Comparative Study between Egypt and Saudi Arabia to Empirically Examine Students’ E-learning Acceptance in Educational Private Sector during COVID 19 Pandemic

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Abstract: The aim of the study is to empirically compare between students acceptance of E-learning systems in developing countries such as Egypt and Saudi Arabia especially after the pandemic of COVID19 and the accountability of all education sectors worldwide on e-learning systems and platforms. This takes place through an extension of the technology acceptance model (TAM). Identifying the factors that influence the acceptance of e-learning systems help to improve student satisfaction and enhance educational systems to become more effective and efficient. This will help universities to develop better marketing strategies. Due to the spread of COVID 19, the study adopted a quantitative approach through online questionnaires. Students were asked to fill out the questionnaire. This is to compare students’ experience of Moodle in the College of Management and Technology in Egypt compared to students’ experience of LMS in College of Business in Saudi Arabia. The results showed that students accept e-learning systems when they perceive them as useful and easy to use. The results of the study confirm the original TAM findings and extend it. Computer self-efficacy and internet self-efficacy had a direct impact on students’ perception of the ease of the e-learning system in both countries. Behavioral intention had no significant effect on Saudi students’ acceptance of e-learning system while it had direct significant effect on Egyptian students.

1. Introduction

Coronavirus, or COVID-19, is a pandemic that affects 199 countries and territories worldwide (Sun et al., 2020). The spread of COVID-19 has prompted most countries around the world to adopt emergency lockdown plans and implement social distance policies to reduce the spread of the virus; this has resulted in school and university interruptions and closures.

Since COVID19 pandemic exceeded the national borders which affected people daily life, on the level of education, gender or even social class. According to UNESCO, COVID-19 Educational Disruption and Response, (2020), which highlighted that the pandemic has impacted 90% of the student worldwide. Consequently, universities closure was mandatory. Such widespread closure has economic and societal consequences (Lindzon, 2020; Jamerson, Josh & Joshua, 2020). Due to such situation facing universities, whether public or private or even international ones, the demand for providing students with e-learning systems has increased to enhance the students’ education experience, satisfaction and thus, enhance the quality of education. It is important that students first accept the e-learning system in order to efficiently and effectively use it. Consequently, the students’ experience will determine their level of satisfaction with the e-learning system. Nowadays, universities are concerned with students’ satisfaction with their e-learning experience. Such satisfaction builds the brand name and reputation of universities and will show how universities are keen to provide all educational methods even though many industries were affected with this pandemic and closed.

A special emphasis is now given to e-learning systems in the education sector. Due to the important role of e-learning system in facilitating and improving the development of performance, knowledge of learners is necessary to improve the overall quality of education with reduction of education costs. The e-learning systems facilitate the teaching and learning experience of instructors- students’ relationships.
E-learning utilizes technology through computer multimedia devices, video conferencing and internet to improve the quality of education by developing the interaction between students and instructors. Owing to today’s intensive competitions between public, private and international universities, e-learning systems provide a competitive advantage through providing high quality education services. In addition, student-instructor interactions take place through e-learning Web portals. According to Al-Marooof (2021), previous studies highlighted the importance of having universities support to enhance a better learning environment and to motivate students and professors’ adoption of e-learning systems.

The present study aims to compare e-learning system applications and acceptance in two developing countries: Egypt and Saudi Arabia during COVID-19 pandemic. The study presents students’ overall acceptance regarding e-learning systems and empirically test the factors that affect students’ acceptance of e-learning in both countries. Based on Xanthidis et al., (2013) the main obstacle in the development of the e-learning system in Saudi universities is the lack of modern telecommunications and infrastructure. Moreover, based on Al-Shehri (2010) the obstacle was in the absence of clear vision and strategic planning for the adoption of e-learning systems in education sectors despite students’ acceptance.

