When Users Enjoy Using the System:
The Case of AIS

Emad Ahmed Abu-Shanab, Qatar University, Qatar*

https://orcid.org/0000-0002-2826-883X

Ines Ben Salah, Qatar University, Qatar

ABSTRACT

This study utilized an extended model of the Unified Theory of Acceptance and Use of Technology (UTAUT2) to explore the factors influencing the future adoption of accounting information systems (AIS) by Qatari students. A research model was proposed to predict future adoption, partially moderated by voluntary status of using the system. A sample of 237 students was used to probe their perceptions regarding the use of such systems in their future careers. Students were enrolled in an accounting information systems course in Qatar University. Results indicated that perceived facilitating conditions, performance expectancy and enjoyment were significant predictors of AIS. The other factors failed to be significant predictors. The estimated R2 was 48.4%. The moderation effect of voluntariness was also significant in influencing the relationship between enjoyment and future adoption. The moderator yielded a negative beta, which means that it faded the relationship under consideration. Conclusions and future recommendations are reported at the end of the paper.

KEYWORDS

1. INTRODUCTION

Information technology is becoming a crucial component of today's organizational performance capabilities. It provides organizations with the capacity of improving performance and adding value. Enterprise systems are deployed to improve operations and the decision-making process across functional areas. Based on that many disciplines in education are utilizing information technology to equip their students with the needed skills to perform the expected tasks when they are in the market. Graduates are learning how to use such applications to be able to perform all needed tasks by their future organizations. Such skills and competencies are needed for the job market.

Enterprise resource planning (ERP) systems are information systems that cut across enterprises to facilitate the operational transactions of the daily activities. They provide the information needed for cross-functional decisions and enable employees to see what is happening across the organization. Others define them as "an enterprise system that promises seamless integration of all information

*Corresponding Author

flowing through a company" (Davenport, 1998, p.121). Such systems face many challenges, which might risk the adoption expected by users (Abu-Shanab et al., 2015). The major stream of universities are training their students on such systems within certain courses to equip them with the needed skills to be able to use such systems in the future. Areas like accounting, operations, human resources and many others are utilizing ERP for such purpose.

One of the major challenges facing universities (and organizations as well) is the adoption of students (and employees) to such systems. The adoption of such system is crucial for the success of the system and the organization as well. Based on that, universities (and organizations) are keen on knowing the factors that might influence the future adoption of such systems. Based on that, this study will explore students' opinion regarding the variables influencing the adoption of ERP systems. The researchers sampled students enrolled in five accounting sections from a public university in the Arab Gulf Region to probe their opinions regarding the proposed framework. The following section will review the literature related to technology adoption, with a focus on ERP systems. Following in section three, the research methodology and sampling process. Section four will describe the data analysis process and discussion of results. Finally, the last section will summarize the conclusions, limitations and future work.

2. LITERATURE REVIEW

Previous research explored the influence of implementing AIS and concluded that using AIS will positively influence firm's performance (Akanbi & Adewoye., 2018). Such issue is important, where companies are keen on improving performance, but it is equally important to make users (accountants, employees, and other categories of users) adopt and use such applications. Research in the technology adoption area reported many models and theories that explore the factors related to the adoption of new technology. The major models reported are the technology acceptance model (TAM), the theory of reasoned action (TRA), the unified theory of acceptance and use of technology (UTAUT) and their modified versions. The following sections will provide a brief description of each with a focus on ERP systems adoption.

2.1 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) relates the actions of people to the consequences, where they try to find a reason for their behavior (Ajzen & Fishbein, 1975). The theory was applied to more than one domain in information technology and information systems. The theory articulate that the use of technology is influenced by individual's intention to use the technology, where his intention is influenced by his attitude and subjective norms. The theory was analyzed through a meta-analysis of 87 articles and concluded that the TRA is a strong predictor of behavior and intentions (Sheppard, Hartwick & Warshaw, 1988). When applying the TRA on ERP systems, research showed that individual's beliefs influence his attitudes and his attitudes influence his behavioral intentions (Arunthari & Hasan, 2005). The study used interviews with 32 executives for Thai companies to collect data.

In another attempt to compare the TRA with the Theory of Planned Behavior (TPB - Ajzen, 1991; Taylor and Todd, 1995). The authors utilized 437 responses from accountants regarding their

Figure 1. The Theory of Reasoned Action
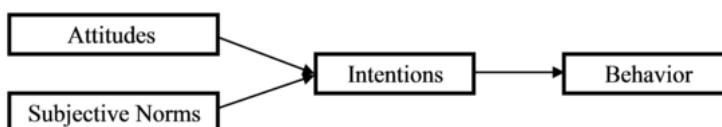
use of an accounting information system (AIS). Results supported the TRA premise, where attitudes and subjective norms are significant predictors of behavioral intentions (Ozer & Yilmaz, 2010).

