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The Impact Continuous Adaptation of Augmented Reality After Covid-19 in United Arab Emirates

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Augmented reality is gaining popularity in a variety of disciplines, particularly in educational environments. Distance learning has become a reality in the aftermath of the Covid-19 epidemic. It is already in use worldwide, and education using augmented reality technology will assist learners in absorbing learning information in a more creative state of mind than ever before. There has been little study into the adoption of augmented reality in developing countries. As a result, understanding the characteristics of augmented reality adoption is critical for encouraging and motivating students to use this incredibly creative and effective form of technology in the continuous adaptation of the distance educational process after the covid 19 epidemic. In light of this, the authors combined UTUAT2 and Task-Technology Fit theories. The study has targeted undergraduate students at Al-Ain University in the United Arab Emirates to gather the data. Purposive sampling procedures were employed to gather a valid sample of 534 questionnaires for this investigation. Finally, the acquired data were analyzed using the Partial Least Square Structural Equation Model (PLS-SEM). The results revealed that technology characteristics, performance expectancy, effort expectancy, hedonic motivation, and task technology fit have a significant and positive effect on behavioral intention. In addition, the findings indicated that task technology fit partially mediated the effect of technology characteristics, performance expectancy on behavioral intention. The findings of this study will contribute more useful knowledge to the literature, resulting in a greater understanding of the characteristics and behaviors of Augmented reality after covid 19 pandemic implementation in developing countries.

Keywords: augmented reality, distance learning, PLS-SEM, task-technology fit, UTUAT2

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INTRODUCTION

The coronavirus illness 2019 (COVID-19) takes two months to transcend national borders and travel across continents. The World Health Organization (WHO) declared COVID-19 a pandemic on March 11th, 2020. The spread of COVID-19 resulted in a quickly growing crisis that had a global influence on education (Villacé-Molinero, et al., 2021). Continuing education transmission using various learning and teaching intermediaries moved to the top of the priority list for institutions looking to minimize the effects of the incident on education. Due to the adoption of national social distancing regulations, several nations' educational institutions were forced to turn to distance learning environments and some e-learning alternatives (Cone, et al., 2021).). Distance learning became compulsory for all higher education institutions in the United Arab Emirates (UAE), commencing March 22nd, 2020 through the end of June 2020, with nearly three-quarters of the second half of the 2019–2020 academic year performed online (Reimers, & Marmolejo, 2022).

Online distance learning sessions quickly replaced on-campus face-to-face classes. The impact of COVID-19 was amplified in health professions education, where the linked experiential education is at the center of teaching and learning. There are educational techniques to designing distance learning programs that necessitate specific curriculum planning, teaching approaches, and collaboration techniques (Khan, et al., 2021). Because of the necessity of the circumstance, universities did not have the time or resources to plan for and make adjustments to an appropriate, structured transformation. Furthermore, the various modifications and constraints associated with COVID-19 and the related psychosocial pressures that learners and educators have been encountering increased the fast-moving problems to distant learning (Lopena, et al., 2021). Before, during, and after their online interactions, educators and learners must promote networking, nurture humanity in their contacts, and improve their communication efficacy. Augmented reality (AR) has already gained greater importance and acceptance as a new IT use in various disciplines, particularly in educational contexts. This cutting-edge technology will evolve into an integral component of all human endeavors (Mystakidis, et al., 2021).

Ensuring interoperability and coherence between technology and associated tasks is one of the most difficult problems confronting augmented reality techniques. When augmented reality material is easily placed up in educational environments to aid in educational duties, the situation becomes more problematic (Faqih, & Jaradat, 2021). Generally, this causes significant technological and organizational issues. Meanwhile, an absence of qualified employees to work successfully with this technology and the difficulties of deploying AR technology to achieve educational activities effectively and quickly are stumbling blocks to its adoption by businesses and individuals (Bervell, et al., 2021). This study will combine UTAUT2 and TTF to address the technical difficulties and achieve a higher degree of augmented reality adoption. The present study's literature review found that combining UTAUT2 and TTF theories can effectively expose the degree of alignment between the capabilities and characteristics of technology and the activities that users must do during the technology usage process.

