ABSTRACT

With the aid of the internet, many organizations and institutes have adopted the idea of applying the e-learning system, which is considered as one of the most important services provided by the internet. The University of Bahrain is one of the Arabic educational institutes that are in its way to adopt the e-learning system and convert all of its courses to be online by 2008. University of Bahrain believes that adopting e-learning system can help in addressing many challenges arise from the widening number of students locally and regionally compared to the available human, technical, and other resources.

The purpose of this paper is to investigate the factors affecting the acceptance and use of e-learning system at the University of Bahrain. Through an extension of the Technology Acceptance Model (TAM), three factors that influence the intention to adopt the e-learning system will be examined. These factors include: computer self-efficacy, content quality, and subjective norms. In addition, some cultural factors that could affect the students’ attitude toward using the e-learning system will be also examined. A quantitative research methodology is used based on a survey that was distributed to a sample of 200 students from the University of Bahrain to form the primary data of the research. Regression analysis was used to observe the associations of the proposed constructs of the research model.

Finding of this research can help the University of Bahrain, and any other Arabic educational institutes that intend to apply the e-learning system, to identify factors that influence the adoption of the e-learning system in their institute. Hence, they should be able to recognize different ways to enhance their students’ acceptance of the e-learning system.

Key words: Technology Acceptance Model; Cultural Factors; E-learning.

1. INTRODUCTION

E-learning generally refers to methods of learning that use electronic instructional content delivered via the electronic media [1]. E-learning is an opportunity emerged recently to improve the learning process by using more modern, efficient and effective teaching and learning based information technology [2][3]. Hence the global interest and investments on the e-learning is growing rapidly [4]. E-learning includes a wide range of teaching and learning activities [5]. These activities are conducted via electronic media such as Internet, Intranet, audio/video, CD-ROMs and interactive TV [4]. Therefore to create a well-designed, effective, interactive, easily accessible, and distributed e-learning system, organizations need to consider some factors that influence the e-learning system before adopting such system [3]. There are many factors reveled by the literature to have an influence on the e-learning environment. Some of these factors are related to the system itself, others are related to the human sides of this environment such as the students and the instructors, and others are related to the individual’s behavior and culture as it will be discussed in this paper.

The University of Bahrain is in its way to adopt the e-learning system. Aimed at offering high level educational programs, it has considered the requirements for applying the e-learning system, and the establishment of online resources. Applying e-learning system at the University of Bahrain believed to provide the university with an opportunity for improving the quality of education and addressing many of the university’s challenges arise from the widening number of students enrolling locally and regionally compared to the limited human and technical resources.

Hence, this paper sets out to investigate factors affecting the acceptance of e-learning system at the University Of Bahrain through the use of the Technology Acceptance Model (TAM), and examine its three factors that influence the intention to adopt the e-learning system. These factors include: computer self-efficacy, content quality, and subjective norms. In addition, some cultural factors that could affect the students’ attitude toward using the e-learning system are also examined. The cultural factors adopted by the research model are based on the [6] cultural factors which include the power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance and the long-term vs. short-term orientation.

This paper consists of nine sections; each will touch a significant component of this research. The following section spots the light on the literature review on the Technology
Acceptance Model (TAM), and the factors affecting the e-learning. Section three explains the research model and hypothesis. The survey instruments of this study are discussed in section four. Section five illustrates the research methodology for this study. Description of data analysis is presented in section six. In section seven, profile of the study participants are discussed. Finally, in the last two sections of this paper; 8 and 9, the findings of this study are discussed and a conclusion is presented and made ready for the educational institutes that intend to apply the e-learning system.

2. THEORETICAL BACKGROUND

In order to address the main research question “what are factor influencing the adoption of e-learning” a review for the literature has been done pertaining both theory of TAM and factors affecting the e-learning. The following sections are providing some background on the TAM and factors that affect the e-learning, such as computer self-efficacy, content quality, subjective norms, and the cultural factors that affects the attitude towards using the e-learning system.

