Examination of the Factors of E-learning Acceptance in Egyptian Primary and Preparatory Schools during Covid-19

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Abstract

During COVID-19, the social distance became an obligatory fact which forced the whole world to rely on e-learning for all levels of education. E-learning is becoming the main challenge for many developing countries specific. Technologies are not fully accepted and used in Egyptian primary and preparatory schools before. However, the successful usage of e-learning depends on understanding the acceptance factors as well as the main challenges that face it. In this regard, this study aims to examine the factors of e-learning acceptance. The Unified Theory of Acceptance and Use of Technology (UTAUT) model is used as a conceptual framework. An empirical study was carried out using online survey research among 507 participants. The study results show that most of the participants are satisfied with e-learning as a good solution to continue education during global health conditions. However, the responses to the government T.V. channels and websites were very weak. The main obstacles were the technical issues such as the internet speed and traffic, weak technology skills for learners and teachers, in addition to the social preference for the traditional method. The study concluded that the acceptance depends on its ease of use, its usefulness, its social influence, its price value, the facilitating conditions, and its motivations. The school type and the parents' education level were proved to be effective moderators on many constructs

Keywords: E-learning, UTAUT model, Egyptian primary and preparatory schools, COVID-19

1. Introduction

COVID-19 is currently the most serious warning facing the world. It is the worst global emergency since World War II according to the UN Chief, Antonio Guterres (WBG, 2020). COVID-19 pandemic has disrupted most of the activities in the world. The education sector is one of the sectors that has been severely successful through the present crisis. Education was the only activity that was completely shifted to online mode in most countries around the world.

The e-learning term was originated in the mid-1990s when the internet began to gather the force (Garrison, 2011), there are many applications of e-learning including computer-based learning as well as web-based learning and TV channels. Over the past two decades, e-learning has been activated in some global organizations, especially in developed countries and with higher education levels. However, the majority of schools did not use this education system, and their staff did not know what is involved in e-learning. The assistance for students to be motivated in

e-learning depends on practical focus on reasoning, emotional, and behavioural action (Garrison, 2011), (Louwrens, 2011)

The shift to a new environment of education, learners need special public care to improve their concentration and incentive to online learning in such a critical crisis (Eccles et al., 1993),

The worldwide decision to close the educational organizations was logical to keep social distancing to stop the spread of the new virus. Some countries could switch to e-learning immediately because they were already prepared for e-learning and other countries couldn't. In Egypt, at the second term of 2019/2020 Egypt's Ministry of Education cancelled the final examination for primary and preparatory school students during the worries of the COVID-19 and every student of these grades provided research to pass this academic year. Within four days, the ministry established an electronic library the Egyptian Knowledge Bank "EKB" (https://www.ekb.eg/ar/home) to help students study the various courses for grades starting from under-primary up to the secondary stage. Books are in both Arabic and English and are accessible to all students, parents, and teachers. This website includes huge digital scientific content for all educational grades and uses different multimedia (videos, images, documentary films) to explain the various lessons, as well as availing more than 80 dictionaries to be used easily. In addition, the ministry has also provided another educational alternative as T.V. channels which broadcast the explanation of the courses. The ministry added that another website [https://edmodo.org] has been created to help teachers communicate online with the students(*Https://Www.Egypttoday.Com/Article/1/82822/Egypt-Cancels-Final-Exams-for-Primary-Preparatory-Grade-Students-Due 30/3/2020.*, n.d.).

The new academic year 2020/2021 observed many challenges and with the weak capacity of schools the educational system in which e-learning becomes an important part in dealing with the problem of student overcrowding. The ministry of education in Egypt took many procedures which can be summarized in the following points: 1. shifting the whole system towards e-learning and using that to deal with student mass by organizing courses so that students receive only scientific courses at schools within fixed organized groups, while theoretical courses are transferred to e-learning platforms, and thus limiting overcrowding in schools and classes. 2. Using television channels "Madrasetna 1" to broadcast electronic courses to students in poor areas to ensure their presence in the e-learning process, in addition to other digital platforms, including new.edmodo.com, study.ekb.eg and stream.moe.gov.eg 3. Accept the cooperation with teachers of private lessons that can take place and benefit from them in broadcasting educational channels via television in exchange {Formatting Citation}

Successful e-learning acceptance is depending on understanding how users accept technology and how such technology is influencing every part of learning (Ashraf et al., 2016). Thus, the main aim of this study is to explore the factors that affect students' acceptance of e-learning systems according to the children's parents' opinion in Egyptian schools, especially for primary and preparatory school students only, and not for students of the secondary system and not for international schools. It depends on UTAUT, a model that integrates determinants across a

collection of technology acceptance models. This study is important given the emergence of COVID-19 that has motivated educational organizations all over the world to use e-learning systems and to review their traditional face-to-face approach to teaching, especially in an example of a developing country, Egypt.

