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Prediction of Educator's Intention to Use Chat-GPT in Supporting Educators: A Case Study in the UAE

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A B S T R A C T

Artificial Intelligence offers numerous technologies that are applicable to various fields. Using Chat GPT technology is one of the technologies. This study looks at UAE instructors' intentions to use Chat GPT technology for training and instructional reasons. The TAM model is used in this study to examine how user happiness, perceived utility, and perceived simplicity of use affect users' intentions to utilize Chat GPT to assist instructors. The study's conclusions demonstrate a favorable correlation between the three variables and the desire to use Chat GPT to assist educators. The research on using chat GPT to support educators is enhanced by this study.

1. INTRODUCTION

Artificial intellect (AI) is a rapidly expanding field in computer science that focuses on building intelligent computers that can perform activities like learning, problem-solving, and decision-making that often need human intellect. Numerous aspects of human lives, including business, have already benefited greatly from AI. Artificial intelligence (AI) has become a potent instrument in the corporate sector for increasing productivity, cutting expenses, and spurring innovation. Artificial Intelligence (AI) can automate repetitive and tedious operations by analyzing large volumes of data. This frees up staff' time to work on more complex and strategic responsibilities. Furthermore, technology is capable of analyzing enormous amounts of data, finding patterns and drawing conclusions that could be missed by human observation [1]. This helps organizations make better decisions and increases customer loyalty and engagement. Additionally, it keeps an eye on systems and equipment in real time, anticipating and averting malfunctions before they happen, and then it analyzes a ton of data to find trends and anomalies that might point to fraud, saving companies money. A number of experts anticipate that artificial intelligence (AI) will become even more important in business in the years to come, revolutionizing entire industries and how we operate.

AI is used in marketing in a variety of contexts. For instance, it can analyze consumer data to provide tailored content, product recommendations, and marketing messages that are tailored to each person's particular interests and preferences. Moreover, it has the capacity to forecast future consumer behavior and industry trends, assisting companies in making better-informed judgments on their marketing plans. Additionally, AI-powered chatbots that can offer round-the-clock customer assistance and service, responding to questions from clients and addressing problems instantly. Additionally, it can interpret voice instructions and detect and analyze photos, giving advertisers the ability to give customers more dynamic and

interesting experiences. Lastly, to increase conversion rates and return on investment, AI may optimize a variety of campaign elements, including ad targeting, bidding tactics, and email subject lines.

In the highly competitive education industry, companies are always trying to beat their competitors. Artificial intelligence is a new technology that schools are embracing more and more these days. Educators may transform their management processes and increase revenue growth and profitability by utilizing powerful technologies to improve customer engagement, operational efficiency, and overall business success by utilizing AI. AI may be used to evaluate enormous volumes of data, including trends, preferences, and consumer behavior, to guide and train instructors in making decisions. Teachers can minimize the risk of stockouts and overstocking, precisely predict demand, and optimize inventory levels by utilizing machine learning algorithms and predictive analytics. Increased sales and consumer satisfaction follow from this. The potential of AI to provide clients with a personalized shopping experience is another useful application. AI is able to offer personalized product recommendations and promotions by examining their past browsing and purchase activity. Higher revenue generation is the final result of this individualized approach's enhancement of client engagement and loyalty. Additionally, AI can lower the risk of financial losses for schools by assisting in the detection and prevention of fraudulent activity. By analyzing transaction data in real-time, artificial intelligence-driven fraud detection systems are able to identify fraudulent activities such as forged orders and credit card theft. Ultimately, AI has the potential to completely transform the education industry by giving teachers access to effective tools that will help them learn how to streamline their processes, enhance customer satisfaction, and boost sales and profits. Future developments in technology should bring even more cutting-edge AI applications to the education sector.

ChatGPT, an AI language model, provides a range of services that can enhance marketing initiatives for companies. This innovation, for instance, can help with customer service, personalization, optimization, market research, and content production. Chat OpenAI can analyze enormous volumes of data and produce insights that can assist organizations in more successfully attracting and engaging with their target audience by utilizing the most recent developments in natural language processing (NLP). ChatGPT is always available to help, whether your goal is to introduce a new product, enhance your social media presence, or gain a deeper understanding of your clientele. With its sophisticated features and potent algorithms, it can provide you the advantages you need to thrive in the cutthroat business world of today.