2.2 Technology Acceptance Model

The Technology Adoption Model (TAM) evolved from the TRA, where two basic perceptions were assumed to have significant influence on behavioral intentions, and thus use behavior (Davis, 1989). The TAM is one of the popular models among researchers because of its robustness and simple components. Research in the area of ERP systems supported the influence of perceived usefulness (PU) and perceived ease of use (PEOU) on behavioral intentions (Calisir et al., 2009). The authors used 75 responses from ERP users and supported the role of TAM in predicting behavioral intentions.

Exploring the same constructs in relation to AIS, research supported the role of PU and PEOU in influencing behavioral intentions in the context of AIS (He et al., 2019). The study utilized a sample of CEOs for a group of Chinese SMEs. A similar study was conducted to explore the factors influencing the adoption decision of AIS in SMEs in Jordan, where a sample of 101 e-mail responses was used as the source of data for testing the research framework. The framework consisted of 12 factors that were assumed to influence the decision to use AIS, among which PU and PEOU were included. Results supported the role of PU and PEOU and were ranked high among the significant factors. In its later versions, Davis et al. (1992) added enjoyment to the original version of the TAM and concluded that it has a significant influence on behavioral intentions when using a technology. Enjoyment is a significant predictor of adoption (i.e. intention to use) as per more than one research paper (Aby-Shanab & Al-Sayed, 2019).

2.3 Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed based on a summation of 8 adoption theories (Venkatesh et al, 2003; Abu-Shanab & Pearson, 2007). The authors summed the variables included in the 8 theories into four major predictors: Effort expectancy (EE), Performance Expectancy (PE), Social Influence (SI), and Facilitating Control (FC). The dependent variable was Behavioral Intentions (BI) with technology use as the ultimate dependent variable. The theory also included a test for the moderation effect of gender, age, experience and voluntariness.

The UTAUT was tested in more than one area and yielded robust results. It simplicity and comprehensive integration process encouraged researchers to explore the model within diverse areas like: the adoption of web based knowledge systems (Almujally & Joy, 2018), big data modeling (Queiroz & Pereira, 2019), hospital electronic systems (Zhou et al., 2019), mobile banking (Savic & Pesterac, 2019), e-learning systems (Mahande & Malago, 2019; Liebenberg, Benadé & Ellis, 2018; Persada, Miraja & Nadlifatin, 2019), moblie payment (Lee, Lee & Rha, 2019).

The previous study by Almujally and Joy (2018) extended the UTAUT with trust and self-efficacy, and asserted that it lacks such perspective, but the authors did not provide an empirical test of their proposed model. The study by Savic and Pesterac (2019) fully supported the UTAUT when testing

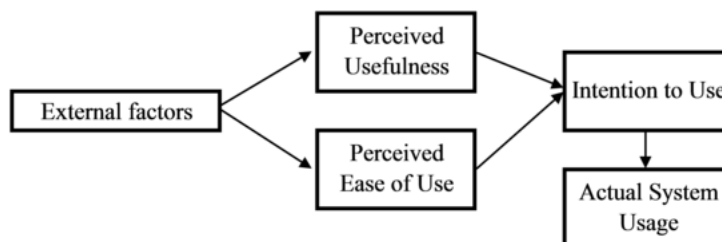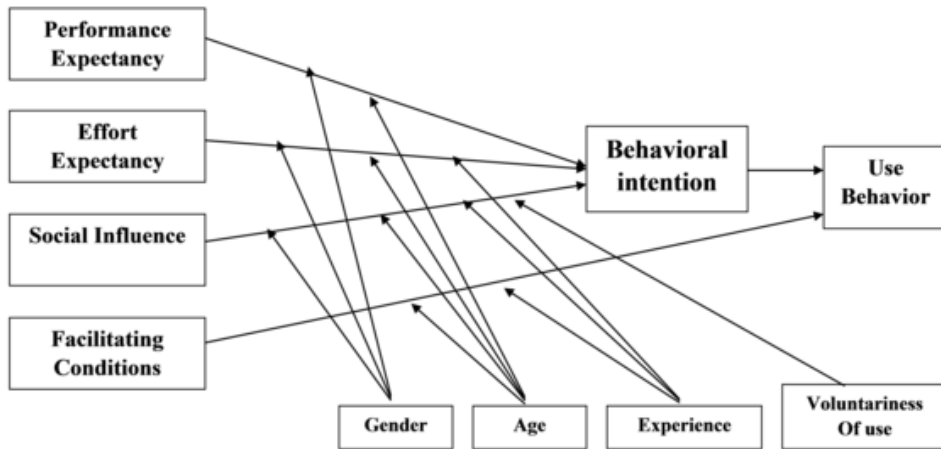**Figure 2. The Technology Acceptance Model**