2.1 TECHNOLOGY ACCEPTANCE MODEL

There are many models that have been developed to investigate and understand the factors affecting the acceptance of computer technology in the organization. Among those are the Theory of Reasoned Action (TRA) [7], the Theory of Planned Behaviour (TPB) [8], the Technology Acceptance Model (TAM) [9] and the Unified Theory of Acceptance and Use of Technology (UTAUT) [10]. However, it have been noticed that the most used model by Information System academics and practitioners is the TAM design by [11]. TAM is an adaptation of the Theory of Reasonal Action (TRA) to the field of IS.

The objective of TAM is to provide an explanation of the determinants of the adoption and use of information technology [9]. TAM originally suggested that two attitudes: perceived usefulness and perceived easy of use, are involved in explaining the variance in user’s intention or behavior of intention [9].

TAM hypothesizes that perceived usefulness and perceived ease of use determine an individual’s behavior intention to use a particular technology, while behavior intention to use functioning as a mediator of actual technology in use [11]. Perceived usefulness is also seen as being directly impacted by perceived ease of use. Perceived usefulness is the degree to which a person believes that a particular system enhances his or her job performance. Perceived ease of use is the degree to which a person believes that using a particular system will be free of effort [9]. Perceived ease of use and perceived usefulness moreover, can be considered as a system factors that affecting the user behavior intention to use a particular system. They are common in technology-usage setting [12][13], which have been applied widely to solve the acceptance problem using different acceptance models [14].

2.2 FACTORS AFFECTING THE E-LEARNING

There are many factors have been identified in the literature to have an effect on the e-learning. The identified factors are related to the technical, human, system, instructor, student, and cultural factors. Some of these factors shown in the literature to be affected the behavior intention to the usage and acceptance of the e-learning system. However, the other shown to be affected the perceived usefulness or perceived ease of use. Papp [15] identifies number of critical success factors for assisting the faculty and university in the e-learning development. Among these factors are the suitability of the course for e-learning environment, e-learning course-content and maintenance and intellectual property. Selim [2] however, attempted to categorize the factors that affect the e-learning. According to Selim, the factors can be setting into four categories: instructor, student, information technology and university support. Ndubisi [16] used the decomposed version of TPB to identify the factor that affect the intention to adopt e-learning. Among the identified factors is the attitude, which includes the TAM factors of perceived usefulness and preserved ease of use, security, and subjective norms. Perceived behavior controlled, another factor identified by Ndubisi [4], was shown to be affected by self-efficacy, computing experience, and technological facilities. Chang and Tung (2008) in thy research, combined the Innovation Diffusion Theory (IDT) with the TAM in attempt to investigate the effect of perceived system quality and computer self-efficacy on the behavior intention to use online learning course websites.

2.3 CULTURAL FACTORS

Learning is an activity profoundly influenced by cultural factors and hence there were enormous diversity of educational systems in the world [17]. E-learning is new medium of learning delivery which includes different learning and teaching style, and involves complex instructor-student relationships and communications. E-learning system is often tailored to reflect a particular culture group, satisfy the requirements of certain learning styles and recognize specific learning needs or pedagogical [18]. Therefore, there is a need to expose the relationship between user’s cultural backgrounds and the usability of e-learning system [19]. Wentling [19] demonstrated that suitable awareness of cultural diversities and their effects on the individual user is vital to the success of e-learning system. Moreover, Kamentz and Mandl [17] stated
that in developing learning programs and specifically in designing layout, interaction, navigation, content, didactics and learning style preferences, the cultural differences need to be considered.

The important of cultural factors in understanding individual's attitudes and capability in general business practices have been investigated heavily in literature [20][21]. However, there are few studies that attempted to examine the effect of the cultural background in shaping the individual's attitude with respect to adopting and using e-learning [22].

3. RESEARCH MODEL AND HYPOTHESES

The research model is presented in Figure (1). It was mentioned previously that the objective of the research is to investigate the factors that affect the student’s behavior intention toward the acceptance and use of the e-learning system at the University of Bahrain. Hence, an extension of the TAM, which integrates subjective norms [23] as a determinate of the intention to use the information technology, was adopted. Moreover, the TAM was extended to examine other factors such as content quality, computer self-efficacy and the cultural factors as shown in Figure (1). The model have been modified according to prior research on TAM [24][12][13].The TAM have integrated subjective norms, content quality, computer self-efficacy and the cultural factors and proposed a new TAM model to study student’s behavioral intentions to use the e-learning system.