Research Questions
  - What are the participation opinions of e-learning as a solution to continue education during the current global health conditions?
  - What are the most educational platforms or applications children used in the e-learning environment?
  - What are the main obstacles of e-learning?

In addition, to answer the previous questions, the conceptual framework of UTAUT was proposed as the foundation for this research to investigate the factors of e-learning acceptance.
The rest of this paper is organized as follows: Section 2 briefly discusses the literature review for the conceptual model and e-learning studies. Section 3 presents the suggested model and its hypotheses. Research methodology, measurement items to carry out the survey, sampling, and data collection procedures are discussed in Section 4. Section 5 includes the statistical analysis and hypotheses testing followed by Section 6 discussing the findings in detail. Finally, Section 7 concludes the research and future research.

2. Literature Review

2.1 The technology acceptance models

Understanding individual use and acceptance of information technology is one important field of information systems research. There have been many theoretical models, mainly developed from theories in sociology and psychology working to explain technology acceptance and use. There are eight essential models for information technology acceptance models. These eight models are as follows; Theory of Reasoned Action (TRA) which is a foundation to many models and often-used theory of human behaviour for explaining technology adoption and it is based on two parts: the attitude toward a behavior, and the perception of social influence. Technology Acceptance Model (TAM) explain the acceptance of information system and information technology innovations and introduces primarily two factors, the perceived ease of use and the perceived usefulness, which are important for determining a user's attitude toward the use and intention to use. The theory of planned behavior (TPB) where users' actions are determined by their intentions and perceptions of control. The motivational model (MM). The model of PC utilization (MPCU) presents a competing context to that proposed by TRA and TPB. The innovation diffusion theory (IDT) which rooted in sociology and has been used to study several innovations ranging from agricultural tools to organizational innovation. The combined TPB/TAM and social cognitive theory (SCT) has been used widely to explain human behaviour. These models are utilized successfully and extensively by the previous studies of innovation or technology acceptance and adoption within many disciplines involving, management, social psychology, marketing, and information system(Al-mamary et al., 2016).

Venkatesh et al., 2003 (Venkatesh et al., 2003) developed the combination of these eight models in UTAUT model. In the UTAUT model, the validity is examined to determine the behavioral intention and actual use and adoption. It identifies four constructs that directly examine the behavioral intention toward accepting and then using technology. These constructs are as follows: performance expectancy, effort expectancy, social influence, and facilitating conditions. In addition, the theory improves four moderators that indirectly affect the intention and use of technology: age, gender, experience, and the voluntariness of use. Considering the earlier models, the UTAUT model was more appropriate in the context of the present research study. Because it is a comprehensive model that combines all previous acceptance models. In addition, it was proposed to explain technology acceptance from an organizational perspective, which is what was needed in this research (Dwivedi et al., 2019; Viswanath Venkatesh et al., 2012)

2.2 Technology Acceptance in E-learning

The review of the literature reviewed that most of what is currently known about e-learning has come from research with older students in higher education contexts (Louwrens, 2011) for example(Akbar, 2013; Alshehri & Rutter, 2019; Dajani & Abu, 2019; Echeng & Usoro, 2014; Fianu et al., 2018; Juinn & Tan, 2013; Kurt, 2017; Manaf et al., 2020; Mastura et al., 2012; Ngampornchai, 2016; Rahman et al., 2020). The results discovered that performance expectancy, effort expectancy, social influence with other factors according to each model were all significant elements of the behavioral intention of e-learning acceptance, in addition, computer skills training was a very important factor that affect students' acceptance of e-learning. Many cases studies discussed the challenges of e-learning, for example (Aini et al., 2020; Al-azawei et al., 2016; Andersson, 2008; Babu & Reddy, 2015; Odoyo & Olala, 2020; Oroma et al., 2012; Sanad, 2020) These studies concluded that the challenges vary from country to country based on the infrastructure and the integration and utilization of ICT tools for education had no proper guideline or sets of rule for implementation, every institution managed their matter in the integration process and therefore there was no consistency in the process, and insufficient funds and levels of skills in the use of these technologies are the heart of all challenges in the implementation of this e-learning. The challenges that are faced by the developed countries will not be the same for the developing countries. The developing countries have more challenges than the developed countries due to lack of infrastructure, trained instructors, lack of financial support, lack of technical support, and less student readiness awareness, interest, and motivation(Babu & Reddy, 2015)(Aini et al., 2020)(Zarei & Mohammadi, 2021)(Almaiah et al., 2020).