Dar Al Uloom University uses mainly LMS platform and Microsoft Teams to support their learning operations while AASTU uses mainly Moodle, ZOOM and Google Classroom. LMS and Moodle include several functions such as student assessments, announcements, outlines, weekly courses planning, report generations and direct communication through messages and e-mails and chats (Sharm & Vatta, 2013; Kulshrestha & Kant, 2013).

According to Aljaber (2018), Saudi Arabian Ministry of education reported the dramatic increase in the number of the higher school graduates accepted in Saudi universities compared to previous years. It is clear that the Saudi Arabia government has invested into supporting the development of e-learning/distance education.

This research builds up an understanding of the components and causal connections that impact the acknowledgment and acceptance of utilizing E-learning systems to overcome the closure. COVID 19 has forced Saudi universities to apply e-learning systems in their universities to meet university educational objectives and to imply these systems in Egyptian universities too. The adoption of these systems becomes mandatory as a preparation for the second wave of the pandemic. The wide spread of internet technologies and mobile applications provide remarkable opportunities for e-learning. They have become portable and flexible methods of learning (Fawzy & Essawi, 2018). This research proposes the Technology Acceptance Model as a hypothetical structure.

**Literature:**

Coronavirus COVID-19 disrupted life worldwide in 2020 causing a direct impact on education process in which universities directed all their efforts towards continuing the education process, through all possible e-learning systems and platforms. This has enabled interaction between instructors and students only through online classes, online exams and online submissions in order to be able to maintain social distancing precautionary measures implemented by countries around the globe to reduce the spread of the pandemic. According to Owusu-Fordjour et al. (2020), universities’ closure affected students, instructors and families with direct impact social and economic situations in one’s country, including students debt (Jamencer, Josh & Joshua, 2020), e-learning (Karp & McGowan, 2020) as well as shortage in food supplies (Cecco, 2020) besides the increase of unemployment, employees downsizing and losing jobs resulting from the closure of companies and factories.

Recently e-government systems adopted in Egypt and Saudi Arabia, there is a noticeable emphasis given to e-learning systems especially in educational and industrial sectors. Walabe, (2020) highlights the importance of the impact of e-learning systems in changing the culture of Saudi students from teacher-centered learning to new approaches encouraging the engagement of critical thinking and self-directed learning.

E-learning system studies had different perspectives and approaches. Mostly emphasized the adoption of those systems. Some of the studies focused on technological characteristics (McGill et al, 2014) or students’ experiences on the implementation of e-learning systems or E-learning strategies (Gay & Dringus, 2012 and Aparicio et al, 2016). Also, theories were developed to investigate the acceptance of new technology usages and determining the
factors that affect users to accept to use new technology. Technology acceptance model (TAM) has been proposed in an effort to explain and predict the adoption and use of information technology. Enormous studies addressed TAM factors to investigate different aspects such as consumer behavior in e-commerce, online shopping and M-commerce (Fawzy, 2012; Fawzy & Salam, 2015; Butt et al., 2016; Deka, 2017), Internet banking adoption (Fawzy & Esawi, 2017; Kamyab & Delafrooz, 2016 and Shi et al, 2008) SMS advertising (Abdel Kader, 2013) and e-learning (Al-Juda, 2017; Hasan & Ali, 2004; Ramos and Castro, 2017).

Computer self-efficacy and Internet self-efficacy:

Compeau & Higgins (1995) and Compeau & Huff (1999) define computer self-efficacy as individuals’ beliefs with regard to their ability to use a computer in the context of IT usage. (Bandura, 1997) defined self-efficacy to refer people’s judgment of their own ability to perform specific tasks over the internet. Shahbaz et al., (2020), assert the impact of individuals’ self-efficacy on their perception towards the degree of ease of use that can help to smoothly perform computer related tasks. Previous studies argued that the higher the level of self-efficacy the better the performance of educators and learners in teaching and learning settings (Hasan & Ali, 2004; Hayashi et al., 2004 and Lee & Taiwan, 2006). Madorin & Iwasiw (1999) and Lee & Taiwan (2006) in their studies stress the important role of computer-self efficacy and its effect on perceived ease-of-use. It is also noted that if the individual is not capable to connect to the internet, then the internet will not be considered easy and beneficial to use. Individual knowledge of computer usages can influence the usefulness and judgments on the ease or difficulty of using computer technologies. Accordingly, the following hypothesis is proposed