Previous research has shown the TTF model's feasibility and usefulness as a productivity reinforcement when used in conjunction with the UTAUT2 framework to investigate the adoption of AR apps. In consequence, adding TTF in an educational investigation of the adoption process of augmented reality technology is a valid argument. Combining TTF with the UTAUT2 also gives a great chance to learn more about augmented reality adoption in educational contexts. As a result, this integrated framework of UTAUT2 and TTF models was used to investigate the ongoing adaptation of remote learning in the UAE after COVID-19. Furthermore, utilizing university students as survey respondents, this study incorporated the perspective of developing national culture.

Literature Review

Technology for augmented reality

Many academics and practitioners are interested in augmented reality, which has lately emerged as one of the most promising digital technologies. Many real-world applications, scenarios, challenges, and areas of our life might benefit from augmented reality technology. This technology is here to stay and will continue to advance beyond our wildest dreams (Midak, et al., 2021). In many fields, the technology can deliver unparalleled technological and transformative perspectives (Chin, & Wang, 2021; Kim, & Irizarry, 2021 Ronaghi, & Ronaghi Midak, 2021). There are currently no rules governing the use of augmented reality technologies that take into account users' issues, especially security and privacy concerns (Lu, 2021). This is a barrier to technology adoption and use because the way the technology is conducted and experimented with can be socially unacceptable and behaviorally uncomfortable. Finally, augmented reality might include terrifying and unsettling experiences and material that does not align with the demographics, tastes, or expectations of the target audience (Moriuchi, et al., 2021). Augmented reality technologies are becoming more popular in the tourism and travel sectors, enhancing tourists' experiences and expectations. Research studies have shown that augmented reality technology has been used in the healthcare industry to improve efficiency and productivity. AR is on its way to radically altering the form of organizations (Permanasari, et al., 2021).

Augmented reality in education

Technological advancement is at the forefront of creating new IT-based digital forms that may be implemented in educational settings. Augmented reality will assist future generations in studying more efficiently in highly inspiring surroundings, thanks to its unique technology, massive features, and intelligent design. AR technology provides key qualities and useful characteristics that are favorable and adaptive to learners and educational experiences. As numerous scholars (Avila-Garzon, & Bacca-Acosta, 2021; Babkin, et al., 2021; Hincapie, et al., 2021); Mystakidis, et al., 2021); Osadchyi, et al., 2021 Palamar, et al., 2021; Sala, 2021) have pointed out, augmented reality provides unmatched chances and possibilities for education. One of the most important findings in the implementation of augmented reality technology in learning environments is that it positively impacts learners' learning motivation. Augmented reality technology can open up new learning opportunities by presenting complicated and abstract ideas like physics and 3D geometrical forms in an interactive way (Ismajli, & Imami-Morina, 2018; Kusmaryono, et al., 2019; Bahri, et al., 2021; Arifani, & Khaja, 2021; Kernagaran, & Abdullah, 2022). One of the most beneficial qualities of AR technology is the unexpectedly cheap cost of its creation and deployment in learning environments. The successful use of augmented reality technology in all educational areas has been hampered by significant concerns, obstacles, and constraints (Yildiz, 2021).

The scarcity of educational resources and experiences has been a major concern in implementing AR technology in educational processes. There is a possibility for distraction and noise in educational contexts while using AR technology, which might block its smooth deployment and functioning in accomplishing effective learning and teaching practices. The inability to create and formulate appropriate interactive educational content that fits and enhances each scenario of the learning processes is also one of the most prominent challenges (Midak, et al., 2021; Purnama, et al., 2021). Finally, a critical issue that has slowed the adoption of AR technology in educational settings is a lack of awareness. The restrictions and problems that AR technology faces are important ones that might interfere with technological adoption in educational contexts. It is necessary to recognize, measure, and solve these crucial difficulties that have hampered the spread of the AR paradigm in the educational sphere.

