# Perceptions of Students About the Use of Webinars in Classrooms: A Case of Abu Dhabi University

Asma Abdallah, United Arab Emirates University, UAE\*
Osama Ismail, Al-Ain English Speaking School, UAE
Rasha Khalil Abdallah, Al Dhafra Private Academy, UAE
Ahmed M. Alkaabi, United Arab Emirates University, UAE

https://orcid.org/0000-0001-7220-8087

#### **ABSTRACT**

This paper investigates the use of webinars among students at a university in Abu Dhabi using UTAUT model. Cross-sectional research design was used, and 134 participants were involved through a purposive criterion sampling technique. Data were collected through a survey based on a questionnaire. Findings revealed a significant relationship among performance expectancy (p-value 0.000), effort expectancy (p-value 0.000), and social influence (p-value 0.000), and an insignificant relationship with facilitating conditions (p-value 0.10) and voluntariness of use (p-value 0.61). The results would facilitate educational institutions in implementing the advanced system of education incorporating the use of webinars as a contemporary technological tool. The study is significant in determining the need for the use of webinars in class, illustrating both students' and teachers' perspectives. The implementation of the proposed results is not only limited to the case of Abu Dhabi but can be generalized to other educational institutions as well.

#### **KEYWORDS**

Behavioral Intention, E-Learning, Students, Use of Technology, UTAUT

## INTRODUCTION

Technology use in education has gained significant attention, as it enables the development of advanced educational institutions that incorporate emerging methods of teaching and learning processes (Yanuschik et al., 2015). Students emphasize the need for technology, such as tablets and cell phones, to access e-books (Vassilakaki et al., 2016). While technological devices may reduce the teachers' efforts to assess student performance, they also offer opportunities for online testing and web-based quizzes in the modern age (Chiu & Churchill, 2016; Tsinonis, 2018). Implementing modern technology

DOI: 10.4018/IJICTE.322793 \*Corresponding Author

This article published as an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

in various universities in Abu Dhabi has reduced staff time and effort (Al-Qirim et al., 2018). Student-centered approaches in modern universities focus on providing easily accessible, relevant content to students, which develops learners' autonomy and prepares them for modern challenges (Abdallah, 2018). In Abu Dhabi institutions, nearly 40% of teachers use modern technology for instructional, administrative, and record-keeping purposes (Abdallah, 2018).

The significant use of technology highlights how it is crucial for both teachers and students, as a majority of tasks related to teaching and learning are based on technology use (Al Musawi et al., 2016). Moreover, the increased use of modern technology in Abu Dhabi's educational institutions has had a positive impact on the state's educational development. The growth of computer software and hardware has enabled students to integrate technology into their pursuit of quality education, thus opening up new pathways for higher education by replacing previously ineffective teaching and learning methodologies (Raji, 2019). According to Musah et al. (2023), the concept of quality should be perceived as a continuous process of advancement instead of a fixed destination.

Using technology in higher education is vital, according to Arkorful and Abaidoo (2015), as it allows us to modernize the education system with a balanced use of technology. This calls for new, innovative teaching methods to transfer information to society. However, some teachers and members of the administration feel that we must complement modern technology introductions with clear ICT instructions, since many aged teachers lack familiarity with modern technology (Ruggiero & Mong, 2015). Therefore, many educators are now required to plan their courses by integrating the use of technology (Islim & Sevim Cirak, 2017; Liu et al., 2015). Various tutorials, online materials, videos, and animations are now included as part of modern education processes (Instefjord & Munthe, 2017). Using technology in classrooms provides visualization of various concepts and ideas, making it easier for students to comprehend course topics (Abdallah, 2018). Additionally, it promotes self-efficacy among students, instilling confidence in them to handle everyday tasks efficiently. Sun et al. (2018) demonstrated that individuals with high levels of self-efficacy have greater abilities to deal with challenging situations that others may find difficult to handle.

Various authors have studied the use and intention to use technology in the academic sphere (Khechine et al., 2013, 2014; Lakhal et al., 2013), while others have investigated the impact of technology on student outcomes, such as learning (de Gara & Boora, 2006; Myers & Schiltz, 2012; Wang & Hsu, 2008), academic performance, and satisfaction (Khechine & Lakhal, 2015; Lakhal et al. 2014). Communication technology has become an integral part of knowledge exchange, and various advancements have made it a crucial tool for sharing and imparting knowledge. One such tool is webinars, which have an enormous potential that must be explored and investigated in the digital ecology of knowledge transfer (Gupta & Sengupta, 2021).

Few studies have investigated technological behavior among Abu Dhabi students, and those that have done so did not focus specifically on a particular tool such as webinars. Given the integration of technology and the use of a holistic technological adaptation model, analyzing the determinants of technology use among students can provide a more comprehensive view of technology acceptance, usage in the classroom, and its consequences. Moreover, this study fulfills the recommendation of Tate et al. (2015) to address the research gap where there is vast research on TAM (Technology acceptance model) but scarce research on UTAUT (Unified theory of use and acceptance of technology).

Using digital technology has led to the emergence of online learning as a promising approach to facilitate self-directed learning for students (Jandigulov & Tlepbai, 2018; Jandigulov, et al., 2023). This innovative technology employs a range of tools, including web servers, web pages and websites, email, chat rooms, videoconferencing, virtual classrooms, and wikis, to enable communication between teachers and students at different times and locations (Bush et al., 2019; Liu et al., 2018; Jandigulov et al., 2023).