3.1. PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE

Information system researchers have investigated TAM, and agreed on its validity in predicting the individual’s acceptance of various systems [25][26][27][28]. Information systems researchers have discovered that perceived usefulness and perceived easy of use have a positive effect on the behavioral intention to use system [25][26]. Information system researchers moreover have found that perceived ease of use has a positive effect on the perceived usefulness [24]. The hypotheses relating to perceived ease of use and perceived usefulness have been studied by a number of TAM researchers [29].

Hence the following hypotheses are developed:

Hypothesis 1: Perceive ease of use will positively affect a student's perceptions of usefulness of using e-learning system at the University Of Bahrain.

Hypothesis 2: Perceive usefulness will positively affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

Hypothesis 3: Perceive ease of use will positively affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

3.2. SUBJECTIVE NORMS

According to Fishbein and Ajzen [30], subjective norms refer to “the person’s perception that the most people who are important to him think he should or should not perform the behavior in question”. Havelka [31] however refer to subjective norms as “a person’s perception of the social pressures applied to perform or not perform the behavior in question by important referents”. The subjective norms implication on the intention behavior toward the acceptance and usage of technology has been investigated intensively in the literature. The literature reported on many theoretical and empirical evidence regarding the importance of the role of subjective norms on technology use, directly or indirectly, through perceived usefulness in the workplace [24][12][28].

Subjective norms have been found to be more important prior to, or in the early stages of innovation implementation when users have limited direct experience from which to develop attitude [32]. Venkatesh and Davis [28] in their research study they found a direct effect of subjective norms on intentions to use of the information systems. Lee [24] reported that the effect of subjective norms has significantly influenced perceived usefulness. Therefore, this research includes subjective norms as one of the factors that affect the e-learning systems, and the following hypothesis was developed accordingly:

Hypothesis 4: Subjective norms will positively affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.
Hypothesis 5: Subjective norms will positively affect a student's perceptions of usefulness of using e-learning at the University Of Bahrain.

3.3. CONTENT QUALITY

The content quality measures the quality of the course content and is concerning the accuracy, authenticity, accessibility, the design and the appropriateness of the course content [33]. The content quality aimed at providing sufficient content to enable the target group of learners to meet the course objectives. The content quality has been considered as a critical success factors for the e-learning by many researchers [24][15]. According to Baker and Papp [33], a prerequisite of a successful course in an online learning mode is the quality of the content. The student motivation and expectation can be enhanced through effective delivery of challenging subject matter in a manner. It is also important to carry content on user-friendly platform that utilize multimedia tools, which students tend to be attracted to. It is also important that instructors delivering course content to be effective in using today's technology. Papp [15] stated that updating the content and new content lead student to feel that the e-learning system is useful means of gaining new knowledge and learning. Lee [24] reported that if the content is rich, manageable and updatable regularly, the student find content on e-learning useful and may affect their performance. This research therefore hypothesizes that the content quality has an effect on the e-learning system.

Hypothesis 6: Content quality will positively affect a student's perceptions of usefulness of using e-learning at the University Of Bahrain.

Hypothesis 7: Content quality will positively affect a student's perceptions of ease of using e-learning system at the University Of Bahrain.

3.4. COMPUTER SELF-EFFICACY

Computer self efficacy is defined as individual’s self confidence in his or her ability to perform behaviour and use the computer in the context of information technology usage [34][35][36]. According to Hayashe, et al. [37] the computer self-efficacy is not concerned with what one has done in the past, but rather with judgments of what could be done in the future. Moreover, it does not refer to just on the straightforward computer skills, like formatting diskettes or entering formulas into a spreadsheet or formatting a document. Rather, it encompasses judgments of the capability to apply those skills to broader and more complex tasks [38].