UTAUT2 theory

Many technological adoption and acceptance models have been introduced during the last three decades. The UTAUT paradigm can succeed in adopting a variety of IS/IT goods and services in several cultural situations. It has received high academic acclaim and is widely used as a framework for adoption and diffusion. Venkatesh et al. (2020) enhanced the theory by introducing hedonic motivation, price value, and habit behavior. The new format (UTAUT2) has become a more powerful forecasting framework (Faqih, & Jaradat, 2021). UTAUT2 is a valuable model for examining the adoption of new technology breakthroughs in various cultural and social situations. Since its launch in 2012, UTAUT2 has piqued the interest of numerous academics. It has several attractive features that have proven beneficial and effective in better understanding the complexities of the latest technology adoption (Bervell, et al., 2021; Gharrah, & Aljaafreh, 2021; Yu, et al., 2021). UTAUT2 is a complete theory that incorporates seven critical characteristics that significantly impact users' desire to adopt and utilize IT goods and services. Adding the hedonic motivation component to the UTAUT2 context has shifted the attention away from the company and onto the customer (Prasetyo, et al. 2021). AR technology in educational settings is still relatively new in the United Arab Emirates.

Research Framework

To establish a conceptual framework for this research, the theoretical context and empirical studies on technology characteristics, performance expectancy, effort expectancy, hedonic motivation, and the theoretical framework on task-technology fit and behavioral intention were reviewed and incorporated. The model described here was proposed to investigate the combining framework of UTAUT2 and TTF theories on behavioral intention. The following figure represents the research model.

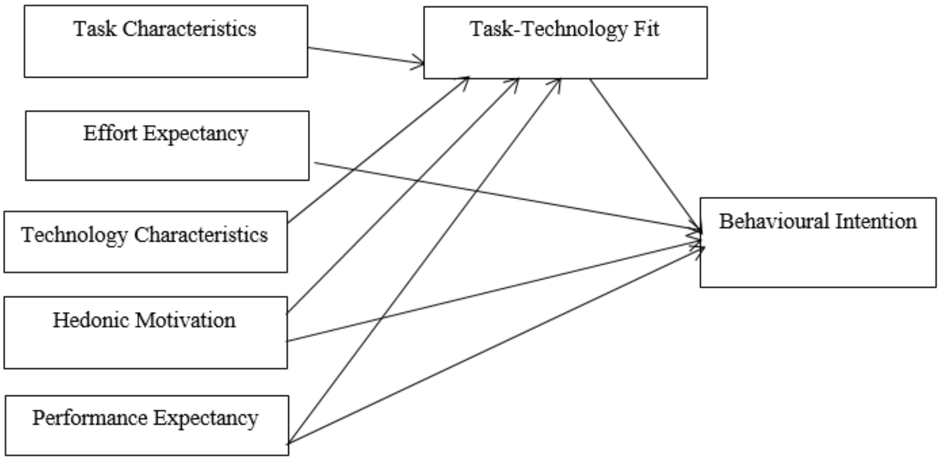

Figure 1
Model of the research

METHOD

Reliable data must be available to test the hypotheses given in the theoretical framework of this study in order to meet the study objective. One of the most difficult aspects of empirical research is developing a well-defined instrument to collect accurate data to answer the study's research objectives (Ji et al., 2021). As a result, alignment between research topics and appropriate empirical data continues to be a vexing challenge for researchers. As a result, in the present study, the quantitative technique will be used. This study's conceptual model created links between variables. Consequently, a descriptive correlational research strategy is the quantitative research design that best matches the views of this investigation. The survey questionnaire is the most used correlational research approach. As a result, this research will develop an effective questionnaire to obtain the data that meets the study's requirements. Data collection should be done systematically. To achieve the actual objectives of the research, the contents of the instrument (measurement items) must be in line with the specified research objectives of the study. Meanwhile, the reliability and validity criteria in quantitative-based research should be highlighted during the survey preparation process. In addition, the instruments were adopted and modified from the studies of (Faqih, & Jaradat, 2021). The questionnaire was translated from English to Arabic and then double-checked to verify that the translation process accurately reflected the originating statement's true meaning. For this study, we used the widely used Likert scale. Each concept was operationalized using ten items, with 1 signifying "strongly disagree" and 10 signifying "strongly agree."