Moreover, the rationale for selection of a university in Abu Dhabi studies is based on the increased use of technology in the business sector and its recognition as the model nation for technology adoption (Cabral, 2018; Sadaqat, 2019). Therefore, this study investigates students' perception

towards webinars and factors affecting it. The study is significant in determining the need for the use of Webinars in class, illustrating both students' and teachers' perspective. The objective is to analyze the role of Webinars in classrooms while providing valuable concern if is needed to be determined regarding its use. Policymakers in the educational sector can benefit from the findings of this study to demonstrate high-level regulations that produce efficient achievements of the modern education system. Implementing the proposed results is not only limited to the case of Abu Dhabi but can be generalized to other educational institutions as well.

## LITERATURE REVIEW

Using technology in the educational sector has been gaining significant attention over the past few years. With the recent pandemic, integrating technology in education has become even more crucial. Among the various technological tools, webinars have emerged as a viable option for educators to conduct online classes and enhance the teaching and learning process. We expect the global pandemic to cause significant, on-going disruptions to the education sector, with the most apparent and pressing effect being the implementation of mandatory physical distancing measures (Abdallah & Riyami, 2022).

This study aims to investigate the factors that encourage the use of webinars among students at a university in Abu Dhabi, using the Unified Theory of Acceptance and Use of Technology (UTAUT) model. We will highlight the UTAUT model as the most effective predictive model concerning the adaptation of technology and utilize it to gain a comprehensive insight into the user's behavior prediction.

#### Theoretical Framework: UTAUT Model

Various studies have emphasized the understanding of individual acceptance and use of technology (Benbasat & Barki, 2007; Venkatesh et al. 2003). Samaradiwakara and Gunawardena (2014) cite the work of Oye et al. (2014) showed that technology provides no value unless it is used or accepted. This makes it essential to investigate the factors which encourage the use of technology and determine the impeding blocks for the university students in Abu Dhabi. The unified theory of acceptance and use of technology (UTAUT) was developed by Venkatesh et al. (2003) and is seen as the most effective predictive model concerning technology adoption (Al-Shafi & Weerakkody, 2010; Alawadhi & Morris, 2008). We observe it as the synthesis of the previous eight technological acceptance theories; namely, theory of reasoned action (Fishbein & Ajzen, 1975), theory of technology acceptance model (Davis, 1989), theory of motivational model (Davis et al., 1992), theory of planned behavior (Ajzen, 1991), combined theory of planned behavior/technology acceptance model (Taylor & Todd, 1995), model of personal computer utilization (Thompson et al., 1991), diffusion of innovation theory (Rogers, 1995), and social cognitive theory (Compeau & Higgins, 1995).

Khechine et al. (2016) showed how UTAUT helps develop a comprehensive insight into the user's behavior prediction, which individual modes could not attain. It consists of six primary variables, such as independent variable inclusive of effort expectancy, performance expectancy, social influence, and facilitation conditions, while the dependent variables include the usage behavior and the behavioral intention. While the model was primarily used for identifying employee technology acceptance, it has been gradually used in different contexts such as education and healthcare. For the present study, we used this model in the blended learning environment. A study conducted by Lieser et al. (2018) showed a process that comprised three stages for developing a webinar integration tool to increase the interaction between teacher and student and learning in blended environments. Similarly, Kohorst and Cox (2007) represented that a webinar is very operative. Moreover, several other authors also discussed the various benefits of using webinars in classrooms (Alnabelsi et al., 2015; Power & St-Jacques, 2014; Tseng et al., 2019).

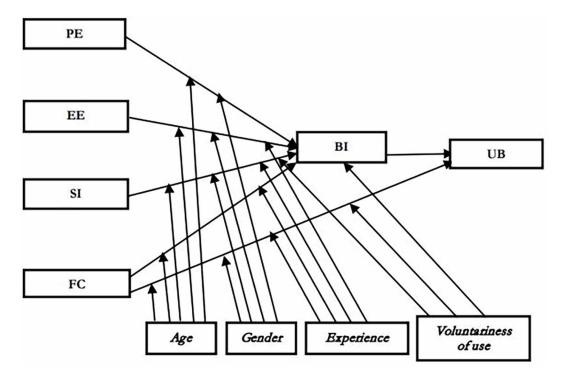
Research exploring the opportunities for the educational sector in the United Arab Emirates (UAE) during the COVID-19 pandemic was undertaken by Abdallah and Alriyami (2022). A survey of 100 teachers from 20 higher education institutions in the UAE was conducted to determine the

effectiveness of online learning tools and their ability to replace face-to-face interactions with students. The research method included primary and secondary data analysis, and they administered a questionnaire comprising nine questions to teachers. The findings suggest that only a small percentage of teachers agreed with the inclusiveness and ease of remote learning technologies use, and a significant number disagreed that the technologies used stimulate creativity and have an evidence base. The study highlights the need for significant reforms in distance education for its adaptation in the post-COVID-19 period. We have observed similar consequences of school shutdowns in education systems worldwide.

#### Research Model

The study tests the UTAUT model for determining the influence of technology (webinars) usage on performance expectancy, social influence, and effort expectancy on the intention of the student to use technology (webinars). Not only this, but in the original UTAUT model, the moderator variables were found to be age, gender, experience, and voluntary use (Venkatesh et al., 2003). However, researchers have scarcely explored the individual effect of the factors on the UTAUT. Venkatesh et al. (2016) has emphasized this, which showed that surpassing the moderating effects can cause an adverse impact on the UTAUT generalizability. The study has adopted the guidelines of UTAUT contextualization, as showed by Hong et al. (2013) for a blended learning environment. The researcher also suggested incorporating context-based factors for better results. Therefore, the present study has considered two factors, i.e., outcome and satisfaction, to bridge the gap concerning the association between intention and behavior, as recommended by Tate et al. (2015). Figure 1 depicts the pictorial representation of the UTAUT model as deployed in the present study. The independent variables in the study include (Performance expectancy, effort expectancy, social influence, and facilitating conditions), while the dependent variables are BI and UB. Age, experience, gender, and voluntariness to use are the moderating variables.