H1: Internet self-efficacy affects perceived ease of use

H2: Computer self-efficacy affects perceived ease of use

Perceived usefulness and Perceived easy to use:

Davis, (1989) indicated that perceived usefulness and perceived ease of use are major indicators of the utilization of innovation and in many TAM studies perceived ease of use had a direct impact on perceived usefulness. The easier students and instructors communicate with one another through e-learning systems, the more probably it will be useful and accepted by them. According to Ramos & Castro (2017), perceived usefulness had an effect on the system acceptance and was a more grounded driver of use. Several studies conducted on developing countries, revealed that attitude towards the system had a strong relationship with PEOU, PU and system use (Fawzy & Esawi, 2017; Al-Juda, 2017; Fawzy & Salam, 2015; Adewole-Odesi, 2014; Abdel Kader, 2013). In other studies perceived ease of use turned out to be less in effect when the individual is more capable of utilizing a system. This study hypothesizes the direct impact of perceived usefulness, and ease of use on students’ attitudes towards e-learning. Accordingly, the following hypotheses are proposed:

H3: Perceived ease of use has a direct impact on perceived usefulness

H4: Perceived usefulness has a direct impact on attitudes towards e-learning system

H5: Perceived ease of use has direct impact on attitudes towards e-learning system

Attitude:

In several studies, TAM was adopted as a theoretical base where attitude construct had a direct impact on intention. According to Sharma and Chandel (2013) research results that confirmed the attitude towards system influence on the acceptance of the e-learning systems. According to Sukendro et al., (2020) study, students’ positive attitude towards e-learning systems during COVID 19 increases the acceptance of e-learning system. Claar, Dias & Shields (2014) tested the impact of attitude on behavioral intention, where attitude had a significant positive influence on behavioral intentions to use the system. Accordingly, the following hypothesis is proposed.

H6: Attitude towards e-learning system affects intention towards using the system
Subjective Norm:

Subjective Norm (SN) is viewed as a central point of behavioral goal (Venkatesh and Davis, 2000). Sledgianowski and Kulviwat (2009) call attention that SN clarifies the impact of society (e.g. peers, family and friends) on individuals. Consideration of SN, as indicated by Arpaci (2016), may catch one of a kind difference in states of mind and goals. The positive connection amongst subjective norms and intention is obvious in the acknowledgment of business-to-client (B2C) e-commerce sites and adoption of e-learning systems (Kim, Kim, and Shin, 2009). Systems are created with a concentration on referents (e.g., family, companions and reviews) because an individual behavior is impacted by the sentiments of those referents. In many studies of TAM, subjective norms have an impact on behavioral intention. Accordingly, it is hypothesized that:

H7: Subjective norms affects intention towards using e-learning systems.

Intention:

Behavioral intention to use (BI) is a key determinant of behavior usage as discussed in Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM) (Davis et al., 1989). In general, behavioral intention is positively correlated with actual use of technology (Ducey & Coover, 2016; Lu et al., 2003; Pinho & Soares, 2011). Turner, et al., (2010) analyzed 79 empirical studies and found out that behavioral intention is a significant determinant of actual usage compared to other TAM variables. Collectively, these studies give credit to these applications of TAM and E-learning acceptance. Accordingly, it is hypothesized that:

H8: Intention has a direct impact on the acceptance of e-learning systems.

Research Model:

The following is the proposed research model as shown in figure (1).

Methodology:

In the present study, participants were students from two different samples. One from the College of Management, private university in Egypt and the other from the College of Management, private university in Saudi Arabia. The researchers chose private universities because they are characterized by the enhancement and development of technology facilities compared to public universities due to the fact that private university tuition fees are higher and they work on providing unique services to their students in order to compete with public universities.

