factor loadings were satisfactory and ranged from 0.612 to 0.866,

higher than 0.6 and this confirmed the convergent validity of the constructs (Hulland, 1999). The composite reliability (CR) of each construct ranged from 0.754 to 0.843. As recommended by Nunnally and Bernstein (1994), CR is adequate with a minimum value of 0.70.

Table (1)
Descriptive statistics of the measurement constructs

Construct	Item	Mean	SD	Factor loadings (EFA)	Factor loadings (CFA)	Cronbach alpha	Composite reliability (CR)
Perceived usefulness	PU1	3.877	0.936	0.689	0.664	0.734	0.784
	PU2	3.778	0.960	0.789	0.794		
	PU3	3.739	1.015	0.717	0.783		
	PU4	3.882	0.960	0.714	0.791		
Perceived ease of use	PEU1	3.872	0.834	0.612	0.667	0.713	0.843
	PEU2	3.635	0.965	0.673	0.732		
	PEU3	3.089	1.065	0.619	0.631		
	PEU4	3.700	0.861	0.711	0.727		
	PEU5	3.695	0.934	0.720	0.747		
Attitude towards Use	ATU1	3.064	1.166	0.760	0.726	0.713	0.754
	ATU2	3.700	1.033	0.733	0.722		
	ATU3	3.473	1.089	0.608	0.601		
Behavioural intention to use	BIU1	4.202	0.838	0.755	0.803	0.813	0.812
	BIU2	4.271	0.831	0.866	0.835		
	BIU3	4.266	0.841	0.649	0.680		
Facilitating conditions	FC1	3.616	0.997	0.741	0.796	0.769	0.764
	FC2	3.734	0.972	0.765	0.747		
	FC3	3.478	1.080	0.737	0.884		
Subjective norm	SN1	3.222	1.010	0.784	0.829	0.820	0.801
	SN2	3.355	1.066	0.812	0.835		

According to Fornell, Tellis, & Zinkhan (1982), discriminant validity assesses the variance shared between a construct and any other construct in the model. In Table 2, the values in parentheses in the main diagonal are the square root of the average variance extracted and are greater than the off-diagonal elements in the corresponding rows and columns. This suggests that discriminant validity was present at the construct level.

Table (2)
Correlation matrix and average variance extracted

Construct	Perceived usefulness	Perceived ease of use	Attitude towards use	Behavioural intention to use	Facilitating conditions	Subjective norm
Perceived usefulness	(0.735)[a]					
Perceived ease of use	0.382	(0.714)				
Attitude towards use	0.340	0.399	(0.781)			
Behavioural intention to use	0.500	0.383	0.358	(0.768)		
Facilitating conditions	0.298	0.148	0.149	0.299	(0.721)	
Subjective norm	0.098	0.009	0.249	0.121	0.251	(0.812)

Note. a Square root of average variance extracted (AVE)

As shown in Table 3, the measurement model in this study was confirmed by CFA and had a good fit to the data (= 203.424, 1.413, CFI = 0.966, TLI = 0.954, SRMR = 0.056, RMSEA = 0.036). The structural model also had a good fit (= 187.872, 1.269, CFI = 0.964, TLI = 0.954, SRMR = 0.073, RMSEA = 0.036).

Table (3)
Model fit indices for the measurement model and structural model

	(p-value)	Df		CFI	TLI	SRMR	RMSEA
Measurement model	203.424 (p = 0.000)	144	1.413	0.966	0.954	0.056	0.036
Structural model	180.412 (p = 0.015)	145	1.244	0.968	0.958	0.063	0.035
Recommended values	p> 0.05		< 3	> 0.90	> 0.90	< 0.08	< 0.80

The results of the structural model with the standardized path coefficients are presented in Figure 3. Hypotheses H1, H2, H5, H7, H8, and H9 were supported by the data, but H3, H4, and H6 were not supported. The results indicate that PU was statistically significantly related to ATU (), supporting hypotheses H1. PEU was statistically significantly related to ATU () and PU (), supporting hypothesis H2 and H7. SN was statistically significantly associated with PU (), supporting H8, but was not statistically significantly associated with BIU (), not supporting H4. ATU was statistically significantly related to BIU (), supporting H5, but PU was not statistically significantly related to BIU () and FC () and not supporting H3 and H6, respectively. Hypothesis H9 involving the relationship between FC and PEU () was also supported.