Figure 1. Research model



# **Empirical Investigations**

Using technology, as indicated through the modern standards of educational institutions, has diverted the interest of various educational institutions, while eliminating the use of books in the classroom. Webinar is one of the advanced technological tools which provides an opportunity to carry out physical classes to an online forum by using a videoconferencing system. This system or term is new to the field of education. The main idea behind webinars is to conduct online seminars. But it is not just the only event to carry out, through webinars meetings, demonstrations, conferences, training, or teaching and many other similar events can be carried out interactively (Gupta & Sengupta, 2021). Young et al. (2002), suggested a "3I Framework theory" which states that we should give students an opportunity to interact with videos. Using audio-visual technology has long been there in the education sector but with the improvement of information and communication technology, its part has become more active and massive today (Gupta & Sengupta, 2021). Rashid and Asghar (2016) illustrated that easy access to computers for different students helps in developing a positive attitude regarding the use of technology and provides competitive results. Drossel et al. (2017) emphasize that teachers having a negative attitude toward the use of technology are unlikely to integrate the use of technology in classrooms.

Afari and Khine (2016) in their study, explain the use of mobile learning technology in Taiwan and selected 320 respondents to investigate the issue. They found variables related to the behavioral intention other than social influence are highly important. Besides this, individuals with high-level performance expectancy were prone to use mobile technology to provide efficient results.

Almekhlafi (2016) illustrated that UAE stands among those countries that are integrated into high-level efforts in implementing ICT in the modern education system. In various universities of Abu Dhabi, webinars have been integrated as an effective strategy to enhance the teaching and learning process. Besides this, various faculty members use webinars to conduct online classes, assessing students' performances, conducting assignments to increase the students' interaction towards highly beneficial communication tools in the form of modern technology. Jabeen et al. (2018) investigated the use of webinars in the modern educational system of Abu Dhabi through the Technology Acceptance Model (TAM). It further illustrated different factors to predict students' intentions and attitudes regarding its use. The findings of the study illustrated that perceived technological literacy and e-satisfaction was found as an important determinant in implementing the use of webinars in educational institutions.

Heflin et al. (2017) suggested that educational strategies that are based on the use of modern technology increase the ability of critical thinking among students. This further creates a positive impact on the decision-making process and problem-solving skills. According to McKnight et al. (2016), the use of emerging technologies provides open opportunities for students and teachers to enhance the learning process by incorporating visual aids. This has contributed to the developments of useful websites and software that support multiple teaching and learning strategies in classrooms.

Goundar (2014) conducted a study illustrating the modern technology provided by ICT is penetrating and thus demanding a high level of individual attention. The ecology of the learning environment has not changed from learning the material to the source of distraction. ICT has changed previously incorporated educational standards, incorporating learning and writing skills. Findings of the study illustrated that students experienced high-level distractions because of the constant use of ICT devices in classrooms for non-academic purposes. Kryukov and Gorin (2016) demonstrated that teacher serves as the principal source of knowledge for students, students with the frequent use of technology become less dependent on their teachers. The study further illustrated that implementing modern technology alters learning for various teachers. Use of digital technology in modern times may not deliver learning competitive to face to face learning. Salloum and Shaalan (2018) further investigated the use of technology in various universities through the TAM model. The model serves as an important determinant in influencing the decision-making process to the use of e-learning. This

further provides an emphasis on the use of visual and audio aids, animations, and experiment-based videos to stimulate greater interest and learning feasibility among individuals.

Overall, the literature review provides a comprehensive understanding of the UTAUT model and its relevance in investigating the use of technology in the education sector. The empirical analysis highlights the potential benefits and drawbacks of technology, emphasizing the need for a balanced approach in integrating technology in the learning process.

# **Hypotheses**

Based on the discussions, we developed the following hypotheses:

- **H1:** There is a significant relationship between performance expectancy, effort expectancy, and social influence on the behavioral intention of the student.
- **H2:** There is a significant relationship between facilitating conditions and voluntariness of use of the behavioral intention of the student.
- H3: There is a significant relationship between age and gender on the behavioral intention of the student.

#### **METHODOLOGY**

# **Study Design**

The study used a cross-sectional research design to achieve the determined objectives. It used a quantitative approach for analyzing the students' perspectives regarding the implementation of the use of modern technology in classrooms. The rationale for using this research design is based on its effectiveness for concluding effective and quantifiable results, as established in previous studies.

# Study Population and Sample

The population of the current study involves students that are using technology in classrooms. Participants of the study involved 103 students and 37 faculty members at a university in Abu Dhabi, to collect data regarding their perceptions of the use of technology in the classroom. However, samples were collected through a purposive sampling technique based on the determined inclusion criteria (Table 1).

We demonstrate the demographic details of the respondents are presented in Table 2. Based on the responses, we found that the majority of the sample comprise female population, i.e., 62, whereas the number of males was 41 ( $1.6019 \pm .49189$ ). The age analysis of the respondents depicts that most of them are in 17 to 22 years age bracket (44), following the respondents who were above 30 years of age (39) while only a few were aged between 28 to 32 years ( $2.3883 \pm 1.36650$ ). Also, the majority of the participants belonged to first year (30), followed by students in the fourth year (26), and in the second year (22), while only 11 students from the third year took part in the study. Also, the sample mostly comprises respondents who were students (67) in contrast to the number of faculty members (37) (Mean, 1.6442, Std. Deviation, 0.48106).