While e-learning is not a new phenomenon, the transition to e-learning as a result of COVID-19 is completely different. The existing literature on the impact of COVID-19 in the education sector is mainly descriptive and focused on the challenges faced by teachers during the process of transferring into online teaching. The major challenges were identified: Student support, flexibility, teaching and learning activities, access, students' academic confidence, localization of content and attitudes on e-learning and the factors affecting the acceptance of e-learning among

students are unawareness, cost involvement to learn computer technology, and low computer literacy level(Mahyoob, 2020)(Aini et al., 2020; Alhumaid et al., 2020; Amin et al., 2016). Technology acceptance model during COVID-19 for teachers example(Tandon, 2020). Acceptance e-learning in higher education examples during COVID-19 (Abdel et al., 2021; Al-shalabi, 2020; Diyana et al., 2021; Khamis et al., 2021; Rizun & Strzelecki, 2020; Siron et al., 2020; Vladova et al., 2021)

Few special cases studies discussed e-learning acceptance during the pandemic, for example in Malaysia (Yamat, 2021) among student schools, the results revealed that the perception towards e-learning was positive, and the level of e-learning acceptance among primary school students was high due to its features of e-learning, such as flexibility, user-friendliness, and the students' attitude towards using as well as the intention to use in the future. In another study in Indonesia among parents of elementary school students (Kusumadewi et al., 2021), both of these studies used the TAM model and the results showed a positive value path coefficient, and both were recommended that future research should employ a bigger sample size.

Some studies on e-learning acceptance in Egypt are examples(Ali & Arshad, 2016; El-seoud et al., 2013; Farahat, 2012). But depending on the e-learning system as an essential part of education, especially in Egyptian primary and preparatory schools is an emergency and not fully studied yet.

3. Proposed Method

In this study, the UTAUT model examines the basic technology acceptance factors: performance expectancy, effort expectancy, social influence, facilitating conditions, price value, and motivations, in addition, the study has developed a modified version by adding two new moderators; parents' education level and school type with the traditional moderators' age, gender, and experience. A voluntariness moderator was excluded from this study because e-learning became an obligatory fact during COVID-19.

According to Venkatesh 2003 (V. Venkatesh et al., 2003), gender is expected to be affected by performance expectancy, effort expectancy, and social influence on behavioral intention, males tend to be more highly task-oriented than females. Moreover, Venkatesh found in 2012 (Viswanath Venkatesh et al., 2012) that gender had other moderating effects between facilitating conditions, price value, and motivations on behavioral intention.

Also, according to the original UTAUT model age may affect the relationship between performance expectancy and behavioral intention because younger people may place more importance on external returns (V. Venkatesh et al., 2003). Venkatesh et al. in 2012 support that age had moderating effects between facilitating conditions, price value, and motivations on behavioral intention.

In 2003, Venkatesh also suggested that experience moderates the effect of effort expectancy and social influence on behavioral intention. In 2012 Venkatesh additionally found other effects of

experience as a moderator between facilitating conditions, price value, and motivations on behavioral intention (Viswanath Venkatesh et al., 2012)(V. Venkatesh et al., 2003)

Parents' education level has been added as a moderator in this study, it is not included in the original UTAUT or the extended UTAUT. But it has been added because it has been found by many previous studies, such as (Hariri, 2014)(Kang & Yoon, 2008)that education level has been noted as an important moderator in technology acceptance. After all, highly educated people tend to adopt new technologies more. This study investigates that education level moderates the effect of effort expectancy, social influence, facilitating conditions, price value, and motivations on behavioral intention.

In this study, students' school type has been added as a moderator too to try to investigate its role in technology acceptance in learning between families, especially since the study focuses on one of the developing countries. This study investigates that students' school type moderates the effect of effort expectancy, social influence, facilitating conditions, price value, and motivations on behavioral intention.

Performance expectancy is considered the most influential predictor of intention and can be defined as "the degree to which an individual believes that using the system can help him\her to attain gain in job performance" (V. Venkatesh et al., 2003).

H1: Performance expectancy will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

Effort expectancy is defined as "the degree of ease associated with the use of the system" (V. Venkatesh et al., 2003).

H2: Effort expectancy will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

Social influence is defined as "the degree of users affected by other people's viewpoints and attitudes" (V. Venkatesh et al., 2003).

H3: Social influence will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

Facilitating conditions are defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support the system" (V. Venkatesh et al., 2003).

H4: Facilitating conditions will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

H5: Facilitating conditions will significantly influence the parents' perceptions regarding e-learning for their children's actual use.

The price value is defined as "the individual' cognitive tradeoff between the perceived benefits of the applications and the financial cost for using them". It is positive when the benefits of using technology are perceived to be greater than the cost and such price value has a positive impact on intention (Viswanath Venkatesh et al., 2012).

H6: Price value will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

Motivation is defined as "the fun or pleasure derived from using technology, and it has been shown to play an important role in determining technology acceptance and use" (Viswanath Venkatesh et al., 2012).

H7: Motivations will significantly influence the parents' perceptions regarding e-learning for their children's intentions to accept.