An AI-based chatbot called ChatGPT can quickly and effectively respond to frequently requested queries, saving customer support employees' time and workload. Its natural language processing capabilities allow it to support smooth talks, and it can also offer proactive suggestions and help consumers find solutions fast. Customers no longer have to wait through lengthy wait times or spend time on the phone with customer care representatives because they can easily access assistance professionals. While GPT in general may be quite helpful for finance, marketing research, and many other business areas, it can be especially useful in the education management sector. The full strength of this language is still years ahead of what Chat GPT can do now, but its ability to produce human-like writing in response to your prompts far surpasses anything we have today. "Education 4.0" is the term used to describe the most current advancement in the education sector. It uses cutting edge technologies including cloud computing, big data analytics (BDA), artificial intelligence (AI), the Internet of Things (IoT), and augmented reality (AR) to meet client expectations. Throughout this revolutionary age, human creativity, technology, and hard work have all combined to greatly improve manufacturing and data analytics skills. This innovation primarily focuses on using AI methods and digital manufacturing platforms to make systems smarter and more efficient. One could argue that Chat GPT's greatest contribution to the education sector is its ability to provide accurate data analysis and forecasting in an efficient manner by significantly reducing the time required to complete these tasks and doing so more successfully. Chat GPT can also significantly enhance management performance across the board in the education sector. Though I

don't think chat GPT is currently developed enough to be used and accepted in the education sector, as technology develops and improves, it will become increasingly significant to all business sectors worldwide.

The work by [2]–[4] makes a substantial contribution to the development of generative pre-training models such as Chat-GPT and conversational AI technologies. It provides insightful information for professionals and scholars interested in delving into and optimizing the possibilities of this state-of-the-art advancement in artificial intelligence. The past year has seen a sharp increase in the use of Chat GPT, which forces us to learn more about this language and get ready for its future. As a result, this study will evaluate how educators in the United Arab Emirates perceive chat GPT [5]. Since there is little to no information accessible on how Chat GPT will function in any firm, the research will be a perfect place to start gaining more insight into Chat GPT in the education industry and all business sectors as a whole. Since this is uncharted ground for all organizations, there are certain limitations to the study we were able to undertake [2]–[4]. Additionally, since we think Chat GPT has room to expand, it is impossible to predict how Chat-GPT will look or function in the years to come. The literature research reveals a deficiency of knowledge regarding Chat GPT in the education sector. Thus, the purpose of this study is to find out if employing the Chat GPT Model for teacher education is accepted. The analysis and testing of the educator's intention to use Chat-GPT in the classroom will be aided by this study. This study will bridge the previously noted gap.

2. LITERATURE REVIEW

In order to guarantee the success of a education business, education management entails supervising and arranging its activities. It includes a broad range of tasks, such as staffing, marketing, sales, inventory control, customer support, and financial management [6]. Creating plans to increase sales and profitability while preserving client loyalty and happiness is essential to effective education management. Setting goals for sales, controlling inventories, creating marketing campaigns, and educating staff on how to deliver superior customer service are all part of this. Financial management, which includes forecasting, budgeting, and monitoring key performance indicators (KPIs) like sales, profit margins, and inventory turnover, is another necessary ability for education managers to have. To increase profitability, they must be able to evaluate sales data and make choices on product selection, pricing, and promotions. To guarantee that their company remains competitive and relevant, education managers also need to regularly educate themselves on industry trends, technology improvements, and consumer behavior. Strategic planning, operational knowledge, and potent leadership abilities are all necessary for a successful career in education management [7]–[10].

The importance of AI education for improving performance and customer satisfaction in the education sector has been highlighted in numerous studies and books. According to a Capgemini Research Institute analysis from 2020, artificial intelligence (AI) can help instructors boost productivity, improve customer satisfaction, and raise income. In a similar vein, the IBM Institute for Business Value (2020) discovered that academics can profit from AI in marketing, customer service, and supply chain management [11]–[14]. PwC's 2017 research "Education 2020: Reinventing Education " explores how artificial intelligence (AI) tools like machine learning and natural language processing could be used to provide individualized customer experiences. Other sources explore how AI and analytics can assist educators in understanding consumer behavior, optimizing pricing and promotions, and enhancing the overall customer experience. Examples of these sources are "Artificial Intelligence for Fashion" and "Education Analytics: The Secret Weapon" [7]–[9]. Lastly, the article "The New Science of Customer Emotions" in the Harvard Business Review explores how AI might assist educators in better understanding and attending to the emotional needs of their students, resulting in increased student happiness and loyalty [15].