Online survey technique was adopted for data collection due to the social distancing precautionary measures outlines implemented by both countries (Egypt and Saudi Arabia). The survey was designed in order to study the factors that affect students’ acceptance of e-learning system. Both universities are located in the capital city of both countries.
Arab Academy for Science & Technology (AAST) in Alexandria and Dar Uloom University in Riyadh. Worldwide, there is always enormous concern to universities located in the capital cities of countries.

Two pilot testing included 45 respondents in each university has been conducted to ensure the reliability of the scale. The questionnaire consisted of 31 items. Each item was measured using a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. Table (1) shows the conceptual and operational definitions of variables. Demographic details such as age, gender, and education level were added. The population of the study was all students (bachelor and Masters) using Learning Management System (LMS) and bachelor students using Moodle. Sample size of students using Moodle was 500, the competed surveys were 304. Accordingly, the response rate was 61%, compared to sample size of students using LMS was 200. The completed surveys were 158. Accordingly, the response rate was 79%.

Furthermore, content validity was also ascertained by pretesting to the questionnaire with a group of professionals and staff members. Few comments aroused and researchers managed to modify some of the statements.

**Table (1) Conceptual and Operational Definitions of the variables under study:**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Conceptual Definition</th>
<th>Operational Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet self-efficacy</td>
<td>Defined as learners’ ability to evaluate their ability to use the Internet to perform activities related to e-learning. (Sun et al., 2008).</td>
<td>Adopted from Ajzan and Fishbein (1980)</td>
</tr>
<tr>
<td>Computer self-efficacy</td>
<td>Refers to a judgment of one’s capability to use a computer (Agarwal &amp; Prasad, 1999; Huang, 2005)</td>
<td>Adopted from Davis et al. (1989)</td>
</tr>
<tr>
<td>Perceived usefulness</td>
<td>Defined as 'The degree to which a person believes that using a system would enhance her/his job’ (Davis et al., 1989)</td>
<td>Adopted from Davis (1993)</td>
</tr>
<tr>
<td>Perceived ease of use</td>
<td>The degree to which a person believes that adopting one system would be effortless (Davis, 1989)</td>
<td>Adopted from Davis (1993)</td>
</tr>
<tr>
<td>Attitude</td>
<td>Degree to which users like using the technology (Lee et al., 2005; Ngai et al., 2007 Liaw, 2008; Van Raaij &amp; Schepers, 2008)</td>
<td>Adopted from Seyal &amp; Pijpers, 2004</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>A person’s perception that most people who are important to her/him think s/he should or should not perform the behavior (Ajzen, 1991)</td>
<td>Adopted from Ghani and Deshpande (1994).</td>
</tr>
</tbody>
</table>
Intention: 
Degree to which users intend to adopt the technology or increase their use of it in the future 
(Adopted from Lee et al., 2005; Liaw ,2008; Ngai et al., 2007; Van Raaij&Schepers, 2008).

Acceptance of e-learning: 
“It is an individual’s psychological state with regard to his or her voluntary or intended use of a particular technology” 
(Adopted from Huang, 2005; Seyal et al., 2002).

Analysis and Results:

Cronbach alpha as a reliability of factors measurement to the affect students’ adoption of LMS. Tables (2) and (3) shows different alpha values for the variables under the study for KSA and Egypt respectively.

Cronbach alpha above 0.5 and with overall reliability 0.87 and 0.9 which indicates high reliability.

Table (2): Cronbach alpha values of factors (KSA):

Internet self- efficacy (0.770), Computer self- efficacy (0.770), Perceived usefulness (0.815), Perceived ease of use (0.816), Attitude (0.701), Subjective norms (0.775), Intention (0.751), Acceptance of e-learning (0.523), Overall reliability (0.864).