Figure 3. The Unified Theory of Acceptance and Use of Technology

the adoption of mobile banking. The authors utilized a sample of 313 subjects in central Serbia with PE as the most significant predictor. Similarly, a meta-analysis of previous research supported the four predictors of the UTAUT by utilizing 1600 data instances from previous published articles (Dwivedi et al., 2019). Another study on e-learning analyzed responses from 170 surveys and concluded a full support of the UTAUT. The original UTAUT model did not directly linked FC with BI, which was supported by a study on educational technologies in South Africa (Liebenberg, Benadé & Ellis, 2018). The study used responses from 738 students taking an introductory ICT course. Similarly and in the context of digital learning, the UTAUT was fully supported, but with FC as the most significant predictor (Persada, Miraja & Nadlifatin, 2019).

Studies which reported insignificant results of major variables of the UTAUT indicated that supply chain professionals were influenced by only facilitating conditions and effort expectancy, while performance expectancy and social influence did not influence their adoption of big data modeling (Queiroz & Pereira, 2019). Similarly the study by Zhou et al. (2019) indicated a significant role of FC and SI only when testing nurses adoption of hospital electronic information management systems. A study in South Korea on 528 subjects indicated that PE and SI were significant predictors of mobile payment, but failed to support the role of EE and FC (Lee, Lee & Rha, 2019).

Previous research on AIS utilized the UTAUT and supported the theory premise. A study by Nawaz and Sheham (2015) explored AIS in the context of SMEs in Sri Lanka, and fully supported the role of the original four predictors of adoption. Another study included 255 Bangladeshi SMEs, where the authors tried to explore the adoption of information systems by applying the UTAUT (Al Mursalin, 2012). Results fully supported the theory with PE, EE and FC as strong predictors and SI as a moderate predictor of adoption decision.

A study of 216 surveys collected from accountants supported the role of effort expectancy and facilitating conditions. The study extended the UTAUT with self-efficacy and technology fit (Alamin, Yeoh, Warren & Salzman, 2015). Another study extended the UTAUT with cultural characteristics and explored how Australian accountants perceived AIS. The results indicated a significant role for PE, EE, FC, and low context communication in predicting the adoption process (Aoun et al., 2010). Finally, the UTAUT was extended later with enjoyment and yielded significant results (labeled as hedonic motivation and reported by Venkatesh et al. (2012)).

2.4 Accounting Information Systems

Research defined Enterprise Resource Planning systems (ERP) as *"software packages that enable the integration of business processes throughout an organization*" (Ustasüleyman & Percin, 2010, p. 294). Accounting Information Systems (AIS) are subsystems of ERPs, where they handle accounting activities and records for the purpose of financial reporting. Such systems are deployed by many industries as a tool to improve performance and facilitate operations.

Previous research reported that the performance of ERP systems is assessed through their quality, efficiency, and effectiveness (Abu-Shanab & Saleh, 2014). Such characteristics are important to the success of such systems. Still, previous research asserted the role of implementing such systems as it might cause their failure, where users will not adopt them easily. Change management will be a crucial aspect in the success of such systems (Hau & Kuzic, 2010). Based on that, the commitment of employees is critical to the success of enterprise applications (Reitsma & Hilletofth, 2018). Other reported success factors are top management support and (Abu-Shanab et al., 2015)

The Accounting Information System (AIS) Course equips students with the skills and knowledge needed to understand how business processes, organization structure, and information systems should be aligned with company goals in term of financial reporting, control requirements, and IT structure. The first part of the Accounting Information System (AIS) course presents the underlying concepts needed to understand AIS. It discusses how AIS can add value to an organization and how it can be used to help organizations implement a corporate strategy. It introduces transaction processes for presenting information- based input/output, automated systems, processing, and data storage concepts. It also explains two of the most useful techniques and tools used by organizations to comprehend, design evaluate, and document information systems: flowcharts and data flow diagram.