Having been taught on the development of ChatGPT, a large language model trained on an extensive corpus of text data, educators have undergone a significant transformation [16]–[19]. By integrating ChatGPT with their customer service channels, including chatbots or virtual

assistants, educators can use it to improve the customer experience [10]–[12]. It may answer often asked questions, give product recommendations, and even assist customers with purchases. It also helps companies to collect and evaluate consumer data, which may be utilized to customize recommendations and offers to specific clients based on their interests and purchasing patterns [20]–[23].

Automating routine procedures like order tracking, returns, and refunds can help educators save time and money. It can also be used to produce marketing content and product descriptions that entice and attract consumers. It can be applied to produce product descriptions and marketing copy that piques the interest of and attracts potential customers [13], [14], [16]. Educators can get a competitive advantage over their rivals by enhancing customer experience, personalization, and efficiency through the integration of technology into their company operations [24].

"Tam has been extensively used in earlier research to forecast technology uptake, acceptability, and intention across several domains [25]. More precisely, two TAM constructs that are thought to be directly related to Chat GPT adoption have been the target of this work. This study takes into account three important variables. Perceived usefulness (PU), the first variable, relates to people' opinions about how valuable a technology is. User satisfaction (US), the second variable, measures how comfortable and acceptable consumers feel using a computer application and consuming its material [17]–[20]. The third variable quantifies the perceived ease of use that users feel is necessary in order to make use of the technology (PEOU). The three variables that came before are regarded as independent variables. This study investigates if the three independent variables have an impact on the adoption of Chat GPT in assisting educators (AER). The following theories are put out by the study in light of these presumptions:

First hypothesis (H1): The degree of perceived usefulness (PU) has a beneficial effect on the adoption of Chat GPT in assisting instructors (AER).

Hypothesis 2 (H2): User satisfaction (US) has a favorable influence on the adoption of Chat GPT in assisting educators (AER).

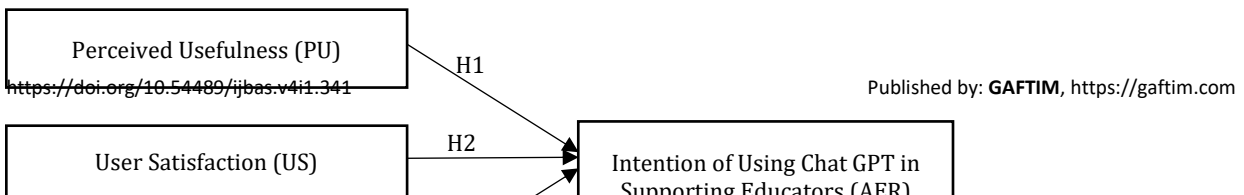
Hypothesis 3 (H3): The perceived ease of use needed by users to make use of the technology (PEOU) has a beneficial impact on the adoption of Chat GPT in assisting educators (AER).

3. METHODOLOGY

This descriptive-analytical study employed a cross-sectional design as a deductive technique. An online questionnaire with a self-administrated approach was utilized as the study's data collecting tool to gather information from different education managers in the United Arab Emirates (UAE) [26]–[29]. Seven big education stores and 160 education staff members participated in this examination study, which was conducted in large education stores throughout the United Arab Emirates. Using official emails and social media sites like WhatsApp, the questionnaire link was sent to the education managers. The administration staff (registration, quality, receptionists, and administrative supports) and other staff (cashier, storekeepers, customer assistance) comprised our responders for data collection [21]–[23], [26].

Furthermore, the target population was chosen by different researchers to serve as the unit of analysis for the current research in the context of an empirical study pertaining to education management because they possessed a sufficient level of knowledge about various organizational practices in the context of education management as well as about the level of service quality and customer satisfaction offered by their respective organizations [27]–[29].

Figure 1: Research Framework



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4. DATA COLLECTION

In this study, 200 questionnaires were randomly distributed; however, 40 of them were discarded because of incomplete data. An 80% response rate was obtained by correctly completing the remaining 160 questionnaires, which were then utilized for data analysis. The hypotheses were developed by modifying pre-existing theories to the context of Chat GPT adoption for Educator support, and the research technique was utilized to validate the findings. Multiple regression analysis was used to evaluate the measurement model, and the results of the analysis were used to develop the final path model [24].