Gender, age, experience, education level, and school type moderate hypotheses H1, H2, H3, H6, H7, and H4 without gender (Viswanath Venkatesh et al., 2012).

As for behavioral intention, according to (V. Venkatesh et al., 2003), "behavioral intention will have a significant influence on usage."

H8: Behavioral Intention will significantly influence the parents' perceptions regarding e-learning for their children's use.

4. Research Method

The study used the quantitative method for analyzing the data; the program SPSS was used for the statistical analysis, and the program SmartPLS3 was used for the reliable analysis and testing hypotheses. The target sample of the study is the children's parents' in Egyptian schools for primary and preparatory schools. A structured questionnaire was developed using Google form through the social network site Facebook. Pre-testing was conducted to ensure the clarity and understandability of the survey. The responses consisted of 507 primary and preparatory students' parents.

The measurements for describing the technology acceptance were obtained from the study of Venkatesh et al. (2012) (Viswanath Venkatesh et al., 2012)(V. Venkatesh et al., 2003). The questionnaire is composed of two parts. The first part is about demographic information, respondents' e-learning awareness in general, and the main obstacles of e-learning, the second part contained 22 statements covering the 8 hypotheses of the model where a Likert scale was used to test the model.

Adequacy of the Sample: An adequate sampling is a statistical sample size that is sufficiently large to provide satisfactory precision test results by minimizing the effect of chance. This study used the Kaiser-Meyer-Olkin (KMO) test to determine if the collected data were suitable for

factor analysis. The KMO test measures sampling adequacy for the complete model and each variable in the model. The test measures the proportion of variance among variables that might be a common variance. A little proportion shows that the data are appropriate for factor analysis. In other words, the lower the proportion, the more suitable the data. KMO values above 0.5 indicate that the sampling is adequate(Nasaireh, 2020).

The study used the partial least squares method (PLS) of structural equation modeling (SEM). PLS is a technique that decreases the predictors to a minor set of uncorrelated components and executes least squares regression on these components, instead of on the initial data(Hair Jr et al., 2017). SEM technique is a statistical methodology to assess the relationships in the UTAUT model and to test the hypotheses between the variables in the model(Kline, 2016)

5. Results

This section aims to provide an overview of the sample data; test the quality of the data and answer the research questions and test the proposed model.

According to the collected data, the KMO value is 0.806, which means the sample size is enough.

5.1 Demographics and descriptive statistics

The questionnaire began with questions that would allow the researcher to give a general overview of participants' demographics data and compiles with the parents' opinion of e-learning as a solution to continuing education during the current global health conditions, good solution, neutral or bad solution. The results are shown in Table 1 below:

Table 1: Demographic statistics according to Opinion

		Good	Neutral	Bad	Total
Gender	Male	124 (65%)	38 (20%)	30 (15%)	**192 (38%)**
	Female	168 (53%)	97 (31%)	50 (16%)	**315 (62%)**
Age	< 30	67 (65%)	23 (22%)	13 (13%)	**103 (20%)**
	30 to 40	83 (49%)	52 (31%)	35 (20%)	**170 (34%)**
	40 to 50	99 (59%)	49 (29%)	20 (12%)	**168 (33%)**
	>50	43 (65%)	11 (17%)	12 (18%)	**66 (13%)**
Education Level	Diploma or less	47 (39%)	43 (36%)	31 (25%)	**121 (24%)**
	Bachelor's degree	187 (61%)	78 (25%)	41 (13%)	**306 (60%)**
	Postgraduate	58 (73%)	14 (17%)	8 (10%)	**80 (16%)**
Income	< 3000	50 (47%)	30 (28%)	26 (25%)	**106 (21%)**
	3001 to 6000	77 (53%)	44 (30%)	24 (17%)	**145 (29%)**
	6001 to 10000	68 (61%)	28 (25%)	17 (15%)	**113 (22%)**
	10001 to 15000	40 (64%)	14 (23%)	8 (13%)	**62 (12%)**
	15001 to 20000	20 (63%)	8 (25%)	4 (12%)	**32 (6%)**
	>20000	35 (71%)	12 (25%)	2 (4%)	**49 (10%)**
School Type	Governmental	119 (52%)	56 (25%)	52 (23%)	**227 (45%)**
	Private /Arabic	44 (63%)	22 (31%)	4 (6%)	**70 (14%)**
	Experimental	31 (54%)	15 (26%)	11 (19%)	**57 (11%)**
	Private / English	98 (64%)	42 (27%)	13 (8%)	**153 (30%)**
Participate Before	Yes	202 (61%)	84 (25%)	47 (14%)	**333 (66%)**
	No	90 (52%)	51 (29%)	33 (19%)	**174 (34%)**
Total		292 (58%)	135 (26%)	80 (16%)	**507**

According to the survey, 58% of the participants accept that e-learning is a good solution to continuing education during COVID-19, which confirmed the previous study (Yamat, 2021), while 26% are neutral in their opinions and only 16 % considered it as a bad solution. The participants proposed some alternative solutions such as; postponing the learning process till the pandemic ends, continuing traditional learning in open-air classes with social distancing and schools with two shifts (morning & evening), education at home with the help of parents, mainly known as homeschooling.