The second part of the AIS course concentrates on how the company's AIS furnishes important support for its fundamental business processes. Indeed, a large number of medium and large organizations use ERP systems to collect, process, and store data related to their business processes. It also provides critical reports that allow both managers and external parties to assess organizational effectiveness and efficiency. Thereby, this part integrates the production cycle, the expenditure cycle, the revenue cycle, and the payroll and human resources management cycle. It discusses the three basic functions performed by the AIS: provision of adequate internal controls to safeguard assets, efficient transaction processing, and preparation of information useful for effective decision-making. In addition, students have hands-on experience using one of the ERP well known systems (SAP application). Particularly, the SAP financial accounting module is used in the AIS course. It includes different components such as bank accounting, general ledger, accounts receivable, accounts payable, asset accounting, etc. In this respect, students go through the experience of using the SAP and they have the opportunity to practice how to record transactions, report, and communicate information.

Our literature review included one study that investigated the financial side of this application, where the authors included factors like: usability, usefulness, knowledge, complexity, satisfaction and future career as major dimensions that shape the implementation of such system (Saidi et al., 2019). Their results indicated that students were satisfied with the system and perceived it as a major factor impacting their profession and future. All included factors were significant affecting the implementation of SAP. The previous research necessitates that we conduct this research to explore if students will adopt the system in the future and in their future organizations.

3. RESEARCH METHOD

The research model proposed is shown in Figure 4, where we assume that five indicators predict future adoption. The four predictors are: Performance expectancy (PE), Effort expectancy (EE), Perceived Facilitating Conditions (PFC), Perceived Enjoyment (Enj) and Locus of Control (LOC).

The first four are adopted from the UTAUT2, and extended by adding LOC construct. Based on that the following set of hypotheses are assumed:

H1: Performance Expectancy will have a positive significant effect on future adoption.
H2: Locus of Control will have a positive significant effect on future adoption.
H3: Effort expectancy will have a positive significant effect on future adoption.
H4: Perceived Facilitating Conditions will have a positive significant effect on future adoption.
H5: Perceived Enjoyment will have a positive significant effect on future adoption.
H6: Voluntariness will have a significant moderating effect on the relationship between perceived enjoyment and future adoption.

The voluntary context of technology adoption is criticized when testing it in the context of business domain. Readers might assume no voluntary action is effective when business management (administration) adopt a technology and force such set of applications on employees. The UTAUT assumed an effect of voluntariness on the relationship between social influence and adoption. In our proposed model, we neglected the social influence based on the same argument of business context and added enjoyment as a personal factor that will carry its effect to business perspective. The influence of voluntariness on the relationship between enjoyment and adoption is assumed to carry its long-term effect on students until they are employees. This view is supported by previous research; i.e. the evolutionary adoption process (Chikouche et al., 2019). We assumed that students will have a higher intensity of adoption if they used the system based on such voluntary perspective. The statement used for measuring voluntariness in the survey is a dichotomous one (yes/no), assuming that students are given the choice to use or not the application. The statement is also negatively worded (should this application be forced on students in this course?).

The survey used in this study deployed a Likert scale from 1-5, where one represents a total disagreement to the statement, and five represents a total agreement. Based on that a mean value between 1 and 2.33 represents a low perception/opinion, and a mean value between 2.333 and 3.666 represents a moderate perception/opinion, and a mean value between 3.666 and 5 represents a high perception/opinion (Abu-Shanab & Abu-Shanab, 2019). The instrument used in the study was adopted from previous research in the adoption domain, where we used 7 items to represent facilitating

Figure 4. Research model
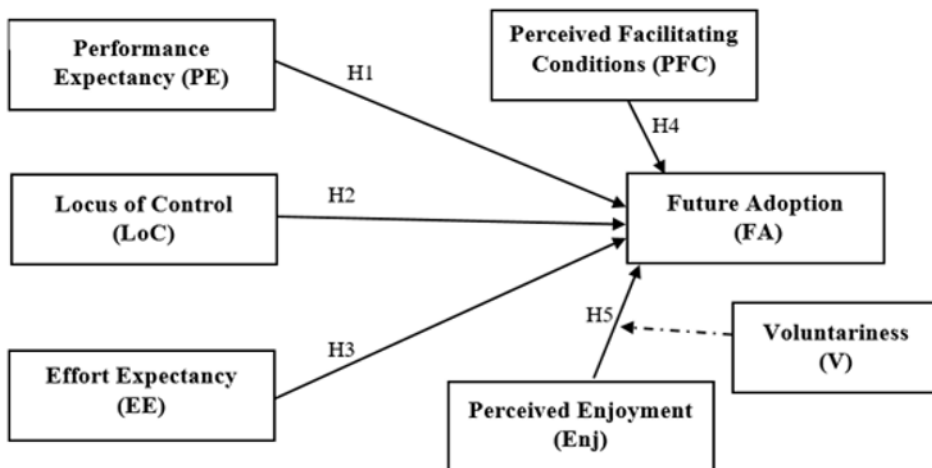
conditions, 5 items to represent performance expectancy, 5 items to represent effort expectancy, 4 items to represent enjoyment, 4 items to represent locus of control, and three items to represent Future adoption. All items were adopted from four studies by Abu-Shanab & Pearson (2007), Aoun et al. (2010), Rodrigues et al. (2016), and Abu-Shanab & Abu-Shanab (2019).