The effect of computer self-efficacy on the performance of the learning has been studied extensively in teaching-learning settings [34][35][37][24][38]. For instance, Vijayasarathy [39] found that the computer self-efficacy have a positive effect on the behavioral intention to use systems as the more experience one gain online; the more important are concerns of control over personal information. Moreover, the individuals’ confidence in their computer-related knowledge and skills and abilities can influence perception on the ease or difficulty of carrying out a specific task using a new technology, and how useful that new technology will be [39]. Therefore, computer self-efficacy has been revealed by the literature to have a critical role in terms of its effect on perceive usefulness [38] and perceived ease of use [37][24][40]. Therefore the following hypothesis was developed:

Hypothesis 8: Computer self-efficacy will positively affect a student's perceptions of usefulness of using e-learning system at the University Of Bahrain.

Hypothesis 9: Computer self-efficacy will positively affect a student's perceptions of ease of using e-learning system at the University Of Bahrain.

3.5. CULTURAL FACTORS

Hofstede [41] in his study revealed that the dimensions of culture of power distance, individualism vs. collectivism, uncertainty avoidance and masculinity vs. femininity has a vital importance in the context of educational system design. The differences in knowledge presentation and delivery, pedagogical and the navigational structure can be understood and identified using theses cultural dimensions. Moreover, the differences related to the cultural dimensions influence the structure of learning situation, the learning process, the content and presentation mode of teaching material and the relation and communication between teacher and student [17]. Hofstede [42] investigated the relationship between learning behavior and culture and found cultural differences in characteristics of the educational process and the instructional practices respectively.

- **Individualism vs. Collectivism** cultural orientation refers to the ties among individuals in a society [22]. Individualism means that there are weak relationships between individuals within a society and that the individuals are expected to look after themselves or their immediate families [43]. Collectivism dimension of culture is related to the integration of individuals into primary groups. This culture dimension differs in regards to collaborative work [44]. In the online learning context this dimension focuses on what students see as a priority in their own success or benefits for the community of students where they are part of. In addition, this dimension explains whether the students in an e-learning
environment will like to be a part of a student group, rather than having just a direct relationship with the instructor [44].

Hypothesis 10: The individualism vs. collectivism will affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

- **Power distance** is related to the different solutions to the basic problem of human inequality. It measures the extent to which subordinates (employees, students) respond to power and authority (managers, teachers) and how they expect and accept unequal power distribution [22]. Wilhelm [44] stated that power distance in the online learning measure how accessible is instructors to students and how they are rarely available to students. This dimension has an influence perception about the appropriateness of online technology as a way of learning and who has the right to access information [43]. Therefore the following hypothesis was developed.

Hypothesis 11: The power distance will affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

- **Uncertainty avoidance** describes by Dahl [45] as “the extent to which individuals feel threatened by uncertain or unknown situations”. Barton, et al, [22] however, define uncertainty avoidance as the level of stress in a society in the face of an unknown future. In the environment of e-learning this dimension of culture is related to the students’ behavior toward the structure of their study [44]. Students in some cultures always want to be certain about what will be happening next in their study, whereas others welcome a looser approach [44]. Moreover, some instructors load the student with many tasks and force them into uncertainty to promote a particular way of learning while others try to make the activities and assessments clear and predictable [44]. Therefore, the following hypothesis was developed.

Hypothesis 12: The uncertainty avoidance will affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

- **Masculinity vs. femininity** dimension of culture focuses on the differences between societies with clear gender roles [44] and the expected behavior of the two genders [22]. The authors believe that such cultural factor will have an effect on the behavioral intention of the students on accepting or using e-learning. Accordingly, the following hypothesis was developed:

Hypothesis 13: The masculinity vs. femininity will affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

- **Long-term vs. short-term orientation** described by Barton [22] as "the choice of focus for people's efforts: the future or the present". Students working in a long-term culture are looking for long-term achievements, and so, they are less concerned about the immediate responses. However, students working in a short-term culture are focusing more on their achievements of their recent works [44]. Tylee [43] stated that this dimension will influence student’s perception about the content of the site with the long-term orientation focusing on practice and practical value. Moreover, long-term versus short-term dimension of culture will influence the perception of the online environment, considered as the source of information and learning, in addition to the desire for results and achievements of goals [43]. Therefore the following hypothesis is developed.

Hypothesis 14: The long term vs. short term orientation will affect a student's behavioral intention to use the e-learning system at the University Of Bahrain.