More female participants took part than male participants. The inequality in the gender representation occurred because the sampling was purely random rather than random stratified to ensure an equal number of male and female participants were a response to the questionnaire; however, it is most acceptable that mothers are more interested in their children's educational process than fathers. But males (fathers) (65%) are more encouraged e-learning as a good solution to continuing education than females (mothers) (53%), while around only 15% of them consider that e-learning is a bad solution.

According to the collected data, the largest group of participants were aged 30-40, followed by those aged 40-50; those aged less than 30 and then greater than 50.

It's noticed that highest percentage of accepting that e-learning is a good solution (65%) are for both who aged less than 30 or greater than 50, by searching for the reason we found that because they have only one child in this stage of education, other than who has more than one child at this stage of education.

Most participants (60%) had a Bachelor of Education degree qualification, followed by participants with a Diploma or less (24%), then the Postgraduate degree (16%). The increasing level of education increased the acceptance of e-learning as a good solution, 73% of Postgraduate, 61% of Bachelor and only 39% of Diploma or less

The percentages of participations' income levels are almost equal, but it is obvious that the low-income levels are less acceptance of e-learning as a good solution (47% and 53%) for less than 6000 if compering with (61%, 64%, and 71% of acceptance) for greater than 6000 and the vs. for considering e-learning as a bad solution according to the income level

For the school type, it is obvious from the table that the government schools' students (either Arabic or experimental) are less acceptable (52% and 54%) of e-learning as a good solution if they compared with the private schools (Arabic or English) (63% and 64%).

The survey indicated that high percentages of participants' children participated in e-learning courses before (66%), but only 61% of them considered e-learning as a good solution to continuing education, e-learning as an option is totally and nonspecific course different when it became the obligatory act.

5.2 E-learning platforms details

As well as creating general demographic statistics of the sample, it was felt that more specific details about the e-learning platforms were used had was important to build a picture of the current applies in the use of e-learning technologies by Egyptian primary and preparatory students (See

Table 2 below).

Table 2: E-learning platforms

Item		Percentage
The most used device for e-learning	Mobile	56%
	Laptop	54%
	Tablet	30%
	PC	17%
	TV	17%
Educational platforms	Zoom	57%
	YouTube	45%
	Recorded Video or audio from schools' teachers	36%
	Google Classroom	35%
	Edmodo	21%
	We don't use any of them	6%
How often do your children use e-learning	Less than an hour daily	5%
	1-2 hours daily	18%
	2-3 hours daily	28%
	More than 3 hours daily	22%
	once weekly	3%
	2-3 times weekly	12%
	Rarely	7%
	Never	6%
E-learning helped reduce reliance on private lessons	Agree	34%
	Not Effect	24%
	Disagree	42%

The most devices used between students are mobile (56%) and laptops (54%). According to the survey, watching educational programs on TV was only 17% of students, which indicates a weak response for the governmental channels. The most educational platform used during the academic year was Zoom (57%), followed by YouTube which provides different lessons for different teachers not related to the students' schools, but it has popular acceptance (45%) for using it as the main channel for e-learning and more than the recorded video or audio from school's teachers (36%). In fact, according to (Yaacob & Saad, 2020), videos on YouTube are a great option for education during the pandemic. Google Classroom was used by 35%. Edmodo website was used only by 21%, which reflects also bad or weak responses for the governmental channels. Only 6% of the participants didn't depend on any platform.

Almost half of the students (46%) used the e-learning platforms from 1 hour to 3 hours daily, while 22% used them for more than 3 hours, 15% used them intermittently, only once, twice, or third times per week.

One important question in the survey was about the parents' opinion if e-learning helps reduce reliance on private lessons, and the response was that 42% strongly reject this idea and due to the current education system and less face to face interactions with teachers at schools caused to increase the dependence on the private lessons, while 34% accept that of e-learning helps reduce reliance on private lessons and 24% said it has no effect.

5.3 E-learning Challenges

For any new system, there are some advantages and disadvantages, the e-learning system; the availability of online education globally, saving time, and efforts are considered to be advantages (Mahyoob, 2020). This section investigates the challenges according to the parents' opinion in Egyptian schools regarding the use of the e-learning process. The following Table 3 reported challenges and obstacles according to the literature(Aini et al., 2020; Al-azawei et al., 2016; Andersson, 2008; Babu & Reddy, 2015; Odoyo & Olala, 2020; Oroma et al., 2012; Sanad, 2020) which focused on; lack of infrastructure, IT skills of instructors and students, lack of financial support, and less student awareness, interest, and motivation.