Table (3): Cronbach alpha values of factors (Egypt):

Internet self- efficacy (0.680), Computer self- efficacy (0.520), Perceived usefulness (0.836), Perceived ease of use (0.825), Attitude (0.814), Subjective norms (0.766), Intention (0.744), Acceptance of e-learning (0.638), All questionnaire reliability (0.912)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy was tested and indicated that the sampling is adequate for each variable in the model and for the complete model. (KMO=0.767>0.5.) The Bartlett’s Test of Sphericity was significant (p-value=0.000<0.05). Accordingly, factor analysis is an appropriate technique to measure.

Convergent validity was assessed by the average Variance Extracted and composite reliability as shown in table (4). All AVE values were above 0.5 which are considered as accepted and the acceptable value of CR was 0.6 or above.

Table (4) The Convergent validity of the measurement model

<table>
<thead>
<tr>
<th>factor1</th>
<th>factor2</th>
<th>factor3</th>
<th>factor4</th>
<th>factor5</th>
<th>factor6</th>
<th>factor7</th>
<th>factor8</th>
<th>factor9</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVE</td>
<td>0.529</td>
<td>0.392</td>
<td>0.516</td>
<td>0.509</td>
<td>0.505</td>
<td>0.647</td>
<td>0.631</td>
<td>0.509</td>
</tr>
<tr>
<td>CR</td>
<td>0.870</td>
<td>0.817</td>
<td>0.761</td>
<td>0.755</td>
<td>0.753</td>
<td>0.786</td>
<td>0.631</td>
<td>0.668</td>
</tr>
</tbody>
</table>

Descriptive statistics based on first sample (KSA) are as follows:

Males respondents were 58% and the females were 42%. The mainstream of respondents’ age groups was between 18-34 years old representing 87.5% of the sample. 12.5 % of their age was more than 35 years old. The majority were single (78.9%). The majority were bachelor students representing 78.8% and 21.2% were masters’ students.
The number of hours students spent on LMS was different. Based on the sample of the study only 32% spend from one to two hours weekly on LMS. 53% of the sample spend 3-5 hours weekly and only 10% spend more than 5 hours weekly on LMS. Moreover, from the sample of the study, 5% indicated that they do not use LMS and they count on their colleagues and e-mails in downloading the courses’ materials and uploading assignments.

**Descriptive statistics based on second sample (Egypt) are as follows:**

Males respondents were 55.8% and the females were 44.2%. The mainstream of respondents’ age groups was between 18-24 years old representing 97.2% of the sample. 2.8 % their age was between 25-34 years old. All respondents were single (100%). The majority were students representing 90.3% and 9.7% had bachelor degrees.

The number of hours students spent on Moodle was different. Based on the sample of the study, 28.9% use Moodle less than one hour weekly. Where, 10.5 % use Moodle from (1-2) hours weekly and 2.6% use Moodle from (3-5) hours weekly. Only 1.3% used Moodle from 2-3 hours weekly, where 56.7 % do not use Moodle.

According to their responses, students use Moodle for checking lectures slide, uploading assignments, and sending messages, taking online exams and communicating with instructors and others. The sample shows that 78.9% of students use Moodle to check lectures slide, 25% use Moodle to upload assignments, where 2.6% communicate with instructor, 18.4% use Moodle in other things such as taking online exams and only 5.3% use Moodle in sending message.

**Hypotheses Testing**

The regression analysis was used to determine the strength of the relationship between independent and dependent variables for both samples. It highlights the relative contribution of each independent variable. Results of regression analysis for KSA sample are shown in table (5).

According to the KSA first sample, perceived ease of use = 7.598 + 0.736x. This illustrates the impact of Internet self-efficacy on perceived ease of use, where an increase in Internet self-efficacy by 0.736 will cause an increase in perceived ease of use by this amount.