4. DEVELOPMENT OF RESEARCH INSTRUMENT

The survey instruments for this study was developed using validated items from the prior researches as means of assessing the theoretical constructs of the extended TAM model for e-learning, using the TAM scales of perceived usefulness, perceived ease of use, and behavioral intention from Davis [11] and Davis et al [9]. A scale for measuring subjective norms was developed using the measurement of Taylor and Todd [12, 13]. The measurement of content quality was developed through an adoption of the method proposed by Arbaugh [46]. Computer self-efficacy was developed using the measures of Lee [24] which has been adopted by Compeau and Higgins [34]. The scale for measuring the Hofstede [47] cultural dimensions was developed using the measurement of Lixun [48], which has been developed using Jegede and Okebukola [49].

5. METHODOLOGY

200 students from the University of Bahrain, the only public university in the Kingdom of Bahrain, were selected to present the population of the current study. The purposive non-probabilistic sampling method was used in sample selection to ensure that only students who have participated in at least one on-line course are selected. Secondly, a deliberate effort was made to include students from the overall university colleges in the university's two campuses. These
colleges include the college of Information Technology, college of Business, college of Engineering, college of Law, college of Science, and college of Arts. A structured questionnaire, consisted of two parts, was used in this research. The first part measures the perceived usefulness, perceived ease of use, behavioral intention, subjective norms, content quality, and the computer self-efficacy. The second part of the questionnaire concerns the measurement of the cultural factors. Questionnaire items: behavioral intention, perceived easy of use, perceived usefulness, subjective norms, content quality, computer self-efficacy, and the cultural factors (individualism vs. collectivism, power distance, uncertainty avoidance, masculinity vs. femininity and long-term vs. short-term orientation), were measured on a seven-point Likert-scale anchored at both extremes to 1 (strongly disagree) and 7 (strongly agree). The midpoint (4) represents the state of unsure or “neutral”.

6. DATA ANALYSIS

The target population in this study is the students of the University of Bahrain. Therefore 200 questionnaires were distributed to different students from different colleges of the two campuses of the university, in attempt to cover the students’ different views. From the 200 questionnaires distributed, 155 questionnaires were returned in a form eligible for the analysis. The overall response rate for this study is 77.5, which is considered high, due to the effort done by the authors to get the responses. The questionnaire responses were analyzed using version 15 of the statistical package, SPSS. Given the parameters of this study, Pearson correlation was deemed an appropriate statistic for data analysis. The intent of this correlation was to confirm any relationship between the identified factors: subjective norms, content quality, computer self-efficacy, and Hofstede’s cultural factors. Specifically, bivariate correlation using a product-moment correlation (Pearson r) was used to test the relationships outlined in the research hypotheses. However, for more summative result, the seven-point scale used for analysis was combined into three-point scale where responses for 1, 2, and 3 represents one response for “disagree” and responses for 5, 6, and 7 represent one response for “agree”. As such, the repopulates value where set into three points; 1 (disagree), 0 (neutral) and 2 (agree).

7. PROFILE OF THE STUDY PARTICIPANTS

Tables (1-5) shown below, provides demographic information about the study participants who represent students of the University of Bahrain. As shown in Table (1), the results illustrates that out of 155 respondents, 36 (23.2%) of them are males, and 119 (76.8%) are females. These figures reflect the dominant of females in the University of Bahrain. Although the University of Bahrain has many students from regional countries and also from Asian and western countries, the results in Table (2) shows that most of the respondents were Bahraini which represented by (94.2 %). However just (5.8 %) of the respondents were non Bahrainis include nationalities such as Egyptians, Sudanese and Saudis.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>36</td>
<td>23.2%</td>
</tr>
<tr>
<td>Female</td>
<td>119</td>
<td>76.8%</td>
</tr>
</tbody>
</table>

Table (1) Gender of the students

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahraini</td>
<td>146</td>
<td>94.2%</td>
</tr>
<tr>
<td>Non-Bahraini</td>
<td>9</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Table (2) Nationality of the students

<table>
<thead>
<tr>
<th>Morning program /Evening</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>105</td>
<td>67.7%</td>
</tr>
<tr>
<td>Evening</td>
<td>50</td>
<td>32.3%</td>
</tr>
</tbody>
</table>

Table (3) Morning/ Evening program

Some programs in the University of Bahrain are offered as a full time (morning programs) and some are part time (evening programs). Most of the enrolled students in the evening programs are employees or working students. Both studies schemes were included in the survey. The result presented in Table (3) demonstrate that (67.7%) of the respondents were full time students, while 32.3% of them were part-time students.