Table 3: E-learning Challenges

Challenges	Percentage
Slow speed of internet and high internet traffic	79%
Students lacking awareness of internet skills and the reluctance of students in taking responsibility for their e-learning	53%
The course content has less quality in terms of interactivity	44%
Weak IT skills of teacher members	39%
Societal acceptance of the idea and preference for the traditional method	37%
Cost of the internet	35%
Lack of mobile devices and computers	17%

The first issue is the internet speed and traffic, where about 79% of learners face this problem. The second issue is the internet skills and reluctance of students in taking responsibility for their e-learning (53%). The third issue relates to the content, 44% said that the quality of the courses becomes bad with less interaction, especially at a younger age. The teachers themselves have information technology weaknesses according to the (39%) opinion of participations. Social acceptance of e-learning and preferring traditional face-to-face interactions between the students and the teachers is also a challenge according to 37% of participants. The internet cost is another challenge for 35%. Lack of suitable devices considers a challenge for only 17 %. Some participants mentioned also other challenges such as; lack of discipline in an online class, and loss of control over the students (children get distracted easily). The e-learning does not imitate the real-life education experience, and the children's inability to socially interact with each other and with superiors like their teachers and supervisors (children have no social life as before). Looking at the digital screen for a long time, thereby damaging the eyes (health problems

students face by sitting in front of electronic devices for long periods.). It gives students more space to cheat in exams. Online exams are so bad there is not enough time or backtracking

5.4 Measurement Model Analysis

Figure 1 shows the SmartPLS 3 model that was proposed for the hypotheses connected with e-learning
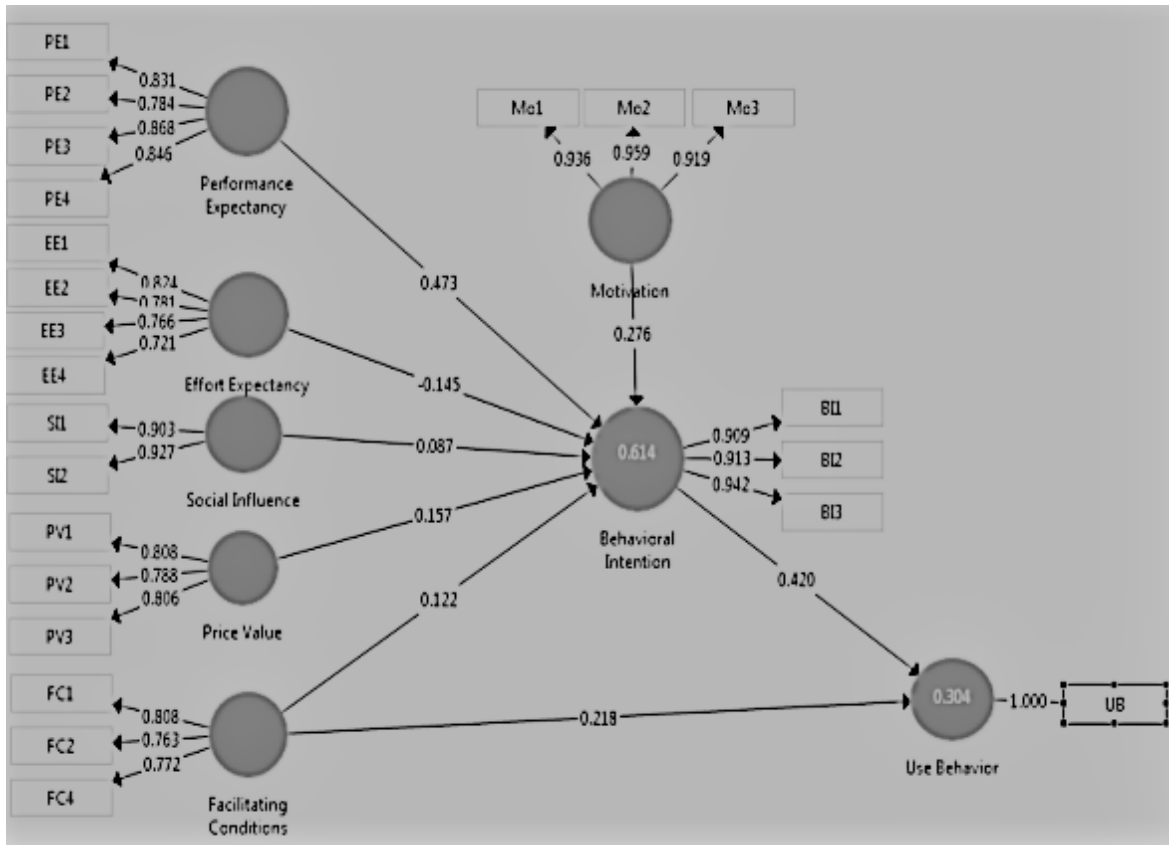