Study Instrument:

A survey instrument that was incorporated into the study was used in an inquiry to assess the hypotheses. There were twenty questions in the survey that were intended to evaluate the four constructs listed in the questionnaire. Before being incorporated into the survey, questions from earlier studies were carefully examined, updated, and altered to guarantee the relevance and significance of the research. According to the gender data, there were 160 participants overall, 60 of whom were men and 60 of whom were women. The gender distribution percentage was 50% for both genders, indicating parity between the two groups of participants.

Participants between the ages of 18 and 24 and 35 and 50 have the largest frequency and percentage when compared to the other age groups, according to the age data.

According to the marital status statistics, 50% of our participants—80 people—are married, while the remaining participants are either single, widowed, or divorced.

According to the Education statistics, 48 of the participants had an undergraduate degree, and 112 had a postgraduate degree, representing a 70% to 30% ratio.

According to the experience data, there are 64 participants with a frequency of 40% who have two to ten years of experience, followed by 48 participants with a second-highest frequency of 30% who have less than two years of experience. The remaining participants have been involved for over ten to fifteen years.

The study participants' demographic data is displayed in Table 1.

Table 1. Demographic Data of Participants

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	80	50.0	50.0	50.0
	Female	80	50.0	50.0	100.0
	Total	160	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	48	30.0	30.0	30.0
	25-34	32	20.0	20.0	50.0
	35-50	48	30.0	30.0	80.0
	Above 51	32	20.0	20.0	100.0
	Total	160	100.0	100.0	

marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	48	30.0	30.0	30.0
	married	80	50.0	50.0	80.0
	widowed	16	10.0	10.0	90.0
	divorced	16	10.0	10.0	100.0
	Total	160	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under-Graduate	48	30.0	30.0	30.0
	Post-Graduate	112	70.0	70.0	100.0
	Total	160	100.0	100.0	

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2	48	30.0	30.0	30.0
	2-10	64	40.0	40.0	70.0
	10-15	32	20.0	20.0	90.0
	More than 15	16	10.0	10.0	100.0
	Total	160	100.0	100.0	

Cronbach Alpha is used to assess the reliability of the three independent variables (PU, US, and PEOU). Because the Cronbach Alpha for each independent variable in Table 2 is more than 0.6, it may be concluded that each one is dependable. With a rate of 80.02%, the component that is easiest to use is the most dependable.

Table 2. Reliability examining of variables

Reliability Statistics

Cronbach's Alpha	N of Items
.687	4

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.664	3

Reliability Statistics

Cronbach's Alpha[a]	N of Items
.802	5

Principal component analysis is carried out using the extraction method. All of the products have factor loadings greater than0.5, indicating that PU is legitimate. The item with the greatest rate, the second, is the most legitimate. With a factor loading of 66.6%, the first item is the most legitimate; all other items have factor loadings above 0.5, indicating the validity of the US. With a factor loading of 86.1%, the final item is the most legitimate; all other items' factor loadings are over 0.5, indicating the validity of the EU. The Principal Component Analysis of the component communities is shown in Table 3.

Because our R square is higher than 20%, at 39.8%, the model is deemed fit. Given that the p-value is less than 0.05 and the f-test is high, the regression

Table 3. Component Extractions

model is a good fit for the data analysis. Given that the p-value is less than 0.05, the analysis

	Extraction
Using ChatGPT in my job	.548
Using ChatGPT improves my performance	.607
Using ChatGPT increases my productivity	.548
Using ChatGPT makes my job easier	.547
ChatGPT has sufficient Medical Information	.666
ChatGPT has provided satisfactory Information	.524
ChatGPT is able to provide me information I need	.622
ChatGPT is easy to use among educators	.780
ChatGPT improves my desire to get new information	.827
ChatGPT can replace other technologies	.850
ChatGPT is needed for less mental efforts	.859
ChatGPT helps in developing my technical abilities	.861

demonstrates that the independent variables (PU, US, and PEOU) have a substantial impact on the dependent variable. The model summary, ANOVA, and coefficient findings are shown in Table 4.