The discipline evaluation of the participants indicated that most of the participants were associated with Arts and Science College (50), following students in Engineering College (29) while only a few

Table 1. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria				
18 years and above	Less than 18 years				
Students enrolled in classes using webinar	Students not enrolled in classes using a webinar				
Provided Consent	Did not provide consent				

Table 2. Participants' demographics

Variables	Frequency (n)	Percentage (%)		
Gender				
Male	41	39.0		
Female	62	59.0		
Age				
17-22	44	41.9		
23-27	14	13.3		
28-32	6	5.7		
33+	39	37.1		
Class				
1st Year	30	28.6		
2nd Year	22	21.0		
3rd Year	11	10.5		
4th Year	26	24.8		
Status				
Faculty Member	37	35.2		
Student	67	63.8		
Student Discipline				
Engineering College	29	27.6		
Business College	14	13.3		
Arts and Science College	50	47.6		
Internet Use				
Daily	98	93.3		
Weekly	3	2.9		
A few times a Year	1	1.0		
Intention to Use Online Course				
Yes	45	42.9		
No	12	11.4		
Maybe	44	41.9		

from the business college (14). Most of the responses revealed participants were involved in daily usage of the internet (93), while 3 participants used it every week while 1 participant used a few times in a year. Close responses were found for yes and maybe when considering the intention to use the online course, i.e., 45 and 44, respectively, whereas only 12 responded no.

#### **Data Collection**

Data is collected through a survey based on a questionnaire that is further divided into two parts. The first part of the questionnaire includes demographic information of the participants, while the second part of the questionnaire collected information related to technological acceptance. Overall, the questionnaire consists of 58 items, which required about 20 minutes to be completed. Except

for the demographic variables, all the other items used a 7-point Likert scale where one represents strongly disagree while seven represents strongly agree. The Venkatesh et al. (2003) questionnaire of 36-items was adopted while the Fillion (2005) study guided gathering responses concerning outcomes such as performance and satisfaction.

#### **Ethical Considerations**

The study gained ethical approval from the institutional review board at a university in Abu Dhabi. Further, the study attained a written consent from the participants while also ensuring the confidentiality and anonymity of the collected data. We will keep information collected in this study securely.

# **Data Analysis**

We analyzed the data using IBM SPSS version 20.0. We employed descriptive statistics to analyse the categorical variables and Structural Equation Modelling (SEM) to assess the continuous variables.

## **RESULTS**

Table 3 presents the convergent validity analysis with the use of average variance extracted (AVE) measures. Based on Chin (1998), the AVEs values over 0.5 emphasized the correlation among the variables. We observed that values of all the factors lie above 0.5, such as for performance expectancy it is (0.700) while for effort expectancy it is (0.685), social influence (0.585), and for facilitating conditions it is (0.734). The findings in Table 3 provide evidence of the discriminatory validity of the scales. Table 4 provides the results as per the Fornell and Larcker (1981) criterion, where the diagonal elements present the AVE square root and the correlation among the latent variables. The values of the variable represent a higher value which established the attainment of the determined Fornell and Larcker (1981) Criteria.

The Heterotrait-monotrait (HTMT) ratio measures the discriminatory validity of the variables (Henseler et al., 2015). It shows the sensitivity ratio and the specificity other than the one presented by Fornell-Larcker and cross-loadings. The HTMT ratio must be lower than 0.90 for establishing the discriminate validity (Table 5).

Path analysis presents the significant relationship that prevails between the study variables (Table 6). It shows that there is a strong relationship among the study variables (p-value <0.05), except for voluntariness of use and facilitating conditions with behavioural intentions (p-value 0.61 and 0.10, respectively). It shows that performance expectancy, effort expectancy, and social influence with behavioural intentions (p-value <0.05). Similar is the impact of age and gender on the behavioural intention of the student, as depicted through the achieved p-value, i.e., 0.05 and 0.04. Therefore, we accepted H1 and H3 and rejected H2.

Table 3. Convergent validity

Constructs	Composite Reliability	Average Variance Extracted (AVE)
Performance Expectancy	0.823	0.700
Social Influence	0.808	0.585
Effort Expectancy	0.808	0.685
Facilitating Conditions	0.917	0.734
Voluntariness of Use	0.860	0.673
Age	0.903	0.699
Gender	0.830	0.622
Behavioral Intentions	0.908	0.770

Table 4. Fornell and Larcker (1981) criterion

Constructs	IA	IMC	LPERF	SE	SF	SR	TA	VAS
Performance Expectancy	0.84							
Social Influence	-0.34	0.77						
Effort Expectancy	0.29	-0.15	0.83					
Facilitating Conditions	-0.11	0.30	0.01	0.86				
Voluntariness of Use	-0.08	-0.05	0.13	0.21	0.82			
Age	-0.07	0.36	0.20	0.57	0.21	0.84		
Gender	0.30	0.07	0.06	0.19	0.18	0.14	0.79	
Behavioral Intentions	-0.09	0.00	0.05	0.06	0.10	0.09	-0.10	0.88

Table 5. Heterotrait-Monotrait (HTMT) ratio

Constructs	IA	IMC	LPERF	SE	SF	SR	TA	VAS
Performance Expectancy								
Social Influence	0.50							
Effort Expectancy	0.50	0.17						
<b>Facilitating Conditions</b>	0.18	0.35	0.05					
Voluntariness of Use	0.25	0.17	0.26	0.26				
Age	0.21	0.36	0.27	0.65	0.23			
Gender	0.44	0.20	0.18	0.22	0.24	0.21		
Behavioral intentions	0.32	0.16	0.25	0.13	0.14	0.15	0.14	

Table 6. Path analysis

	Estimate	S.D.	T-Stats	Prob.
Performance Expectancy → Behavioral Intentions	0.13	0.07	1.82	0.01
Effort Expectancy → Behavioral Intentions	0.35	0.05	6.74	0.01
Social Influence → Behavioral Intentions	-0.20	0.07	2.80	0.01
Facilitating Conditions → Behavioral Intentions	0.15	0.06	2.38	0.10
Voluntariness of Use → Behavioral Intentions	0.19	0.07	2.56	0.61
Age→ Behavioral Intentions	0.52	0.52	0.34	0.05
Gender→ Behavioral Intentions	0.13	0.12	1.04	0.04

## **DISCUSSION**

The study provided a detailed analysis of the use of webinars in classrooms and the perceptions and intentions of using them in Abu Dhabi universities. The study considering the UTAUT model and the use of technology (webinars). We primarily composed the sample of the study of students in contrast to faculty members. Most of the students belonged to the first year of their academic program, which was followed by second-year students. However, a minimal number of students extent

took part in the second and third years. Besides this, most of the participants belonged to Arts and Science, while others belonged to Engineering and Business colleges, respectively. We found the demographic variables such as age and experience to affect the intention to use among the students. Celik (2016) found that usage intention is moderated by the age and experience of the individual, which corroborated our study findings.

