



## The Impact of Educating managers in adopting AI Applications on Decision Making Development: A Case Study in the U.A.E

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### ABSTRACT

This study examines managers' perspectives and learning goals while allowing AI applications to generate managerial decisions, keeping an eye on the possible educational advantages of these applications on the global structure. The TAM model is applied, and data on educating managers to apply AI technologies in UAE businesses to improve decision-making was acquired via 325 questionnaires. The findings show that managers' inclination to make management decisions was strongly influenced by their opinions on how useful, applicable, and practical it would be to train managers in the use of AI applications. This study adds significantly to the body of knowledge on managers' education regarding the use of AI applications and the benefits of doing so for making decisions.

### 1. INTRODUCTION

In the next ten years, AI has the potential to completely upend and transform a wide range of industries. However, countries with strong levels of technological development, such as the United Arab Emirates, have relatively high AI adoption rates. The authors formulated the following research topic in response to the absence of systematic study on AI studies from the standpoint of information systems and the potential of AI technology to revolutionize sociotechnical systems: "What is the impact of educating managers in AI adoption on the decision making to developed country-based organizations?" This article's specific objective is to provide light on how managers' use of artificial intelligence influences management decision-making in UAE firms. Understanding artificial intelligence (AI) is essential before looking at how these technologies are impacting the business world [1]–[4]. All computer software-based planning, problem-solving, and learning processes are included in artificial intelligence (AI). Artificial intelligence

(AI) is a word that usually leaves out a lot of applications. While this is true in theory, it leaves out crucial information, making further research necessary to identify the most prevalent type of AI in business. Let's examine how AI affects companies in this industry and how it benefits personnel officials. AI could help with hiring by helping to find candidates with the best traits by analyzing data from many sources [5]. Employee satisfaction may be used to determine which employees are most likely to leave the organization by analyzing employee input. Any business-to-consumer (B2C) organization must engage with its customers; nevertheless, in the upcoming years, artificial intelligence (AI) is anticipated to transform these customer service initiatives [6]–[9]. By removing the requirement for a human to precisely read a customer's tone, artificial intelligence (AI)-powered software solutions, such as sentiment analysis tools, allow businesses to respond to complaints, questions, and concerns more swiftly. In the end, happy clients are more

likely to want to recommend a business to others, both online and offline. If you work in branding, you know how important it is to strike a balance between operational effectiveness and customer experience [10]–[13]. Using ingenious technology solutions is one of the finest methods to optimize both. Keep track of customer feedback and other measurable answers. They won't need to be manually tagged by you or your staff because an AI system will examine them thoroughly and consolidate the results for easy access [14]. One of the technologies created by the San Francisco startup OpenAI, which collaborates closely with Microsoft, is AI, which made its public debut on November 30, 2022 [15]–[18]. It is a part of a new generation of artificial intelligence (AI) systems that, using information stored in a vast digital library, use natural language processing techniques to make unique images and videos, speak, and write comprehensible text on demand. Even though artificial intelligence's primary objective is to mimic human interaction, it is versatile enough to produce music, teleplays, fairy tales, and student essays in addition to programming and debugging computers. Depending on the exam, it can generate lyrics for songs and poems in addition to answering questions at a level above that of the average individual [19]–[22]. The AI curriculum covers topics like man pages, internet culture, popular programming languages like Python, and bulletin board systems (2023).

Supply chain management is the process of planning and coordinating the several processes involved in producing and delivering a good or service to a customer [23]. The supply chain's activities might include everything from farming and planning to manufacturing, packing, and shipping. The study's primary goal is to educate readers and academics about the remarkable technologies that are now in use. Profitability can be increased through better supply chain management by reducing operating expenses and increasing customer satisfaction. When costs are efficiently managed and minimized whenever feasible, profits rise. When input costs, such as labor and material costs, decline, output costs decrease as well. The editorial team at *Indeed*, 2023. To sum up, there are a lot of ways for businesses to enhance their supply chain management and increase their profitability. This

is especially true for large, internationally active businesses. AI has created a whole new product market for both consumers and enterprises, demonstrating the power and promise of AI for everyone. Artificial Intelligence (AI) enables data analysis and insights into logistics systems [24]. AI may assess data on cargo lengths, delivery routes, and other logistics-related aspects, assisting logistics organizations in identifying areas for improvement and streamlining their operations. It is feasible to increase production, reduce expenses, and enhance efficiency. We still have a lot to learn about this cutting-edge technology and how it may enhance supply chain management in the United Arab Emirates, based on the exponential surge in popularity of AI. If you want to learn more about supply chain management and other business fields in general, this paper will be a helpful place to start. This study's main objective is to investigate the components that ought to be included in manager education programs to help them accept and use AI to management decision-making. Notwithstanding what has already been discussed, it will remain challenging because insufficient research has been conducted to bridge this gap and because there is a lack of information in the literature regarding the ways in which managers could gain from being trained in AI applications and technologies in order to make better decisions in the upcoming decades. The knowledge gap in this field will be filled by this inquiry.