For further measurements of the significance of the Internet self-efficacy, chi square test was used and the value for Use of technology was equal to 0. 000, by comparing the value to 0.05, we find 0.000 is < 0.05. Therefore, H1 is accepted. In other words, significance was recorded, which proves that Internet self-efficacy actually affect Perceived ease of use. Applying the same test for the study hypotheses was conducted; Table (5) below illustrates regression analysis outcomes for the rest of study hypotheses based on the sample number 1 which was collected from the Saudi students from Dar Al Uloom University.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Dependent</th>
<th>Independent</th>
<th>Regression Results</th>
<th>Chi square Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Internet self-efficacy leads</td>
<td>Perceived ease of use</td>
<td>Internet self-efficacy</td>
<td>Perceived ease of use = 7.598 + 0.736 x + 0.194 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>to perceived ease of use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2: computer self-efficacy leads</td>
<td>Perceived ease of use</td>
<td>Computer self-efficacy</td>
<td></td>
<td>Accepted</td>
</tr>
<tr>
<td>to perceived ease of use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3: Perceived ease of use affects</td>
<td>Perceived usefulness</td>
<td>Perceived ease of use</td>
<td>Perceived usefulness = 6.343 + 0.590 x</td>
<td>Accepted</td>
</tr>
<tr>
<td>perceived usefulness.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4: perceived Usefulness affects</td>
<td>Attitude</td>
<td>Perceived Usefulness</td>
<td>Attitude = 4.011 + 0.235 x1 + 0.257 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
H5: Perceived Ease of use affects Attitude
Attitude | Perceived Ease of use | Accepted

H6: Attitude affects Intention
Intention | Attitude | Intention = 4.064 + 0.555 x1 + 0.082 x2 | Accepted

H7: Subjective norms affects intention
Intention | Subjective norms | Accepted

H8: Intention affects Acceptance of e-learning system
Acceptance of e-learning system | Intention | Acceptance of e-learning system = 22.171 + 0.054 x | Not accepted, since P-value more than 0.05

Table (5): Regression analysis outcomes based on the KSA first sample

According to table (5) of the first sample, all hypotheses are significant except ‘Intentions’ did not affect Saudi students ‘Acceptance of e-learning system’.

Table (6) of Egyptian second sample based on Moodle is as follows:

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Dependent</th>
<th>Independent</th>
<th>Regression Results</th>
<th>Chi square Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Internet self-efficacy leads to perceived ease of use</td>
<td>Perceived ease of use</td>
<td>Internet self-efficacy</td>
<td>Perceived ease of use = 1.685 + 0.251 x1 + 0.354 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2: computer self-efficacy leads to perceived ease of use</td>
<td>Perceived ease of use</td>
<td>Computer self-efficacy</td>
<td>Perceived ease of use = 1.388 + 0.632 x</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3: Perceived ease of use affects perceived usefulness.</td>
<td>Perceived usefulness</td>
<td>Perceived ease of use</td>
<td>Perceived usefulness = 0.143 + 0.744 x1 + 0.154 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4: perceived Usefulness affects attitude</td>
<td>Attitude</td>
<td>Perceived Usefulness</td>
<td>Attitude = 0.143 + 0.744 x1 + 0.154 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5: Perceived Ease of use affects Attitude</td>
<td>Attitude</td>
<td>Perceived Ease of use</td>
<td>Intention = 2.018 + 0.372 x1 + 0.080 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6: Attitude affects Intention</td>
<td>Intention</td>
<td>Attitude</td>
<td>Intention = 2.018 + 0.372 x1 + 0.080 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H7: Subjective norms affects intention</td>
<td>Intention</td>
<td>Subjective norms</td>
<td>Intention = 4.064 + 0.555 x1 + 0.082 x2</td>
<td>Accepted</td>
</tr>
<tr>
<td>H8: Intention affects Acceptance of e-learning system</td>
<td>Acceptance of e-learning system</td>
<td>Intention</td>
<td>Acceptance of e-learning system = 22.171 + 0.054 x</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

According to table (6) all hypotheses are significant.