Data Collection and Respondents

The study has targeted undergraduate students at Al-ain University (AAU) to gather the data since university students are approachable and their perspectives are helpful to the study's objectives, and they are technology mobilized and educated. To all of the targeted students, we presented the notion of augmented reality technology from multiple angles. In addition, we examined the significance of technology in the teaching and learning environment. All respondents were exposed to augmented reality movies with educational content based on a convenience sample to ensure that they are well-versed in the idea of AR technology and its application in learning situations. Purposive sampling procedures were employed to gather a valid sample of 534 out of 680 questionnaires for this investigation. The response rate is 79%. Finally, the acquired data were analyzed using the Partial Least Square Structural Equation Model (PLS-SEM). The following factors influenced the decision to use this statistical method in this study: PLS-SEM is a robust and still user-friendly interface that can deal with complex research models, especially those with mediating variables, such as the present study; moreover, PLS-SEM has gained widespread academic acceptance and has emerged as a leading statistical tool in MIS research; and PLS-SEM has no constraints on sample size or such statistically desirable qualities.

Reliability and Validity

Statistical validation of present research is a crucial technique that is carried out to provide a statistical assessment of the model's fit to the data. To meet this criterion, we must show empirical proof of construct reliability and construct validity for each concept included in the proposed study model. Construct validity is defined as "the extent to which an instrument measures what it is designed to assess," and construct reliability is defined as "the capacity of an instrument to measure consistently" (Hair, et al., 2010). To ensure that the model and the data are well-matched, construct reliability and construct validity must be statistically tested. To meet this need, a variety of quality criteria have been offered to give empirical proof of construct reliability, and validity: (1) Cronbach alpha (also known as Cronbach alpha coefficient) is a measure of a concept's internal reliability. Cronbach's alpha test's statistical goal is to confirm that the measurement items were corresponding to each construct used in this study reach collectively. (2) Composite reliability was established by Chin and Gopal [99] and gave a more suitable and rigorous approach for estimating internal consistency dependability. Composite reliability is usually regarded as a superior criterion for estimating reliability than Cronbach alpha, despite being statistically more difficult to assess (Chin, & Gopal 1995). (3) Criteria for determining the average variance explained (AVE) and factor loading. The grand mean value of the squared loadings of the indicators linked with the construct is described as "average variance explained," while factor loading is defined as "the correlation between a variable and a construct. Both AVE and factor loading are employed to determine concept validity by assessing convergent validity and discriminant validity. In practice, the idea of construct validity is difficult to demonstrate and prove conceptually. Convergent validity is defined as "the statistical validation in which each measurement item strongly correlates with its assumed theoretical construct." In contrast, discriminant validity is defined as "the statistical validation process in which each measurement item weakly correlates with all other constructs except the one to which it is theoretically linked.". Convergent validity is measured by empirical evidence from the factor loading of each measurement item. Fornell and Larcker (1981) normally measured discriminant validity, who formulated a criterion to assess whether a model’s constructs hold adequate discriminant validity. The method developed by Fornell and Larcker (1981) demands that the assessment must be implemented at both item-level and construct-level.