This study utilized a sample of 300 students enrolled in 8 sections teaching AIS at Qatar University. Students were asked to fill a survey after using the system (SAP application) and respond to the survey items. The total usable surveys used in the analysis were 237, where the participation was voluntary and no incentives were deployed to motivate students to participate. The surveys that included missing responses on all variables were excluded. Also, surveys with missing responses on demographic factors and some of the predictors were also excluded.

The following table shows the demographics of the sample. The sample of students are all business majors, and mainly majoring in accounting (total accounting students = 190 students). Students majoring in accounting and taking this course are mainly second or third year students. The AIS course is offered in a computer lab, where the capacity of the lab defines its size (should be less than 40 students).

4. DATA ANALYSIS AND DISCUSSION

To satisfy the analysis required, and the generalizability of research results, this needed the maximum sample size among three options: First, ten times the total number of variables, 5 times the total number of items used, or at least 100 usable surveys. The total number of variables in the model is 6, where the sample requirement is 60 surveys. The total number of items is 28, where the sample requirement is 140. Thus, our sample satisfied all three conditions. Still, statistical sources recommend multiple regression for low sample sizes because of its robustness and accommodation of major assumptions (Hair et al., 1998).

The first test was an estimation of the means and standard deviations of the survey items used. Such step defines the basic level of students' perceptions regarding a set of items built around the major constructs. The results shown in Table 2 show high levels of perceptions (Means > 3.666) regarding most items. Such perceptions confirm our propositions. The only

Table 1. Sample demographic

Gender	Freq.	%	Education	Freq.	%
Male	93	39.2	Bachelor	234	98.7
Female	144	60.8	Other	3	1.3
Total	237	100	Total	237	100
Age	**Freq.**	**%**			
18-20 years	21	8.9	**Area of study**	**Freq.(*)**	**%(*)**
21-25 years	171	72.1	MIS	8(11)	3.4(4.6)
> 25 years	45	19	Accounting	190(18)	80.2(7.6)
Total	237	100	Economics	1(11)	0.4(4.6)
Voluntariness	**Freq.**	**%**	Finance	9(61)	3.8(25.7)
Should be compulsory	182	76.8	Marketing	3(34)	1.3(14.3)
Shouldn't be compulsory	55	23.2	Management	26(91)	11(38.4)
Total	237	100	Total	237(226)**	100(95)%

(*) Figures in parentheses represent the minor area of study **Did not declare

Table 2. Item means and standard deviations

Item short Description	Min	Max	Mean	Std. Dev.
PFC1: I have enough knowledge to use SAP	1	5	3.76	1.053
PFC2: I have the necessary help in case I face any difficulty	1	5	4.05	1.046
PFC3: I have the necessary resources to use the system (Hardware)	1	5	4.30	1.044
PFC4: I have the necessary resources to use the system (licensed software)	1	5	3.49	1.355
PFC5: I will have the needed guidance to learn how to use the system	1	5	4.05	1.067
PFC6: I expect to find solutions on the Internet when I face any difficulty	1	5	3.90	1.160
PFC7: My friends and colleagues in the course will provide help is needed	1	5	3.81	1.155
EE1: Using SAP was easy and clear	1	5	4.23	1.034
EE2: learning how to use SAP and needed skills was easy	3	5	4.30	0.914
EE3: Working with SAP was flexible and smooth	1	5	4.14	1.018
EE4: Working with SAP is not complicated and needs minor experience	1	5	4.34	0.950
EE5: Understanding the applications and features of SAP needed no time	1	5	4.13	1.050
PE1: I expect the system will be useful for my professional life	1	5	4.30	1.052
PE2: Using SAP will enable me to accomplish more tasks and better	1	5	4.22	0.927
PE3: Using SAP will enable me to increase my productivity	1	5	4.04	1.024
PE4: Using SAP will enable me to increase my efficiency	1	5	4.29	0.894
PE5: Using SAP will enable me to improve the quality of task I do	1	5	4.34	0.862
E1: Using the system was enjoyable	1	5	4.08	1.010
E2: Using the system was entertaining	2	5	4.03	1.037
E3: Using the system was interesting	2	5	4.22	0.930
E4: I feel delighted when using the system	1	5	3.98	1.027
LOC1: I don't need an expert to guide me on how to use the system	1	5	2.44	1.332
LOC2: I can make the system perform the functions I need	1	5	3.29	1.143
LOC3: I feel confident when using the system	1	5	3.71	1.103
LOC4: One way or another, I can resolve any issue of problem faced	1	5	3.09	1.159
FA1: I intend to use the system in my work in the future	1	5	4.18	1.056
FA2: I expect to use AIS in the future	1	5	4.19	1.026
FA3: I plan to use AIS in the future	1	5	4.15	1.063