The results showed that the performance expectancy helps academicians to encourage the use of webinars in higher education. This is consistent with the findings of Khechine et al. (2013) which suggest that webinars can induce students' willingness to use technology; however, it should be used with care. Students' intention of using the internet is directly associated with their perceptions of using technology. Also, most of the students reflected a positive attitude regarding their perceptions of using online courses. Badri et al. (2016) agreed with the idea that technology serves as the major driver in supporting the intention of using online courses. They further suggested that perceived usefulness and perceived ease of use create a direct impact on students' behavioral intention of using technology. Another considerable part of the study includes users' intention regarding the skillfulness of technology, which has shown a significant positive association between them. Similarly, students' intention of using technology increases with their perceptions about the usefulness of the technology. The findings in Scherer et al. (2015) supported the idea of the present study, where they demonstrated that a high level of perceived usefulness is associated with levels of technological skills and acceptance among users. Skillful students using technology usually have high levels of self-efficacy regarding the use of technology. This shows a positive relationship between perceived usefulness and individual perceptions regarding the use of technology and its acceptance.

Khechine et al. (2016) supported the findings stating that they link the effort expectancy to the behavioral intention. Most of the students bring their technological devices to support their learning and understanding related to everyday classroom knowledge. Students' satisfaction related to the use of technology was associated only with the competency of technology in fulfilling their needs. This promoted students' collaborations and peer learning largely in practice. Lecturers, however, supported similar perceptions where technology is highly important for integrating efficient educational practices. This pinpoints the fact that both students and teachers are largely to support using technology (webinars) in classrooms. Percival and Claydon (2015) provided similar results according to which student's intention of using technology (webinars) was dominant during classroom practices.

The study further illustrated that the use of technology among students was at an average of four to five hours per day in different classroom activities. Among them, some of the major tasks include managing classroom learning and coursework completion. Jabeen et al. (2018) indicated that technological skillfulness and behavioral intention are highly significant factors for students regarding the use of technology in the classroom. Certain platforms associated with the use of technology, such as blackboards, are highly convenient for students because of several reasons. First, easy access to course materials requires minimal efforts. Second, there is enhanced feasibility of discussion of general classroom-related issues regarding assignments, projects, and lectures. Use of technology reduces the time for grading purposes, providing an opportunity for students for grading purposes. This is only possible because of students' competency in acquiring basic technological skills, that it is a major factor in promoting the use of technology in classrooms.

The findings of the study emphasize that teachers must not exert pressure on the students to adopt the webinar technology. Instead, the teachers must promote the idea of the voluntary use of technology, which may increase their intention to use. Exerting pressures is likely to make students rigid and resistance. The academicians must emphasize the technology usefulness and provide the students freedom for using webinars. The teachers must market webinar use and its potential benefits, aligning their work with generation Z preferences, such as through different social medium channels. The instructors must use the webinar system rather than using the classroom blackboard. We encourage that classroom educational intervention strategies must use pedagogical activities, more interaction, and more breaks. Similarly, teachers must also advise students on how to optimize their learning to

use technology. The study further recommends future research to use the UTAUT model as proposed by Venkatesh et al. (2012). This helps in expanding the research area further given its integration of price value, hedonic motivation and habit. This understanding helps in promoting more secure strategies for promoting students to adopt technology and improve their learning outcomes.

Overall, the study contributes to the existing body of literature on the use of technology in education and provides valuable insights for academic institutions and policymakers to promote the adoption of technology for improving the learning outcomes of students.

# **Study Limitations**

The study only considered universities of one emirate of the United Arab Emirates due to time constraints, which is therefore the limitation of the study.

## **Future Recommendations**

The future researchers can consider other emirates to compare students' opinion related to different characteristics of webinars. Future researchers can use data envelopment analysis to find the efficiency of webinars in different emirates of UAE and identify the efficiency determinants through Tobi regression or the ordinary least method. Different statistical tools, such as factor analysis, multinomial logistic regression, principal component analysis and composite index, may be useful for the critical analysis of students' perceptions.

#### **CONCLUSION AND LEARNED LESSONS**

Use of technology (webinar) serves as a valuable idea in providing advanced education, specifically at a university in Abu Dhabi. This provides significant importance towards the usage of technology (webinar) among students and considers factors that are significant to users. The main idea of this study involves the usefulness and intentions of students for integrating technological based learning (webinar) at a university in Abu Dhabi. This includes various factors depending on different dimensions of learning to achieve targeted goals. Our study results are crucial, as they show students' perceptions and intentions regarding the use of technology in the classroom.

The study is significant as it examined students' intentions, attitudes, and perceptions regarding the use of technology (webinar) at a university in Abu Dhabi. This provides an opportunity for future researchers to explore the performance of the university after successful integration of technology in classrooms. The study provides an opportunity to examine students' level of satisfaction and dissatisfaction when learning is incorporated using technology. This may help educational experts to design the most appropriate method of teaching and learning to use technology. The results can help policymakers in integrating the use of webinars in educational institutions while considering the factors. The analysis of the given factors may provide useful insights regarding the efficient usage of webinars in education. Thus, the study is useful in contributing to the development of information and communication technology system in education. This will help educational experts to build self-efficacy among learners regarding the use of technology.