## 2. LITERATURE REVIEW

Anticipating demand and making appropriate plans in response to it is a critical component of managerial decision-making [25]–[27]. AI can generate more precise demand estimates by analyzing vast volumes of data, such as past sales, weather trends, and customer behavior. Coordination between several stakeholders, such as suppliers, manufacturers, distributors, and retailers, is the responsibility of managers. AI can help these parties communicate by allowing effective cooperation and offering real-time translation services. Managers frequently have to make difficult choices quickly. Managers may make better judgments by utilizing AI's ability to evaluate data and generate suggestions based on the most recent trends and insights. AI can offer solutions to optimize the supply chain by pointing out inefficiencies. It can, for instance, pinpoint

places where automation might be used to cut expenses and boost productivity [28]. All things considered, AI has the power to completely transform management decision-making by enhancing decision-making skills, easing communication, and offering real-time insights. Its integration into current management systems and procedures as well as managers' level of education regarding the adoption of pertinent AI Applications for their companies will determine how effective it is, nevertheless. In order to integrate AI into their corporate operations and prepare them to rely on it for decision-making, it is crucial to educate users about its adoption [1]–[3]. Artificial Intelligence is a valuable instrument that may be employed in management decision-making to automate the entire process and perform jobs autonomously with minimal oversight. It is employed to enhance communication and generate insights [4], [6], [7]. It also facilitates cooperation across many parties. Unquestionably, the AI chatbot represents a revolutionary advancement for generative AI, as it is trained to extract data from several sources and arrange it in a methodical manner. It uses word pattern recognition to forecast the next word, functioning in organizational performances much like a mind-reading device. It provides real-time information to the company about when to revamp its working strategy. Because AI can forecast the market, it can assist businesses in making important and timely decisions. With about 300 billion words and 570 GB of data collected from the internet, AI has a sizable data lake that helps businesses find the answers they need [12], [13], [15]. Any firm can grow thanks to AI. This kind of integrating cutting-edge technologies benefits firms in a number of ways. With the use of AI-powered applications, it can completely change how a business interacts with its clientele [16]–[18]. Many technologies enable businesses to modify the ways in which staff members engage with their audiences. In order to streamline the communication process, it also aids in personalizing client interactions. To traverse the business activity, it becomes more proficient and effective. Customers and this technology benefit the business and its employees. It aids businesses in reaching their objectives and improving their standing in the sector. To maximize its potential, AI can be incorporated into the current system.

Essays, emails, articles, marketing material, and codes can all be written by AI [29]. It comes up with concepts on its own and applies them to the business operations to increase the company's credibility with the audiences. It makes product and service recommendations by using search engines and research keywords. According to, it can translate text into 95 languages. It locates and examines data. All of these components benefit businesses in different ways by reducing work-related stress and allowing employees to unwind. This study article examines the extent of managers' education on the use of AI technology to formulate managerial decisions. This study examines if managers' development of decision-making skills and their education in adopting managing decisions are positively correlated [8]–[11].

### 2.1 Conceptual Models and Forecasts

With the development of his ground-breaking "Technology Acceptance Model (TAM)," Fred Davis has significantly advanced our understanding of the decision-making process people use when deciding whether to adopt new technologies. Two fundamental tenets of the paradigm are perceived utility and ease of usage [19]–[21]. seen as essential mental traits that support the dissemination of technology. [2], [3] states that the performance of the study will be examined, with the latter being more closely related to the former. The concept of "perceived value" refers to how customers view the benefits and cost of a service. When determining maximum utility, perceived worth is frequently taken into account, assuming that benefits outweigh costs. Perceived worth is supported by utility theory, which forecasts future use. Customers' level of satisfaction and loyalty is influenced by the perceived value offered. It significantly affects plans for the adoption and usage of technology in the future. In light of these findings, the following theories need to be investigated:

H1: The growth of managerial decisions is influenced by the perceived utility (PU) of training managers to use AI technology (MD).