Based on the year of study, most of the respondents were in their third and fourth year which represented by 25.2 % and 25.2 %, respectively as shown in Table (4). The results show also that few of 11 % of the respondents were in their first year and a percentage of 18.1 % were in their second year. However, 20.6 % of the respondents have spent more than 4 years at the university. They can be in their 5th, 6th or even 8th year of study. This result reflects the current situation in the University of Bahrain regarding the e-learning system as most of on-line courses are targeting high level courses. That’s why minimum number of respondents was from the first and second years.
Finally, Table (5) presents demographic information regarding the participants’ field of study. As such Table (5) shows number and percentage of the respondents among the colleges and the departments of the University of Bahrain. The results presented in Table (5) demonstrate that the majority of the students were from the college of Business (41.3%) and College of IT (25.2%). These two colleges are considered as two of the largest colleges at the University of Bahrain. The college of Law is new at the University of Bahrain and hence, the contribution of this college to the survey was the minimum which represented by (6.5%). While the college of Engineering, college of Science, and college of Arts are of the eldest colleges in the university, their contribution was also of the minimum as they represented just (7.1 %), (7.7 %) and (12.3%).

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>18.1</td>
</tr>
<tr>
<td>3</td>
<td>39</td>
<td>25.2</td>
</tr>
<tr>
<td>4</td>
<td>39</td>
<td>25.2</td>
</tr>
<tr>
<td>more than 4</td>
<td>32</td>
<td>20.6</td>
</tr>
</tbody>
</table>

Table 4: students’ year of study

8. DISCUSSION

This section describes the key finding emerging from this study and presents the finding organized around the research hypotheses discussed in the previous section. The results of the Pearson correlation were presented in Table (6). As seen from the results presented in Table (6), numbers of relationships were supported.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statements</th>
<th>R</th>
<th>Sig. P-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Perceived ease of use will positively affect an individual’s perceptions of usefulness of using e-learning system at the University of Bahrain</td>
<td>0.225</td>
<td>0.000</td>
</tr>
<tr>
<td>H2</td>
<td>Perceived usefulness will positively affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.33</td>
<td>0.000</td>
</tr>
<tr>
<td>H3</td>
<td>Perceived ease of use will positively affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.250</td>
<td>0.000</td>
</tr>
<tr>
<td>H4</td>
<td>Subjective norms will positively affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H5</td>
<td>Subjective norms will positively affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H6</td>
<td>Consumer quality will positively affect an individual’s perceptions of usefulness of using e-learning at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H7</td>
<td>Consumer quality will positively affect an individual’s perceptions of ease of using e-learning system at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H8</td>
<td>Computer self-efficacy will positively affect an individual’s perceptions of usefulness of using e-learning system at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H9</td>
<td>Computer self-efficacy will positively affect an individual’s perceptions of ease of using e-learning system at the University of Bahrain</td>
<td>0.275</td>
<td>0.000</td>
</tr>
<tr>
<td>H10</td>
<td>The individualism vs collectivism will affect an individual's behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.240</td>
<td>0.000</td>
</tr>
<tr>
<td>H11</td>
<td>The power distance will affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.235</td>
<td>0.000</td>
</tr>
<tr>
<td>H12</td>
<td>The masculinity vs femininity will affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.235</td>
<td>0.000</td>
</tr>
<tr>
<td>H13</td>
<td>The long term vs. short term orientation will affect an individual’s behavioral intention to use the e-learning system at the University of Bahrain</td>
<td>0.175</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 6: Hypotheses regarding the TAM’s variables of perceived usefulness and perceived easy of use