Note: Shaded values are means for moderately perceived statements (<3.666)

items below 3.66 and considered moderate are (PFC4, LOC22, LOC23 and LOC25). Such result indicates lower levels of students' locus of control, which represents a need for help and support for students when using the system.

We estimated the internal reliability measure using Cronbach's alpha. Internal consistency is needed to ensure that the items included in the variable are working reliably when added together and correlates significantly with each other within each variable. Results indicated an acceptable levels of Cronbach's alpha where all values were more than 0.6, and most of them exceeded the recommended threshold (>0.8 as recommended by Hair et al., (1998)).

The major variables scored highly except for LOC (as expected). LOC scored moderately as three items in the construct scored within moderate levels. It looks like students felt they needed help and cannot do it without needed support. On the other hand, the other five variables scored high with EE and PE leading the way (Check the results in Table 3). Such result supports the variables adopted from the UTAUT2 more than our extension (LOC). The standard deviations of the constructs are smaller than the items, which is an expected result based on the central tendency theory, but still item means differentiated the perceptions with a wide range from 0.756 to 1.371. A careful inspection of each item and its variance around the mean can add interesting insights.

The process of selecting the variables predicting the intentions to adopt AIS in the future depends on three directions. First, based on a theory, where we adopted the UTAUT2, a well-known theory in the technology adoption area. Second, the logical factors that are expected to predict the dependent variable, where this study assumed a significant role for LOC. Finally, the bivariate relations assumed in the literature and reported to be significant. To test the bivariate relationships between the variables will serve two purposes. The correlations between FA and the set of independent variables will serve as a confirmation of our choice (if supported). Results of the correlation matrix shown in Table 4 indicate significant correlations for all independent variables and FA. The second benefit of the correlation matrix is to check the correlations between the set of independent variables, where we guard for excessive correlations (more than 0.85), where such result indicates a multicollinearity issues (Hair et al., 1998). Results in Table 4 indicate an acceptable level of correlation between the independent variables.

To test the research model, we applied multiple regression as we have one dependent variable and five independent variables. The test aimed at predicting the variance in "future adoption" by utilizing

Table 3. Variable means and standard deviations

Variable	N	Min	Max	Mean	Std. Dev.	Cronbach's Alpha*
Perceived Facilitating Conditions (PFC)	237	1.0	5.0	3.91	0.77	0.807 (7)
Effort Expectancy (EE)	237	1.0	5.0	4.23	0.84	0.897 (5)
Performance Expectancy (PE)	237	1.4	5.0	4.24	0.82	0.910 (5)
Enjoyment (Enj)	237	1.0	5.0	4.08	0.90	0.918 (4)
Locus of Control (LOC)	237	1.0	5.0	3.13	0.87	0.713 (4)
Future Adoption (FA)	237	1.0	5.0	4.17	0.94	0.881 (3)

*Numbers in parentheses are the number of items used to measure the variable

Table 4. Pearson's correlation matrix

Variable	PFC	EE	PE	Enj	LOC
Perceived Facilitating Conditions (PFC)	1				
Effort Expectancy (EE)	.540**	1			
Performance Expectancy (PE)	.531**	.599**	1		
Enjoyment (Enj)	.423**	.653**	.553**	1	
Locus of Control (LOC)	.285**	.314**	.211**	.387**	1
Future adoption (FA)	.478**	.469**	.662**	.511**	.236**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

the five variables. The estimated coefficient of determination of the test $R^2 = 0.484$, with an $F_{5, 231} = 43.403$, and $p<0.001$ (which explains 48.4% of the variance in FA). Such result is acceptable in social sciences and exceeded the reported value in the original UTAUT2 ($R^2 = 0.44$, Venkatesh et al., 2012).