Based on both samples table (7) comparative analysis of regression based on both samples:
Hypotheses | Egypt | Saudi Arabia |
---|---|---|
H1: Internet self-efficacy leads to perceived ease of use | In the Egyptian study, computer self-efficacy is more effective than internet self-efficacy while in Saudi Arabia study shows that internet self-efficacy is most effective than computer self-efficacy. | |
H2: Computer self-efficacy leads to perceived ease of use | | |
H3: Perceived ease of use affects perceived usefulness. | In the Egyptian and Saudi Arabia study shows that the effect of Perceived ease of use is almost the same. | |
H4: Perceived Usefulness affects attitude | In the Egyptian study, perceived usefulness is more effective than Perceived Ease of use while in Saudi Arabia study both perceived usefulness & Perceived Ease of use have the same effect. | |
H5: Perceived Ease of use affects attitude | | |
H6: Attitude affects Intention | In both Egyptian study & Saudi Arabia study it was found that students’ attitude of e-learning is more effective than subjective norm | |
H7: Subjective norms affects intention | | |
H8: Intention affects Acceptance of e-learning system | In the Egyptian study intention affects the acceptance of e-learning system more than in Saudi Arabia study. | |

Discussion:

Today there is a shift to a knowledge based economy. Recently, e-learning has received wide attention in its implementation in education. The lack of face-to-face contact between teachers and classmates is much more difficult than it appears to be, particularly for students taking classes that are better suited to the in-person format and requiring hands-on work (engineering, pharmacy, medicine, science-majors, etc...), because it is impossible to put a lot of work into effect for those involved without the in-person work. The interaction between instructors and students can be enhanced and improved through e-learning systems. Taking online courses, attending school remotely, online presentation of academic curricula or even chatting with instructors while during lessons through video conferencing or any of the online meeting platforms is now adopted in all universities and education programs around the world. Coronavirus pandemic, had detrimental effects on universities, such as research, training services, staff career development and employment in the academic sector, and more. Few studies demonstrated the severe impact of the COVID-19 pandemic on education and the numerous obstacles during the lockdown of COVID-19 that prevented students and instructors from participating in online education for ongoing learning. The findings indicate that educational practices were severely affected due to the COVID-19 pandemic lockdowns. Some of the impacts were learning disruption, reduced access to learning facilities especially for practical courses that require labs, job losses in the education sector, increased student debt, educational restrictions, and lack of student interests (Onyema et al., 2020).

In this paper we examined Egyptians’ and Saudis’ acceptance of e-learning systems during COVID19 pandemic. We used the Technology acceptance model (TAM) as a theoretical background. TAM, has been used for describing the use of technology in several empirical studies and has been refined and improved further. Based on Davis (1989), perceived usefulness and perceived ease of use are the two important constructs of TAM. This research aimed at investigating the factors that affect e-learning system acceptance in these two developing countries. The results of the study confirm the original TAM findings. All TAM constructs were met when accessing the acceptance of e-learning system among students in Egypt. On the other hand, behavioral intention had no significant effect on Saudi students’ acceptance of e-learning system.

While students use a lot of devices throughout their lives and are technically professionals in many ways, among many of the students, the lack of computer literacy in the kind of way used for the online classes, as well as taking online exams and assignments, is a major problem. One of the main contribution of this study was identifying two external factors that affect e-learning acceptance which were internet self-efficacy and computer self-efficacy. Both variables turned to have direct impact on perceived ease of use. According to both samples, both perceived usefulness and perceived ease of use influence the attitude of individuals towards the use of a particular technology.
and its implementation as noted by (Davis, 1989, Ramos& Castro (2017). Dulta et al., (2018) indicated the significant impact of perceived ease of use as the most dominant factor of behavioral intention.