Figure 1. E-learning Conceptual model

To evaluate the measurement model characteristics of the eight reflective hypotheses, the researcher carried out the tests suggested by (Hair Jr et al., 2016). First, the researcher started by examining the indicator loadings. Loadings above 0.70 indicate that the construct explains more than 50% of the indicator's variance, demonstrating that the indicator exhibits a satisfactory degree of reliability. Reliability describes the degree to which the collected data return reliable findings. For the composite reliability criterion, higher values indicate higher levels of reliability. Results between 0.70 and 0.95 represent "satisfactory to good" reliability levels. Cronbach's alpha measures internal consistency reliability that assumes the same thresholds. Results between 0.70 and 0.95 represent "satisfactory to good" reliability levels. Reliability analysis is a critical

component in survey research, without which obtained data and interpretation are not valid and generalizable.

Second, the convergent validity was calculated, which is the extent to which a construct converges in its indicators by explaining the items' variance. Convergent validity is assessed by the average variance extracted (AVE) across all items associated with a construct. An acceptable threshold for the AVE is 0.50 or higher. This level or higher indicates that, on average, the construct explains (more than) 50% of the variance of its items.

Third, the discriminant validity was calculated. This analysis reveals to which extent a construct is empirically distinct from other constructs both in terms of how much it correlates with other constructs and how distinctly the indicators represent only this single construct.

For this purpose, Internal Consistency Reliability (Cronbach's Alpha α > 0.6 and Composite Reliability CR > 0.7), Indicator Reliability (>=0.7), Convergent Validity (Average variance extracted (AVE) >0.5) and Discriminant Validity (Fornell & Larcker, 1981) were assessed.

Contents of Table 4show the values of Cronbach's alpha, composite reliability, and indicator's reliability, Table 5 provides values of AVE, and

Table 6 shows discriminant validity among the constructs.

Table 4: Reliability Tests Summary

Construct	Cronbach's alpha	Composite Reliability	Items	Indicators' reliability
	>0.6	>0.7		>=0.7
Performance Expectancy	0.852	0.900	PE1	0.831
			PE2	0.784
			PE3	0.868
			PE4	0.846
Effort Expectancy	0.782	0.856	EE1	0.824
			EE2	0.781
			EE3	0.766
			EE4	0.721
Social Influence	0.806	0.911	SI1	0.903
			SI2	0.927
Price Value	0.721	0.843	PV1	0.808
			PV2	0.788
			PV3	0.806
Facilitating Conditions	0.681	0.824	FC1	0.808
			FC2	0.763
			FC3	0.772
Motivations to Use	0.932	0.957	MU1	0.936
			MU2	0.959
			MU3	0.919

Behavioural Intention	0.911	0.944	BI1	0.909
			BI2	0.913
			BI3	0.942

Table 5: Convergent Validity

Construct	AVE>0.5	Construct	AVE>0.5
Performance Expectancy	0.712	Facilitating Conditions	0.610
Effort Expectancy	0.764	Motivations to Use	0.880
Social Influence	0.837	Behavioural Intention	0.849
Price Value	0.650	Use Behaviour	1.000

Table 6: Discriminant Validity

	PE	EE	SI	PV	FC	MU	BI	UB
PE	**0.844**							
EE	0.833	**0.874**						
SI	0.490	0.479	**0.915**					
PV	0.676	0.778	0.384	**0.806**				
FC	0.405	0.591	0.339	0.542	**0.781**			
MU	0.405	0.608	0.452	0.529	0.362	**0.938**		
Bl	0.719	0.658	0.476	0.610	0.442	0.646	**0.921**	
UB	0.585	0.596	0.372	0.801	0.403	0.417	0.516	1.000

According to tables 4 and 5, all reflective measurement models were found to meet the significant assessment criteria. More specifically, all the indicator loadings are above 0.70, indicating that all indicators show enough level of reliability. Moreover, all AVE values were above 0.50, providing support for the measures' convergent validity. Composite reliability had values of 0.824 and higher, which is clearly above the expected minimum level of 0.70. In addition, Cronbach's alpha values ranged between 0.610 and 0.880, which is acceptable. These results suggest that the construct measures of PE, EE, SI, PV, FC, MU, and BI have sufficient levels of internal consistency reliability. Finally, in Table 6, the discriminant validity was evaluated, and all results were acceptable results.

5.5 Hypotheses Testing

For hypothesis testing, the bootstrapping process was used with 5000 bootstrap subsamples. Path coefficients with the relevant t and p values have been considered for the evaluation of results.

Table 7 lists the results of hypotheses testing.