There are five principal lessons:

- Technology, particularly webinars, can provide advanced education and is a valuable tool in the classroom. It is important for educational institutions to integrate technology into their teaching methods to provide better learning experiences for students.
- Educational experts should consider students' perceptions and intentions regarding the use of technology (webinar) in the classroom when designing teaching and learning methods. This can help educational experts to provide the most appropriate method of teaching and learning that suits students' needs.

- Integrating technology in the classroom can provide an opportunity for future researchers to explore the performance of the University and the level of satisfaction and dissatisfaction among students. This can help policymakers to design effective policies for integrating the use of webinars in educational institutions.
- The study contributes to the development of information and communication technology systems in education. This will help educational experts to build self-efficacy among learners regarding the use of technology.
- Educational institutions should consider various factors that are significant to users when integrating technology into the classroom. These factors can depend on different dimensions of learning to achieve targeted goals.

#### CONFLICT OF INTEREST

The authors declare no competing interest.

#### **FUNDING STATEMENT**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## **ACKNOWLEDGMENT**

The authors are very thankful to all the associated personnel in any reference that contributed in/for the purpose of this research.

#### **REFERENCES**

Abdallah, A. K. (2018). Parent's perception of e-learning in Abu Dhabi schools in United Arab Emirates. *International E-Journal of Advances in Social Sciences*, 4(10), 30–41. doi:10.18769/ijasos.415513

Abdallah, A. K., & Alriyami, R. (2022). Changes in the education landscape caused by COVID-19: Opportunities and challenges from UAE perspective. *World Journal on Educational Technology: Current Issues*, 14(3), 544–559. doi:10.18844/wjet.v14i3.7193

Afari, E., & Khine, M. S. (2016). Students' intention to use computer technology: A structural equation modelling analysis. *International Journal of Quantitative Research in Education*, *3*(1-2), 41–57. doi:10.1504/IJORE.2016.073666

Al Musawi, A., Al Hashmi, A., Kazem, A. M., Al Busaidi, F., & Al Khaifi, S. (2016). Perceptions of Arabic language teachers toward their use of technology at the Omani basic education schools. *Education and Information Technologies*, 21(1), 5–18. doi:10.1007/s10639-013-9305-5

Al-Qirim, N., Tarhini, A., Rouibah, K., Mohamd, S., Yammahi, A. R., & Yammahi, M. A. (2018). Learning orientations of IT higher education students in UAE University. *Education and Information Technologies*, 23(1), 129–142. doi:10.1007/s10639-017-9589-y

Al-Shafi, S., & Weerakkody, V. (2010). Factors affecting e-government adoption in the state of Qatar. *Proceedings of the European and Mediterranean Conference on Information Systems*.

AlAwadhi, S., & Morris, A. (2008, January). The use of the UTAUT model in the adoption of e-government services in Kuwait. *Proceedings of the 41st annual Hawaii international Conference on System Sciences (HICSS 2008)*, doi:10.1109/HICSS.2008.452

Almekhlafi, A. G. A. (2016). Pre-service and in-service teachers' perceptions of the utility of ELearning digital collaboration tools for teaching and learning. *Journal of Education and Social Sciences*, 4(June), 297–305.

Alnabelsi, T., Al-Hussaini, A., & Owens, D. (2015). Comparison of traditional face-to-face teaching with synchronous e-learning in otolaryngology emergencies teaching to medical undergraduates: A randomised controlled trial. *European Archives of Oto-Rhino-Laryngology*, 272(3), 759–763. doi:10.1007/s00405-014-3326-6 PMID:25308244

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29–42.

Badri, M., Al Rashedi, A., Yang, G., Mohaidat, J., & Al Hammadi, A. (2016). Students' intention to take online courses in high school: A structural equation model of causality and determinants. *Education and Information Technologies*, 21(2), 471–497. doi:10.1007/s10639-014-9334-8

Benbasat, I., & Barki, H. (2007). Quo vadis TAM? *Journal of the Association for Information Systems*, 8(4), 7. doi:10.17705/1jais.00126

Biratu, A. A., & Asmamaw, D. K. (2016). Farmers' perception of soil erosion and participation in soil and water conservation activities in the Gusha Temela watershed, Arsi, Ethiopia. *International Journal of River Basin Management*, 14(3), 329–336. doi:10.1080/15715124.2016.1167063

Cabral, A. R. (2018). Why the UAE is a model nation for technology adoption. Khaleej Times. https://www.khaleejtimes.com/technology/why-the-uae-is-a-model-nation-for-technology-adoption

Celik, H. (2016). Customer online shopping anxiety within the Unified Theory of Acceptance and Use Technology (UTAUT) framework. *Asia Pacific Journal of Marketing and Logistics*, 28(2). Advance online publication. doi:10.1108/APJML-05-2015-0077

Chiu, T. K., & Churchill, D. (2016). Adoption of mobile devices in teaching: Changes in teacher beliefs, attitudes and anxiety. *Interactive Learning Environments*, 24(2), 317–327. doi:10.1080/10494820.2015.1113709

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *Management Information Systems Quarterly*, 19(2), 189–211. doi:10.2307/249688

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–340. doi:10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14), 1111–1132. doi:10.1111/j.1559-1816.1992. tb00945.x

De Gara, C., & Boora, R. (2006, October). Using Elluminate as a simple solution for telehealth initiatives for continuing medical education. *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, 476-480.