Students are more likely to be exposed to social influence such as friends, colleagues and teachers when early using the e-learning system. Students always perceive pressure from their instructors to use the e-learning system. Subjective norms were found significant and have a direct effect on behavioral intention. Karahanna et al., (1999) Kim et al., (2009) suggested the importance of subjective norms in influencing ones’ behavior. It was found that the impact of subjective norms on behavioral intention is more profound for potential adopters than users. This is in line with the work of Faqih &Jaradab (2015) and Fawzy& Salam (2015) who suggested that subjective norms have a more distinct effect in determining behavior when the behavior is new, as in adoption this is also in line with Raman et al., (2014) and Marchewka et al., (2007).

Furthermore, it is important to study intentions toward a behavior because the stronger the intention, the more likely the performance of the behavior (Ajzen, 1991). Intentions “can be predicted with high accuracy from attitudes toward the behavior (Ajzen, 1991, p. 179). Based on the first sample of the study, this study revealed that attitudes towards E-learning systems, subjective norms have a direct effect on students’ behavioral intentions while students’ behavioral intentions did not affect E-learning systems acceptance. No difference was detected in behavioral intentions with regards to technology acceptance. This finding is in line with Teo et al., (2008). While on the other hand, and based on the second sample, it was found that intention is significant.

According to the findings of the study, internet self-efficacy and computer self-efficacy have impact on perceived ease of use which affects the acceptance of e-learning systems when students are having internet and computer knowledge. E-learning systems will act as effective tools to solve the problem of information shortage and lack of communication between educators and students. It is important to enhance students’ computer self-efficacy and the overall internet self-efficacy in order to have effective acceptance and adoption of E-learning systems.

It was also noted that Egyptian students do not use the Moodle more often compared to Saudi students. This is because of the lack of strong infrastructure and the absence of long-run planning in universities regarding e-learning systems and this hinders the development of e-learning systems. Such development is crucial for the spread of e-learning systems in universities and for the effective usage of such systems. Accordingly, such obstacles hinder effective e-learning system adoption regardless of the positive attitude of students towards e-learning in Egypt and Saudi Arabia (Al-Shehri, 2010 and Al-Juda 2017). It is also suggested that the importance of the development of manuals and instruction guides should be uploaded on e-learning web-portals as ways to guide and facilitate the use of e-learning systems while highlighting different activities provided to instructors and students. This comes in accordance with Alkhalaf et al., (2013) study which indicated that students were dissatisfied with the e-learning system due to the lack of effective adoption of all available activities and tools. Such dissatisfaction was mainly related to poor course designs that effectively use all e-learning tools. The Saudi government represented in the NCeL, launched the “Excellence Award”, to encourage initiatives, and motivate universities and individuals to introduce new contributions to the field of e-learning (NCeL, n.d.-b: 1). In 2018, King Abdulaziz University won the excellence award. It is recommended that the Egyptian government encourages universities to effectively adopt e-learning systems by offering such awards and organizing e-learning conferences.

Accordingly, this will enhance the overall development of quality e-learning systems in Egypt as well as in Saudi Arabia. Since remote education is extremely likely to replace the conventional method of teaching and will become the new standard if the pandemic continues over a longer period of time.

**Limitations and future research:**

One of the research limitations is conducting a cross-sectional survey because it makes it difficult to identify the direction of causality. Further longitudinal studies are needed to provide better modifications and applications to the study model. Second, this study sampled only the College of Business in both universities using a quantitative approach. It is suggested that the use of mixed method approach is vital to capture compressive understanding of e-learning system acceptance.
Another limitation of the study is that the survey was directed to students only and instructors were not included in the sample of the study. Instructors are the ones implementing the study and are the ones who have direct contact with their students in which they can encourage student acceptance and involvement of e-learning systems.

This research utilized quantitative research design while mixed method research approach is recommended. It is also recommended to compare between student and instructors’ responses towards the acceptance of e-learning systems. This could be done through conducting a comparative study. More understanding of e-learning usage and different e-learning systems effectiveness would be determined. This will enlighten students and universities can benefit from e-learning systems and guarantee effectiveness and continuous success of such systems.

Moreover, further studies should be conducted to investigate whether there are differences in e-learning acceptance based on gender or not.

References:


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