FINDINGS

Measurement Model Assessment

The measurement model must be evaluated to determine if the results statistically confirm the study's hypotheses. The measurement model assessment procedure's validation criteria are a two-step process: construct reliability and construct validity. Cronbach alpha is used to assess construct reliability, whereas composite reliability is determined by a combination of factors (CR). According to Nunnally [100], studies based on an empirical analysis view a value greater than 0.70 as a statistically desirable outcome for the alpha coefficient. For all constructs, the Cronbach alpha coefficients are above or exceptionally near to Nunnally's suggested requirements. Table 1 showed the estimated composite reliability values for each construct, which all surpass the Hair, et al., (2020) suggested cut-off value of 0.7. As a consequence, the observed findings unequivocally show that the data has acceptable internal consistency dependability. Empirical data from convergent and discriminant validity is used to assess concept validity. The loading factor of assessment items and the average variance explained (AVE) for each construct used in the proposed model is used to determine convergent validity (Hair, et al., 2020). The loading factor for each measuring item surpasses 0.6, and the average variance explained (AVE) values for each construct are larger than 0.5. (Table 1). For AVE (Hair, et al., 2020), a cutoff value of 0.5 is advised. Table 2 demonstrated that, as predicted, all items load more strongly on their associated construct than other constructs when discriminant validity is assessed at the item level (Hair, et al., 2020). This implied that the model has enough discriminant validity at the item level. In addition, according to Hair, et al., (2020), discriminant validity is demonstrated at the construct level if the square root of AVE for each construct (given in bold in Table 2) is larger than the correlation of that construct with the other constructs in the model. Table 2 showed that the criteria put out by Hair, et al., (2020) have been met, implying that discriminant validity is well-established at the concept level. In conclusion, the current study's findings give empirical proof that the model has a sufficient level of item reliability and concept validity.

Table 1
The measurement model

Variables	Loading	CA	CR	AVE
Behavioral Intention		0.896	0.918	0.617
BI1	0.746			
BI2	0.782			
BI3	0.849			
BI4	0.834			
BI5	0.824			
BI6	0.700			
BI7	0.752			
Task Technology Fit		0.913	0.933	0.698
TTF1	0.858			
TTF2	0.845			
TTF3	0.829			
TTF4	0.885			
TTF5	0.779			
TTF6	0.811			
Task Characteristics		0.881	0.913	0.680
TSC1	0.843			
TSC2	0.873			
TSC3	0.837			
TSC4	0.857			
TSC5	0.700			
Technology Characteristics		0.823	0.881	0.650
TC1	0.814			
TC2	0.83			
TC3	0.803			
TC4	Deleted			
TC5	0.776			
Performance Expectancy		0.788	0.876	0.702
PE1	0.842			
PE2	0.836			
PE3	0.834			
PE4	Deleted			
PE5	Deleted			
Effort Expectancy		0.822	0.879	0.644
EF1	0.833			
EF2	0.819			
EF3	0.791			
EF4	0.766			
EF5	Deleted			
Hedonic Motivation		0.852	0.892	0.624
HM1	0.816			
HM2	0.749			
HM3	0.751			
HM4	0.808			
HM5	0.822			

Table 2
Fornell-larcker criterion analysis discriminant validity

	Behavioral Intention	Effort Expectancy	Hedonic Motivation	Performance Expectancy	Task Characteristics	Task-Technology Fit	Technology Characteristics
Behavioral Intention	0.786						
Effort Expectancy	0.622	0.803					
Hedonic Motivation	0.605	0.626	0.79				
Performance Expectancy	0.52	0.767	0.679	0.838			
Task Characteristics	0.519	0.628	0.557	0.566	0.824		
Task-Technology Fit	0.639	0.691	0.708	0.677	0.580	0.835	
Technology Characteristics	0.638	0.628	0.611	0.661	0.634	0.570	0.806