Drossel, K., Eickelmann, B., & Gerick, J. (2017). Predictors of teachers' use of ICT in school–the relevance of school characteristics, teachers' attitudes and teacher collaboration. *Education and Information Technologies*, 22(2), 551–573. doi:10.1007/s10639-016-9476-y

Fillion, G. (2005). The integration of ICT in university training: A study of the educational results of students in the contexts of presence and non-attendance in class. Academic Press.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research.* Addison-Wesley.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *JMR*, *Journal of Marketing Research*, *18*(1), 39–50. doi:10.1177/002224378101800104

Goundar, S. (2014). The distraction of technology in the classroom. *Journal of Education & Human Development*, 3(1), 211–229.

Greco, G. M. (2016). On accessibility as a human right, with an application to media accessibility. In A. Matamala & P. Orero (Eds.), *Researching audio description* (pp. 11–33). Palgrave Studies in Translating and Interpreting. doi:10.1057/978-1-137-56917-2\_2

Gupta, S. K., & Sengupta, N. (2021). Webinar as the future educational tool in higher education of India: A survey-based study. *Technology, Knowledge, and Learning*, 26(4), 1111–1130. doi:10.1007/s10758-021-09493-7

Harpur, P. (2012). Embracing the new disability rights paradigm: The importance of the Convention on the Rights of Persons with Disabilities. *Disability & Society*, 27(1), 1–14. doi:10.1080/09687599.2012.631794

Heflin, H., Shewmaker, J., & Nguyen, J. (2017). Impact of mobile technology on student attitudes, engagement, and learning. *Computers & Education*, 107, 91–99. doi:10.1016/j.compedu.2017.01.006

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. doi:10.1108/IMDS-09-2015-0382

Hong, W., Chan, F. K., Thong, J. Y., Chasalow, L. C., & Dhillon, G. (2014). A framework and guidelines for context-specific theorizing in information systems research. *Information Systems Research*, 25(1), 111–136. doi:10.1287/isre.2013.0501

Instefjord, E. J., & Munthe, E. (2017). Educating digitally competent teachers: A study of integration of professional digital competence in teacher education. *Teaching and Teacher Education*, 67, 37–45. doi:10.1016/j. tate.2017.05.016

Islim, O. F., & Sevim Cirak, N. (2017). Technology and college students: What faculty members think about the use of technology in higher education. *Malaysian Online Journal of Educational Technology*, 5(2), 34–50.

Jabeen, F., Khan, M., & Ahmad, S. Z. (2018). Understanding the technology receptivity in higher education: Evidence from the UAE. *International Journal of Technology and Human Interaction*, *14*(3), 39–52. doi:10.4018/IJTHI.2018070103

Jandigulov, A., Abdallah, A. K., Tikhonova, Y., & Gorozhanina, E. (2023). Management and leadership in online learning. *Education and Information Technologies*. Advance online publication. doi:10.1007/s10639-023-11699-4

Khechine, H., & Lakhal, S. (2015). Effects of webinar use on student performance in higher education: What about grades? *EDULEARN15 Proceedings*, 329-337.

Khechine, H., Lakhal, S., Bytha, A., & Pascot, D. (2013). Students' acceptance of Elluminate use in a blended learning course. *Proceedings of the 7th International Technology, Education and Development Conference*.

Khechine, H., Lakhal, S., Bytha, A., & Pascot, D. (2014). To Elluminate or Not to Elluminate? That is the question. *Fifth International Conference on Education, Training and Informatics*.

Khechine, H., Lakhal, S., & Ndjambou, P. (2016). A meta-analysis of the UTAUT model: Eleven years later. *Canadian Journal of Administrative Sciences/Revue Canadianne des Sciences de l'Administration, 33*(2), 138-152. 10.1002/cjas.1381

Kohorst, K., & Cox, J. R. (2007). Virtual office hours using a tablet PC: E-lluminating biochemistry in an online environment. *Biochemistry and Molecular Biology Education*, *35*(3), 193–197. doi:10.1002/bmb.50 PMID:21591087

Lakhal, S., Khechine, H., & Pascot, D. (2013). Student behavioural intentions to use desktop video conferencing in a distance course: Integration of autonomy to the UTAUT model. *Journal of Computing in Higher Education*, 25(2), 93–121. doi:10.1007/s12528-013-9069-3

Lakhal, S., Khechine, H., & Pascot, D. (2014, October). Academic students' satisfaction and learning outcomes in a HyFlex course: Do delivery modes matter? In T. Bastian (Ed.), *E-Learn: World conference on E-Learning in corporate, government, healthcare, and higher education* (pp. 1075-1083). Association for the Advancement of Computing in Education (AACE).

Lieser, P., Taf, S. D., & Murphy-Hagan, A. (2018). The webinar integration tool: A framework for promoting active learning in blended environments. *Journal of Interactive Media in Education*, 2018(1). 10.5334/jime.453

Liu, S. H., Tsai, H. C., & Huang, Y. T. (2015). Collaborative professional development of mentor teachers and pre-service teachers in relation to technology integration. *Journal of Educational Technology & Society*, *18*(3), 161–172.

Musah, M. B., Tahir, L. M., Ali, H. M., Al-Hudawi, S. H. V., Issah, M., Farah, A. M., Abdallah, A. K., & Kamil, N. M. (2023). Testing the validity of academic staff performance predictors and their effects on workforce performance. *International Journal of Evaluation and Research in Education*, 12(2), 941–955. doi:10.11591/jere.v12i2.24230

Oye, N. D., & Iahad, A, N. (. (2014). The history of UTAUT model and its impact on ICT acceptance and usage by academicians. *Education and Information Technologies*, 19(1), 251–270. doi:10.1007/s10639-012-9189-9

Percival, J., & Claydon, T. (2015). A study of student and instructor perceptions of tablet PCs in higher education contexts. *Higher Education in Transformation Conference*, 250-264.

Power, M., & St-Jacques, A. (2014). The graduate virtual classroom webinar: A collaborative and constructivist online teaching strategy. *Journal of Online Learning and Teaching*, 10(4), 681–695.