The results in Table (6) show that perceived easy of use and perceived usefulness were significantly correlated to the behavioral intention to use e-learning at p<0.001 level. Both have shown a strong correlation (r = 0.353 and r = 0.362) respectively. Moreover, the results show that the correlation between the perceived ease of use and perceived usefulness was significant (r = 0.235) at p<0.001 level. These findings match what Venkatesh and Davis [28, 40] found in their research. The result also show that the subjective norms have a direct effect (r = 0.297, p<0.001) and indirect effect through the perceived usefulness (r = 0.364, p< 0.001) on behavioral intention to use e-learning system. These results consist with what Venkatesh and Davis (28, 40) found in their work. However, contrary to prior research; perceived ease of use was the strongest of the three predictors (perceived usefulness, perceived easy of use, and subjective norm) of behavioral intention to adopt and use e-learning system.
Moreover the results in Table (6) revealed that the influence of the content quality on the perceived ease of use and perceived usefulness were significant ($r = 0.287$, $p = 0.0271$) at $p<0.001$ and $p<0.01$ level respectively. These finding match what Chiu et al [50] and Lee [24] found in their research. The results also show that the computer self-efficacy had a great positive and direct effect on both perceived easy of use ($r = 0.360$) and perceived usefulness ($r = 0.294$) at $p<0.001$ level. This finding coincides with Lee [25] research conclusion.

One objective set for the current research was to investigate the effect of cultural factors on the behavioral intention to use technology. The Hofstede’s [48] cultural dimension of power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance and long vs. short term were investigated. Table (6) shows that power distance, uncertainty avoidance and long vs. short term orientation have a strong correlation with the behavioral intention to use e-learning system. The cultural dimensions of uncertainty avoidance ($r = 0.255$, $p <0.01$) and power distance ($r = 0.246$, $p<0.01$) had the strongest effect on the behavioral intention to use e-learning system. The long term vs. short term orientation, on the other hand has a significant effect ($r = 0.177$) on the behavioral intention at $p<0.01$ level. However, the results show that the individualism vs. collectivism ($r = 0.107$, $p=0.188$) and masculinity vs. femininity ($r = 0.00$, $p=0.997$) have no significant effect on the behavioral intention to use e-learning system.

### 9. CONCLUSION

The current research was conducted to investigate factors affecting the student’s behavioral intention to accept and use e-learning system at the University of Bahrain. The research findings revealed that perceived usefulness and perceived ease of use have a great positive effect on the student’s behavioral intention to use e-learning system in the University of Bahrain. The findings moreover, indicated that content quality and computer self-efficacy have a positive indirect effect on the behavioral intention to use e-learning system through perceived usefulness and perceived ease of use. Subjective norms, however has been identified by the research to be an important predictor for the behavioral intention to use e-learning system as it has shown a great direct and indirect (via perceived usefulness) effect on the behavioral intention.

The research findings regarding the effect of the cultural factors on the behavioral intention were significant. The findings showed that the cultural diversities of power distance, uncertainty avoidance and long term vs. short term orientation have an effect on the student’s intention to use e-learning system at the University of Bahrain. Other cultural factors such the masculinity vs. femininity and individualism vs. collectivism indicated by the research finding to have no effect on the behavioral intention to use e-learning system.

The finding of this study has significant implications on the suitability of adopting an e-learning system at the University of Bahrain. The finding is particularly applicable to the university’s executives and administrators as it expose ways to increase student’s involvement in e-learning system at the University of Bahrain. The instructors and academics should focus on their on-line courses’ usefulness and easy of use as they form the higher effect on the e-learning acceptance and usage. Moreover, they have to consider the quality of their course content as it has an indirect effect on the students’ acceptance of using online courses. The results regarding the cultural factors investigated in this research spots the light on the importance of the cultural factors influencing the e-learning. This will enhance the university’s administrators and executives awareness toward the cultural aspects of e-learning, which should reflect on their decisions, when planning to adopt the e-learning at the University of Bahrain.

As noted previously, there have been few studies that examine both Technology Acceptance Model and cultural factors, specially the national factor dimensions. Therefore this study adds a contribution to the literature in this field.

The research proposed an extension to the TAM by examining the subjective norms, content quality, and computer self-efficacy in addition to the cultural factors and provided a new model for TAM to study student’s acceptance of the e-learning system in the University of Bahrain. Moreover, this study is one of the few studies that investigate the e-learning system and the factors affecting the student's intention to use this technology in the Gulf region.

### REFERENCES


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