Structural Model Assessment

The findings in the previous sections demonstrated that the model is empirically valid for further statistical analysis of the data. A few concerns must be solved before hypothesis testing may be used to establish that the conceptual model has a good data-model fit. First and foremost, the feature of multicollinearity in the model must be evaluated. The presence of multicollinearity is usually determined by computing the variance inflation factor (VIF) for all of the constructs in the model. The threshold value for VIF was defined by Kock and Lynn (2012), who deemed a value of larger than 5 to indicate a multicollinearity concern. The PLS-SEM has the statistical capability to compute VIF for each of the model's constructs. Table 3 showed the VIF for each of the constructs used in this investigation, and all of them are less than 4, indicating that there is no multicollinearity in this model. Second, consider the total variance (R2) explained by the independent variables to examine the structural model's fit. This model accounts for 82% of behavioral intention and 85% of task-technology fit. These results showed that the structural model fits are valid and performs well, indicating that it is valid. Third, PLS-SEM provides a complete set of models fit and quality indicators consistent with both composite-based and factor-based SEM. Table 4 summarised eight tests that assess model validity and reliability. Table 4 showed that all presented results achieved specified cut-off values, indicating that the model produces acceptable research findings. Furthermore, the goodness-of-fit (GoF) may be used to assess the model's overall validity. The goodness-of-fit (GoF) criteria were introduced by Tenenhaus et al. [106] to test the model's global validity. Tenenhaus GoF was estimated to have a value of 0.446 using PLS-SEM, indicating that the model had a reasonable amount of explanatory power. Finally, the results showed beyond a shadow of a doubt that the model qualifies for hypothesis testing. The strong PLS-SEM was used to assess the hypotheses proposed in this model. The results of the hypothesis testing are shown in Table 5 and Fig. 2. With the exception of the association between price value and intention to adopt, which was shown to be negligible, all hypotheses were found to be statistically significant

Table 3
Variance inflation factor (VIF)

	Behavioral Intention	Task-Technology Fit
Behavioral Intention		
Effort Expectancy	3.754	
Hedonic Motivation	3.331	
Performance Expectancy	3.275	3.361
Task Characteristics		3.545
Task-Technology Fit	3.773	
Technology Characteristics	2.149	2.401

Table 4
Summary of the R^2, f^2, and Q^2

	R^2	R^2 Adjusted	f^2	Q^2
Behavioral Intention	0.817	0.815	0.047	0.498
Task-Technology Fit	0.851	0.850		

$$GoF = \sqrt{AVE \times R^2} = \sqrt{0.617 \times 0.817} = \sqrt{0.504} = 0.710$$

Table 5
The path coefficients

	Beta	STDEV	T Statistics	P Values
Technology Characteristics -> Behavioural Intention	0.121	0.051	2.379	0.017
Performance Expectancy -> Behavioural Intention	0.200	0.053	3.781	0.000
Effort Expectancy -> Behavioural Intention	0.128	0.038	3.35	0.001
Hedonic Motivation -> Behavioural Intention	0.298	0.044	6.757	0.000
Technology Characteristics -> Task-Technology Fit	0.316	0.048	6.580	0.000
Performance Expectancy -> Task-Technology Fit	0.284	0.042	6.723	0.000
Task-Technology Fit -> Behavioural Intention	0.246	0.047	5.19	0.000
Task Characteristics -> Task-Technology Fit	0.371	0.05	7.347	0.000
Mediation Effect				
Technology Characteristics -> Task-Technology Fit -> Behavioural Intention	0.070	0.018	3.851	0.000
Performance Expectancy -> Task-Technology Fit -> Behavioural Intention	0.078	0.017	4.469	0.000