To test for the hypotheses assumed, we needed to inspect the coefficient table, where we see that only three variables were significant predictors of FA. The significant variables were perceived facilitating conditions (beta = 0.180, and H4 is supported), performance expectancy (beta = 0.573, and H1 is supported), and enjoyment (beta value = 0.199, and H5 is supported). Unfortunately, effort expectancy failed to influence adoption (Sig >0.05, H3 not supported), and similarly locus of control was not a significant predictor of future adoption (Sig >0.05, H2 not supported).

Our results stressed the importance of performance expectancy influenced as a major predictor of adoption (beta = 0.498), still other factors were important. On the contrary, it looks like effort expectancy (the ease of use variable) is not important in defining adoption when joined with other factors. It is important to relate such result with the correlation matrix shown in Table 4, where all predictors included in the model were significant when correlated to future adoption in isolation of the model. Still, when testing a research model, predictors are entered jointly to see the unique and comparative importance of variables. Such model yielded the highest coefficient of determination when compared with other suggested models (when using stepwise regression).

Finally, to test for the moderation effect of voluntariness on the relationship between Enjoyment and FA, we added the interaction term to the model and conducted the multiple regression test again using only the three significant predictors (PFC, Enj and PE). Results did indicate a significant prediction for the moderation term and the value of $R^2 = 0.506$, with an $F_{4, 231} = 59.11$, and $p<0.001$. This supports hypothesis H6. The regression coefficient table is shown in Table 6. The results shown in Table 6 indicate the negative direction of the interaction term. This means that voluntariness will cause the relationship between enjoyment and future adoption to fade away.

Our consensus on the influence of voluntariness proved to be significant, where students will be influenced by the voluntary status of use on the future adoption. The level of this relationship (between enjoyment and adoption) will be influenced by the voluntary choice of using or not the system. In addition, if employees were given the freedom to adopt certain application in the future, the enjoyment level they experienced will be a major factor to enhance the intensity of adoption rate. The negative sign of beta indicates that students who stress the necessity of using the application in the course will have higher adoption. Finally, we can modify such model in future research if the context will be free of voluntariness influence and the business we are exploring is forcing certain applications on employees (which might be the most probable case).

Table 5. The regression coefficient table

Variable	Unstand. Coeff.		Stand. Beta	t	Sig.	Hypotheses Result
	B	Std. Error				
(Constant)	0.328	0.286		1.147	0.252	--
Perceived Facilitating Conditions (PFC)	0.180	0.073	0.147	2.468	0.014	H4 supported
Effort Expectancy (EE)	-0.046	0.079	-0.041	-0.583	0.561	H3 not supported
Performance Expectancy (PE)	0.573	0.074	0.498	7.753	0.000	H1 supported
Enjoyment (Enj)	0.199	0.070	0.189	2.830	0.005	H5 supported
Locus of Control (LOC)	0.032	0.056	0.029	0.561	0.575	H2 not supported

Dependent Variable: Future adoption (FA)

Table 6. The regression coefficient table with the interaction term

Variables	Unstand. Coeff.		Stand. Beta	t	Sig.
	B	Std. Error			
(Constant)	0.571	0.267		2.137	0.034
Perceived Facilitating Conditions (PFC)	0.132	0.067	0.110	1.976	0.049
Performance Expectancy (PE)	0.554	0.069	0.493	8.068	0.000
Enjoyment (Enj)	0.262	0.065	0.256	4.031	0.000
Interaction (Enj. * Voluntariness)	-0.064	0.026	-0.129	-2.455	0.015

Dependent Variable: Future adoption (FA)

5. CONCLUSION, LIMITATIONS AND FUTURE WORK

This study tried to examine the factors influencing the future adoption of AIS. The study utilized a sample of 237 students taking a course in AIS and use a SAP application. The literature review concluded to the UTAUT2 model as a suitable framework to test such environment and extended it with LOC. The multiple regression test revealed that only three constructs were significant predictors of FA and they are PFC, PE and Enjoyment (H1, H4 & H5 only were supported). Another regression test including the interaction term between voluntariness and enjoyment was conducted and yielded significant results, with a negative direction. Such result support hypothesis (H6).

Our results needs more replication with a larger sample size to confirm such result or support our original model. The surprising issue is the significant rule of enjoyment regardless of the effort needed to use the system. The significant predictors guide faculty members teaching the course to emphasize the importance of performance expectancy to students; in other words, how well the application can serve students in their future work. On the other hand, students stressed the role of enjoyment they perceive when using the system. In addition, PFC significant result indicated the importance of future facilitation of such applications, where students showed that they need other than having the system in place to make use of it. Finally, students felt that having a an easy system (EE) and the personal control over its requirements needed 9LOC) are not crucial factors for their future adoption.