The findings indicate that there is a relationship between the study's variables by examining the outcomes of each hypothesis. According to (H1), use of Chat GPT in assisting educators (AER) is positively impacted by the degree of perceived usefulness (PU). According to the analysis of (H2), user satisfaction (US) influences Chat GPT uptake in a way that benefits educators (AER). The same outcome is shown for (H3), where Chat GPT's adoption in assisting educators (AER) is positively impacted by users' perceptions of the technology's ease of use (PEOU).

Table 4. Analysis results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.631[a]	.398	.387	.38487

a. Predictors: (Constant), EU, US,

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.293	3	5.098	34.414	.000[b]
	Residual	23.107	156	.148		
	Total	38.400	159			

a. Dependent Variable: ChatGPT adoption in Educating education

b. Predictors: (Constant), EU, US, PEOU.

Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.410	.937		-4.708	.000
	PU	.473	.071	.523	6.670	.000
	US	.433	.088	.348	4.908	.000
	EU	1.262	.124	.868	10.143	.000

a. Dependent Variable: ChatGPT adoption in Educating Education.

5. DISCUSSION

Specifically, Chat GPT can improve businesses'

educational campaigns. The study looks at the use of AI in Chat GPT to help educators. Personalized content creation, campaign optimization, Chabot customer care, and predictions of future consumer behavior and market trends are just a few of the applications that are examined. According to the paper, artificial intelligence (AI) has the potential to completely change the way education is managed by providing businesses with the knowledge and skills they need to use resources more efficiently, interact with clients more effectively, and generate more income. The study's conclusion highlights Chat GPT's ability to help educators save time by reducing the amount of labor that customer support representatives must do in order to respond to frequently asked questions.

The results of the study show a significant correlation between merchants' plans to use Chat-GPT to support and manage their digital marketing initiatives. According to the report, instructors think that Chat GPT is a valuable tool for enhancing their capacity to work with technology that is easy to use. The results also show that Chat-GPT's perceived utility and its ability to increase customer satisfaction, revenue, and operational effectiveness are positively correlated. The study found that merchants' intentions to use Chat-GPT to help educators are influenced by a number of factors, including attitudes toward technology, perceptions of social impact, and the tool's perceived fit for their business needs.

The study's conclusions have a lot of implications for educators in the UAE. First, educators can enhance their purpose to use Chat-GPT to educate and enhance better education services by improving their attitudes about technology and their perception of its social influence. Second, educators can ensure that Chat-GPT is appropriate for their business needs by customizing the product to match their specific requirements. Third, instructors can maximize the system's perceived value by taking use of Chat-GPT's ability to teach them how to boost sales, improve customer happiness, and enhance operational performance.

The study emphasizes how crucial it is to take into account a variety of elements that affect educators' inclination to use Chat GPT as a teaching tool. Educators may use Chat GPT more successfully to educate themselves and accomplish their business goals if they have a firm awareness of these elements. The results of the study show that the adoption of Chat GPT in training educators (AER) is positively impacted by three factors: perceived utility, perceived ease of use, and user satisfaction. Researchers might use this data to broaden their perspective when evaluating the use of Chat GPT to assist individuals in other industries. It can also demonstrate whether implementing Chat GPT can have unfavorable effects in other domains. The adoption of Chat GPT appears to be positively impacted by the studied variables in the context of UAE instructors; nevertheless, the study's disadvantage is that it is limited to the UAE. In other nations, the results can indicate different conclusions.

This study makes a theoretical addition by predicting the adoption, acceptability, and intention to use technology in various domains by including the educational notion into the TAM model. This study looks at how instructors can use Chat GPT technology to enhance their teaching efforts instead of just focusing on enhancing commercial operations.

The practical contribution is that instructors in the United Arab Emirates intend to use Chat GPT, which is a sign to expand the investigation of this outcome into other fields like manufacturing, education, agriculture, medicine, sports, or music.

The idea of using Chat GPT to support educators is a novel and significant aspect of this study. Teachers can use Chat GPT to help students perform better in the workplace, but using it for educational purposes adds value to the study and enhances the field of teacher education.

6. CONCLUSION

The study highlights how important it is to consider three factors that influence merchants' propensity to use Chat-GPT to assist educators. If educators are aware of these factors, they will be able to implement Chat GPT more successfully and meet their objectives. The study's findings indicate that three factors—user happiness, perceived ease of use, and perceived usefulness—have a favorable influence on the uptake of Chat GPT among Arabic educators (AER) in the United Arab Emirates.

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