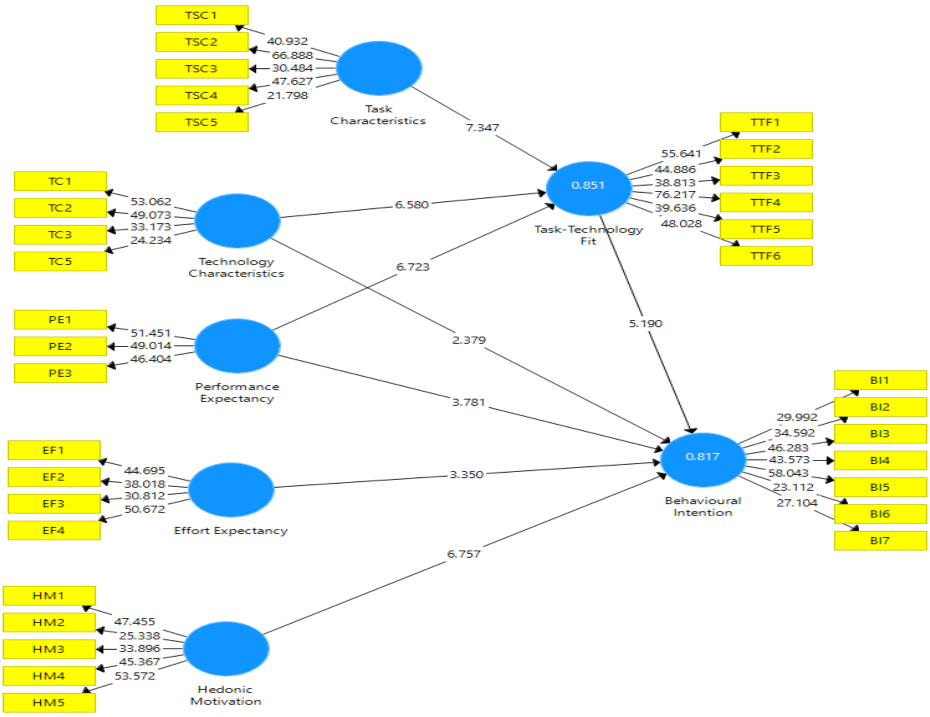

Figure 2
The standardized result

Table 5 showed that all the direct paths with different p-values in the structural model were significant. At a p-value of less than 0.05, hypotheses are significant. The t-statistics and p-values of technology characteristics and behavioral intention were 0.121 and 0.017, respectively, as shown in Table 5. This implied that 0.017 could achieve a critical magnitude ratio as high as 2.379 indefinite value. Therefore, the regression weight of technology characteristics in determining the behavioral intention was significantly different from zero at the 0.050 stages (two-tailed). In addition, the standardized Beta value was 0.121, implying a positive linkage. This implied that behavioral intention rises by 0.121 standard deviations when technology characteristics rise by one standard deviation. Furthermore, Table 5 showed that in estimating performance expectancy, the outcome of t-statistics was 3.781 with a p. value of 0.000. The standardized Beta value was 0.200, implying a positive relationship. Therefore, behavioral intention increases by 0.200 standard deviations as performance expectancy increases by one standard deviation. In addition, Table 5 showed that the t-statistics result was 3.350 with a p. value of 0.001 for effort expectancy in behavioral intention prediction. The Beta's standardized estimate was 0.128, suggesting a positive linkage. Therefore, behavioral intention improves by 0.128 standard deviations when effort expectancy is one standard deviation. Similarly, Table 5 showed that in estimating hedonic motivation on behavioral intention, the outcome of t-statistics was 6.757 with a p. value of 0.000. The standardized Beta value was 0.298, implying a positive relationship. Therefore, behavioral intention increases by 0.298 standard deviations as hedonic motivation increases by one standard deviation. In addition, Table 5 revealed that the t-statistics result was 6.580 with a p. value of 0.000 for technology characteristics in task technology fit prediction. The Beta's standardized estimate was 0.318, suggesting a positive linkage. Consequently, task technology fit improves by 0.318 standard deviations when technology characteristics are one standard deviation. Moreover, the indirect and overall influence of the performance on task technology fit is statistically significant. The results revealed that a 1% increase in performance expectancy would lead to a 0.284 increase in task technology fit at a 1% level of significance. Likewise, the results indicated that behavioral intention would increase by 0.246 as an increase of task technology fit by 1 unit. Also, a 1 unit increase of task characteristics would lead to a 0.371 increase in task technology fit. Table 5 revealed the bootstrap results.