As expected, the moderation of voluntariness issue made a difference. The question related to this factor stated that if you have the choice of making the use of this system voluntary, would you do that? The coding of the item represented two choices: if the response is 1, then the choice is yes (compulsory), if the response is 2, then the response is no (voluntary). When testing it using an interaction term, results were significant, but negative. This meant that if enjoyment was influencing the future adoption positively (as hypothesis H5 stated), then making the system voluntary will yield in less influence. This means that leaving the choice for employees to use the system or not will yield in a less magnitude of influence. Employees if forced to use a system, such use should be more enjoyable to be successful.

For professional forthcoming of this work, businesses need to raise awareness of the usefulness of such applications and the enjoyment gained when using them. In addition, the hardware and software utilized (with other technical help facilities need to be ready for such systems). Such view by students stresses that such system will fail if they are not perceived useful, enjoyable, and all required conditions and resources are ready for implementation. Still, future research needs to test the role of EE (original predictor in the UTAUT2). It looks like the failure of EE represents a surprising results, where it contradicts with the majority of studies mentioned in the literature review. Students taking the AIS course might not need it to be easy to use as its usefulness and enjoyable atmosphere will fill the gap. An explanation of the EE failure might be accounted for the less importance of such variable for generations Y or Z (millennials or younger generations).

The explanation we had to the failure of LOC is the IT competencies gained by university students during their study. It seems that they felt they did not need the required support and it looks like such factor will not influence their future adoption. This also supports the result of EE, where they feel that usefulness is more important. Finally, the contrast between the bivariate correlations and the regression results indicates that the original UTAUT2 is a robust model (as PE, EE, PFC & Enjoyment were all significant predictors of FA when entered alone, and their effects are all higher than LOC). On the other hand, the efficiency of such variables when entered together would show weaknesses in few factors.

This study utilized the UTAUT model (as a well-researched model, but not in relation to AISs), and yielded surprising results when LOC and EE failed to have an influence. Still, it was surprising also to see that voluntariness was a significant moderator of the relationship between enjoyment and adoption. Such result calls for more research to explore the students perspective vs. the employees future perspective. Researchers might feel that if applications were forced on employees in a business context (to satisfy consistency and compatibility), employees voluntary perceptions will have no influence in the model (direct predictor or as a moderator.) Such perspective needs more exploration, where voluntariness perception is still a valid construct in business domain.

This study is the first to be conducted in Qatar (up to the knowledge of authors) and would play an excellent start for researchers to test such context. It has crucial contributions to research and practice society. On the other hand, this study suffered from the following limitations: 1) the small sample size, 2) the newly used Arabic instrument, 3) the time limitation in conducting the survey, other pedagogical related issues, 4) and the influence of not having an incentive for students to comment and elaborate on their perceptions regarding the adoption of AIS. Based on the previously mentioned limitations of this research, more replication of this study with a larger sample size, more validation of the instrument, and different context of research can improve validate the proposed research model.

In addition to the previously proposed future work, researchers might adopt other research methods like focus group, or content (qualitative) research, where our findings are shared with other faculty involved with teaching the AIS course. The aim of such proposition is to focus on the pedagogical changes or teaching approaches to the subject and how it might influence future adoption. Future research also, might benefit from such opinions in implementing certain pedagogical interventions and explore other venues for research. Finally, a longitudinal study might be implemented to explore how such factors are influencing the same subjects when they join their future companies and if any changes are measured between the student view and the employees view. Such proposition might answer our concern regarding the influence of voluntariness.

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Emad A. Abu-Shanab earned his PhD in business administration in the MIS area from Southern Illinois University – Carbondale, USA, his MBA from Wilfrid Laurier University in Canada, and his Bachelor degree in civil engineering from Yarmouk University (YU) in Jordan. His research interest in areas like E-government, technology acceptance, E-marketing, E-CRM, Digital divide, e-CRM, IT project management, and E-learning. Published many articles in journals and conferences, and authored three books in e-government, and few book chapters. Dr. Abu-Shanab worked as an assistant dean for students' affairs, quality assurance officer in Oman, and the director of Faculty Development Center at YU. He is a professor in the MIS Department and was the department chair. Now Prof. Abu-Shanab works at Qatar University in the accounting and Information Systems Department.

Ines Ben Salah is an accounting professor at Qatar University in the accounting and Information Systems Department, College of Business and Economics, Qatar.