Rashid, T., & Asghar, H. M. (2016). Technology use, self-directed learning, student engagement and academic performance: Examining the interrelations. *Computers in Human Behavior*, 63, 604–612. doi:10.1016/j. chb.2016.05.084

Sadaqat, R. (2019). *Adoption of emerging technologies poised to accelerate in 2019*. Khaleej Times. https://www.khaleejtimes.com/technology/adoption-of-emerging-technologies-poised-to-accelerate-in-2019

Salloum, S. A. S. (2018). *Investigating students' acceptance of e-learning system in higher educational environments in the UAE: Applying the extended technology acceptance model (TAM)* [Doctoral dissertation]. The British University in Dubai. https://bspace.buid.ac.ae/handle/1234/1150

Scherer, R., Siddiq, F., & Teo, T. (2015). Becoming more specific: Measuring and modeling teachers' perceived usefulness of ICT in the context of teaching and learning. *Computers & Education*, 88, 202–214. doi:10.1016/j. compedu.2015.05.005

Sun, Z., Xie, K., & Anderman, L. H. (2018). The role of self-regulated learning in students' success in flipped undergraduate math courses. *The Internet and Higher Education*, *36*, 41–53. doi:10.1016/j. iheduc.2017.09.003

Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, *12*(2), 137–155. doi:10.1016/0167-8116(94)00019-K

Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *Management Information Systems Quarterly*, 15(1), 125–143. doi:10.2307/249443

Tseng, J. J., Cheng, Y. S., & Yeh, H. N. (2019). How pre-service English teachers enact TPACK in the context of web-conferencing teaching: A design thinking approach. *Computers & Education*, 128, 171–182. doi:10.1016/j. compedu.2018.09.022

Tsinonis, T. (2018). How to use ICT in the classroom effectively: The technological blend. In A. Visvizi, M. D. Lytras, & L. Daniela (Eds.), *The future of innovation and technology in education: Policies and practices for teaching and learning excellence* (pp. 111–125). Emerald. doi:10.1108/978-1-78756-555-520181009

Vassilakaki, E., Moniarou-Papaconstantinou, V., & Garoufallou, E. (2016). Identifying the uses of mobile technology among library and information science undergraduate students. *Program*, *50*(4), 417–430. doi:10.1108/PROG-10-2015-0069

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *Management Information Systems Quarterly*, 27(3), 425–478. doi:10.2307/30036540

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *Management Information Systems Quarterly*, 36(1), 157–178. doi:10.2307/41410412

Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 17(5), 328–376. doi:10.17705/1jais.00428

Yanuschik, O. V., Pakhomova, E. G., & Batbold, K. (2015). E-learning as a way to improve the quality of educational for international students. *Procedia: Social and Behavioral Sciences*, 215, 147–155. doi:10.1016/j. sbspro.2015.11.607

Asma Abdallah is an assistant professor in the Foundations of Education Department—College of Education at United Arab Emirates University. She is an experienced and highly qualified education professional with a passion for teaching and a dedication to promoting excellence in the field of education. She holds both a Ph.D. and a Master's degree in Education Administration and Leadership, and has worked as a teacher, vice principal, principal, and school's education improvement consultant throughout her career. In addition, she is a certified school inspector, which reflects her deep understanding of the importance of educational quality and standards. Dr. Asma is known for her dynamic and engaging teaching style, and she is committed to helping students and educators alike to achieve their full potential. She firmly believes that good is the enemy of great, and she works tirelessly to inspire and motivate others to aim for greatness in everything they do. She is a highly accomplished and respected education professional who has made significant contributions to the field of education. Her dedication to excellence, her passion for teaching, and her commitment to research and innovation have earned her a well-deserved reputation as a leader and role model in the education community. As an active researcher, Dr. Asma has published several articles on topics related to her research interests, which include educational leadership, school improvement, and education quality. She brings her rich practical experience and knowledge to bear in her research and is widely respected for her insights and contributions to the field.

Osama Ismail is a dedicated e-mobility engineer turned educator who is passionate about teaching engineering. Osama graduated from the University of Antwerp with a master's degree in Sustainable Automotive Engineering and then went on to work for various automotive companies. After many years in the automotive industry, Osama took the initiative for education. He wanted to share his love of engineering and technology with the next generation, so he decided to become an automotive engineering teacher alongside his research in the e-mobility sector.

Rasha Khalil holds a Master's Degree in English Language and Literature. Rasha's teaching philosophy is to improve teaching and learning by providing empowered, highly qualified teachers and leaders. She believes that in education good is the enemy of great. Rasha teaches English for high school in a school of an American curriculum. She is the Head of the Girls' Section where the teaching and learning process should be ensured to the maximum in a safe, positive and motivating environment.

Ahmed Alkaabi is an assistant professor in the Foundations of Education Department—College of Education at United Arab Emirates University. He is currently serving as the Director of the Emirates Institute for Learning Outcomes Assessment at UAEU as well as Coordinator of the Master of the Educational Innovation Program. His educational qualifications include a Ph.D. in Educational Administration and Policy with an emphasis on supervision from the University of Georgia—Athens, USA (2019). Dr. Alkaabi also earned two master's degrees—the first in School Leadership from United Arab Emirates University in 2014 and the second in Educational Administration from Ohio State University, USA in 2015. During his decorated journey, he was the recipient of two distinguished academic awards: the Ray Bruce Award in 2017 for his accomplishments in the Educational Administration and Policy Doctoral Program at the University of Georgia. Dr. Alkaabi has contributed several scholarly articles in the field of educational leadership, which have been published in internationally recognized journals indexed by Scopus. His research interests reflect his expertise in school leadership, specifically in the areas of supervision, evaluation, induction, professional development, and data-driven decision-making.