The results indicated that the indirect effect (Technology Characteristics -> Task-Technology Fit -> Behavioral Intention, $\beta = 0.070$, t-value of 3.851) was significant at $p < 0.01$. The researcher also confirmed a mediation given that the indirect effect 0.054, 95% Boot CI: (LL= 0.116, UL= 0.047) does not straddle a 0 in between, which indicated support for mediating effect. The findings indicated that the mediating role of task technology fit between the technology characteristics and the behavioral intention. The degree of mediation influence, in addition, was partial. The results also showed that the indirect effect (Performance Expectancy -> Task-Technology Fit -> Behavioural Intention, $\beta = 0.078$, t-value of 4.469) was significant at $p < 0.01$. The researcher also confirmed a mediation given that the indirect effect 0.078, 95% Boot CI: (LL= 0.040, UL= 0.113) does not straddle a 0 in between, which indicated support for mediating effect.

DISCUSSION AND CONCLUSION

The UTAUT2 theory has been merged with the TTF theory to fulfill the study's objective. This study examined how augmented reality is being adopted to improve educational methods by continuously adapting distance learning after covid-19 in the UAE. Technology adoption will not materialize until there is an appropriate level of alignment between technology and task characteristics, researchers say. This is one of the first studies to look at augmented reality in education from a developing country such as the UAE. In addition, the results are in line with the theory of Unified Theory of Acceptance and Use of Technology 2. The theory described how well a new information technology was received. In addition, the theory stated that new IT-based digital forms that could be used in educational settings are being developed at a rapid pace thanks to technological innovation. Due to its innovative technology, extensive features, and clever design, augmented reality will help future generations learn more effectively in highly motivating environments.

The research highlights the importance of a multitude of variables in improving the intention to adopt AR technology in the continuing adaptation of distance learning after

Covid-19. Findings of this study are useful in both theory and practice, according to the researchers. However, as far as we know, there aren't many pieces of research combining the integration of TTF and UTAUT2 theories that have looked at the use of AR technology in the distance learning process in the UAE. Overall, the suggested framework model is quite detailed and complete, allowing for a better understanding of the dynamics of AR adoption in educational contexts. There is a paucity of understanding in the present literature about how AR technology might be optimally incorporated into learning settings. Growing AR acceptance and adoption can be accomplished by recognizing applicable precedents and developing appropriate managerial strategies and practical implications. Most significantly, the current research paves the way for future investigation into the use of augmented reality in teaching. AR has a unique way of delivering learning content that captures learners' imaginations and triggers inspirational and motivational behaviors. This research contributes to a better understanding of the factors that influence the adoption of AR innovation in educational contexts in the UAE. There are correlations between the linkages between the TTF and the UTAUT2 theories, according to the integrative framework.

IMPLICATION AND LIMITATION

The current study looked at augmented reality in an educational setting in a developing country setting. The conclusions of this study can help educational institutions, educators, learners and marketers gain a better knowledge of the dynamics of AR technology. From a practical standpoint, the current study's findings demonstrated that technology-task fit, performance expectation, social influence and enabling settings are all crucial in predicting the intention to use AR technology in the educational setting. Marketers and system developers must improve the task-technology fit in order to provide adequate technological functions and characteristics that facilitate the delivery of augmented reality applications into the educational ecosystem. This will increase the rate of technology adoption among students and instructors in such settings. Learners would be more motivated to use AR technology since it increases their ability to learn and remember information. Effort expectation is an essential factor to consider when it comes to increasing intention to adopt AR in the learning process. Marketing managers should emphasize the social influence of referent groups (family members, friends, and university lecturers) to influence the desire to use AR technology favorably. Social media may highlight the value of augmented reality technology in boosting distance learning outcomes. Highlighting study limitations is critical for determining future research priorities. Future research should broaden the scope to include educators' perspectives on adopting emerging technology like AR in developing countries. As an essentially fundamental component of the learning process, educators must assess the technology in terms of adaptability, applicability, and convenience.

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