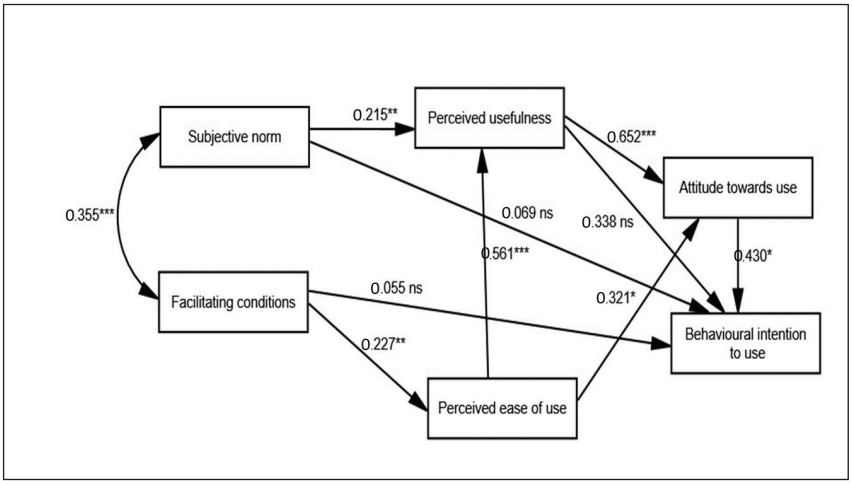

Figure (3)
Structural model (standardized path coefficients)
*p < 0.05, **p < 0.01, ***p < 0.001, ns (non-significant)

Four endogenous variables were tested in the research model. PU was found to be predicted by SN and PEU, resulting in an R2 of 0.381. This means that SN and PEU explained 38.1% of the variance in PU. Also, PEU was found to be predicted by FC, resulting in an R2 of 0.052. This indicates that FC explained 5.2% of the variance in PEU. Further, ATU was found to be predicted by PU and PEU, resulting in an R2 of 0.770. This indicates that PU and PEU explained 77% of the variance in ATU. Finally, BIU was

predicted by ATU, but PU, SN and FC were not statistically significantly related to BIU; this resulted in an R2 of 0.541. The standardized path coefficients, critical ratio, and R-square for the proposed model (Figure 1) are reported in Table 4.

Table (4)
Standardized path coefficients, critical ratio, and R-square

Path	Standardized path coefficient	Standard error	Critical ratio	R-square
	0.652	0.173	3.764***	
	0.321	0.162	1.982*	
	0.338	0.246	1.374 ns	
	0.055	0.068	0.802 ns	
	-0.069	0.092	-0.754 ns	
	0.430	0.218	1.972*	
	0.561	0.087	6.458***	
	0.215	0.092	2.342**	
	0.227	0.076	2.974**	
PU				0.381
PEU				0.052
ATU				0.770
BIU				0.541

*p < 0.05, **p <0 .01, ***p <0 .001, ns (non-significant)

Discussion

This study investigated the structural relationship among perceived ease of use, perceived usefulness, subjective norm, facilitating conditions, attitude towards use and behavioural intention to use for pre-service teachers in Bahrain, based on the Technology Acceptance Model (TAM) (Davies, 1989). Six out of nine hypotheses were supported by the data. The findings of the study provide empirical support for the relationships among the TAM constructs. The results indicate that perceived usefulness (PU) significantly predicted attitude towards use (ATU). This finding replicates previous studies (Huang, Teo, & Zhou, 2019; Wong, 2016), which implies that when pre-service teachers perceive that using technology would

enhance their job performance, they are more likely to possess positive feelings about using technology. ATU was statistically significantly related to BIU, which replicate prior studies (e.g., Teo, et al. 2018). This implies that when pre-service teachers possess positive feelings about using technology, their willingness to use technology is likely to increase significantly.

PEU was statistically significantly associated with PU, which replicate prior studies (Huang, & Teo, 2020; Wong, 2015). This implies that pre-service teachers who believe that using technology would be free of effort were significantly more likely to believe that using technology would enhance their job performance. PEU was statistically significantly related to ATU, which replicate previous studies (Huang, & Teo, 2020; Teo, 2019). This implies that pre-service teachers who believe that using technology would be free of effort were significantly more likely to possess positive feelings about using technology.

The study also indicates that FC and PEU were statistically significantly associated. This finding is consistent with previous studies (e.g., Teo, 2011). When pre-service teachers perceive that factors in the environment influence their decision to use technology; they are most likely to believe that using technology would be free of effort. Finally, SN had positive relations with PU. That is when pre-service teachers perceive that most people who are important to them think they should or should not use technology; they are more likely to believe that using technology would enhance their job performance.

According to Fan et al. (2006), based on the fact that this study used data from a self-reported questionnaire, there might be some limitations due to data quality and response validity. This could lead to a common method bias. The generalizability of the results could be limited because the study involved only a few students from Bahrain Teachers College. Therefore, it is doubtful whether the results of this study would apply to other tertiary-level institutions in the Kingdom of Bahrain. It is recommended, therefore, that future studies involving larger samples with students from all tertiary-level institutions be carried out.

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Conclusion

In the Kingdom of Bahrain, the future of country's economy and the prosperity of citizens are linked to the technology integration in almost every aspect of life (Anderson, 2010; Razzak, 2015). With the Economic Vision 2030 which was launched in Bahrain in October 2008 (Razzak, 2015), researchers in Bahrain have continued their investigation into the factors that may predict teachers' and pre-service teachers' technology acceptance (Eksail & Afari, 2020). The results of the study suggested that the variables of TAM such as perceived ease of use, perceived usefulness, attitude towards use, behavioural intention to use, facilitating conditions, and subjective norm were significant factors that impacted Bahrain pre-service teachers' technology acceptance.

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