Table 7: Summary of Structural Model Path Coefficients

Hyp #	Path	Path Coefficient	Standard Deviation	T Statistics	P Values	Sig. Level
H1	PE -> BI	0.473	0.065	7.246	**0.000**	***
H2	EE -> BI	0.145	0.073	1.990	**0.047**	**
H3	SI -> BI	0.087	0.036	2.404	**0.017**	**
H4	PV -> BI	0.157	0.049	3.224	**0.001**	***
H5	FC -> BI	0.122	0.033	3.645	**0.000**	***
H6	FC -> UB	0.218	0.046	4.703	**0.000**	***
H7	MU -> BI	0.276	0.041	6.812	**0.000**	***
H8	BI -> UB	0.420	0.041	10.250	**0.000**	***

Note: $*p < 0.1$; $**p < 0.05$; $***p < 0.01$

All hypotheses of this study have been supported. PE (β=0.473, p<0.01) has the strongest effect on BI. The impacts of EE, SI, PV, FC, MU on BI, and FC on UB has also been confirmed.

5.6 Testing Potential Moderators

At the same time, it is important, however, to address the influence of the proposed moderators on the hypotheses.

According to the results, gender is confirmed to moderate only the effect of SI (P=0.084) on behavior intention. Experience is confirmed to moderate only the effect of Mot (P=0.047) on behavior intention. It's noticed that the two new moderators, parents' education level and children school type, are confirmed many factors, EE (P=0.067), Mot (P=0.053) and PV (P=0.098) for parents' education level and EE (P=0.026), FC (P=0.011), Mot (P=0.068) and PV (P=0.033) for children school type, which means that they are important moderator factors in this research study.

6. Discussion

Referring to the results from the previous sections, we can answer the main questions and summarize the findings as follows. The majority accept the e-learning solution for continuing education during the pandemic. Zoom and YouTube are the most platforms used. The response to the government T.V. channels and Edmodo website were very weak. The availability of mobile phones helped e-learning succeed because most students used their mobile phones in this context. The main technical obstacle issue is the internet speed and traffic. Regarding information technology issues, learners and teachers had weak skills. The social obstacles issues

are the reluctance of students in taking responsibility for their e-learning and the societal acceptance of e-learning and the preference for the traditional method.

Concerning the hypothesis of performance expectancy, the study revealed that the hypothesis has a significantly positive influence on behavioral intention and supports hypothesis H1. Moreover, the result revealed that all proposed moderators did not moderate the influence of performance expectancy on behavioral intention. About the hypothesis of effort expectancy, the study's findings revealed that a significantly positive influence on behavioral intention exists and supports hypothesis H2. The findings also indicated no influence of the moderators of age, gender, or experience. However, the result revealed that the two new proposed moderators, education level and school type moderate the influence of effort expectancy on behavioral intention. As for the hypothesis of social influence, the study revealed that the hypothesis has a significantly positive influence on behavioral intention and supports hypothesis H3. Furthermore, the findings indicated that only gender moderates the influence of social influence on behavioral intention. In addition, the findings indicated that the hypothesis of facilitating conditions has a significantly positive influence on both the hypotheses of behavioral intention and use behavior and supports H4 and H5. Moreover, the findings indicated that only school types moderate the influence of facilitating conditions on user behavior. Private schools with high fees have the more organizational and technical infrastructure to support the system rather than government schools. As for the hypothesis of price value, the study revealed that the hypothesis has a significantly positive influence on behavioral intention and supports hypothesis H6. Furthermore, the result revealed that the two new proposed moderators, education level and school type moderate the influence of price value on behavioral intention. Finally, the findings indicated that the hypothesis of motivations has a significantly positive influence on the hypothesis of behavioral intention and supports hypothesis H7. Furthermore, the result revealed that the experience and the two new proposed moderators, education level and school type moderate the influence of motivations on behavioral intention.

7. Conclusion, Recommendations, and Future Research

The COVID-19 spread has been making problems in all aspects of human life. Like many sectors, schools have been affected by the pandemic. Their problems are more obvious in developing countries owing to the lack of technological and financial infrastructures. This study provided an overview of e-learning acceptance in Egyptian primary and preparatory schools during the global health conditions of the spread of COVID-19, investigate the main challenges, and applied the UTAUT model as a basic framework. For the challenges, the study recommended that technical support is needed to enable reliability in e-learning, for a younger age, face-to-face interactions with teachers are an important part of the educational process. The obligatory act of forced transformation to e-learning to keep social distance forced students and teachers to improve their IT skills at the end. By testing the UTAUT factors the study concluded that e-learning accepted for its ease of use, its usefulness, its social influence, the facilitating conditions, price value, and motivations moderated by that gender and experience with the two new proposed moderators' parents' education level and school type.

This study was preliminary therefore, a larger study should be carried out that will be more conclusive. In addition, considering Egypt's large geographical area, it might also be interesting to assess whether there is any variation in the acceptance and use of technologies concerning the region. It is recommended that further research should be undertaken to understand the teachers' views and experiences towards e-learning and test the learners' performance and learning outcomes.

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