H2: The development of managerial decisions is influenced by the perceived value (PV) of training managers to use AI technology.

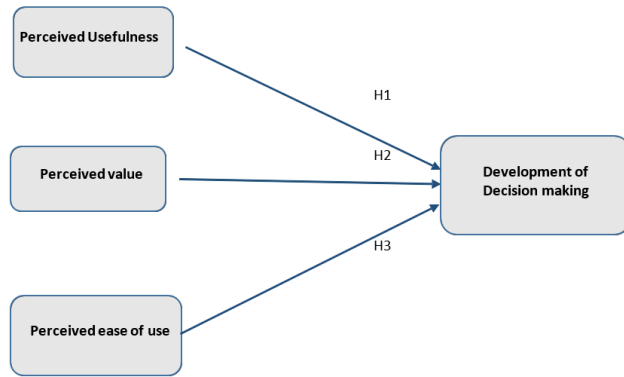
H3: The evolution of management decisions (MD) is influenced by the perceived ease of use (PEOU)

of training managers to use AI technology.

### 2.2 A Conceptual Outline

The suggested model's creation process is illustrated in the chart in Figure 1.

Figure 1. Model of the Research



### 3. METHODOLOGY

An analytical investigation deduces through the use of a cross-sectional design. An online survey designed for self-administering served as the information gathering tool. It was utilized to gather data about educating managers about AI applications in UAE businesses, especially in the capital city of Abu Dhabi. This study was carried out at several organizations in Abu Dhabi, United Arab Emirates, with participation from seven primary departments and five sections. The one-month period of January 14–February 14, 2023, was dedicated to the data collection process. Workers received links to the questionnaire through official government texts and online chat services such as WhatsApp. This made it possible for them to gather data from a variety of government workers, such as administrators (registration, excellence, greeters, and endorsers of managerial abilities) who worked in the departments and organizations they had chosen, as well as managers, supervisors, directors, and executives. This was done, as [4] stated, in order to gather vital information regarding the process by which management decisions were made throughout those establishments [26], [27], [28].

Throughout the course of the inquiry, a workable selection technique that employs a systematic random sample methodology was successful. Essentially, the main evidence in favor of that ruling was the stringent procedures that the city's

management facilities had implemented to safeguard employee data while also guaranteeing its confidentiality and privacy [22], [25]. Because their sample collecting regulations were taken into account, the primary services facilities also had an influence on the methodology. Furthermore, rapid sampling is a cheap and effective sampling strategy that makes use of massive volumes of data, as referred to [7], [11], [12] demonstrates.

### 4. DATA COLLECTION

Because the responses to 75 of the 400 questionnaires in this study appeared inadequate, they were eliminated. There were still 325 surveys to be finished, which makes up 81% of the total responses that were analyzed for this study. Multiple regression analysis modeling is permitted in this specific situation, according to [20], [22], since the sample size of 325 appears to be significantly more than the minimum. The theories are verified by means of the framework. It is important to keep in mind that even though the hypotheses are based on contemporary ideas, they should frequently be organized in line with the guidelines for making administrative decisions. Multiple regression analysis is employed for the assessment of the factors that are being studied. A questionnaire consisting of twenty items was created to assess the impact of the three independent variables that were part of the model. All of the questions were revised and tweaked to maximize the study's relevance. Table 1 shows the figures for the demographic data. There were 50.6% more male suppliers than female students (49.4% against 51.6%). Of the respondents, 59.7% were between the ages of 20 and 40, and 40.3% were older than 40. The majority of those surveyed were well-educated and held college degrees. In addition, 79.8% of people have a postgraduate degree, whereas 20.2% of persons are undergraduates. In addition, 39.3% of the population is married, 40.4% is single, and 20.2% is widowed.

Table 2: Reliability of variables

Reliability Statistics	
Cronbach's	
Alpha	N of Items
.840	5

Reliability Statistics	
Cronbach's	
Alpha	N of Items
.836	5

Reliability Statistics	
Cronbach's	
Alpha	N of Items
.731	5

Cronbach Alpha is over than 0.60 which makes the variables of this study reliable as it shows in Table 2. In the following. The values presented in Table 3, show the communalities which are investigated in this research paper. In Table 4, the authors present the extraction method by previewing the data and principal component analysis concepts. Theses extraction of using AI application with considerations to many factors. The adoption of TAM model is guiding the author’s perception in building the variables communalities.

Table 3. communalities are presented

Table 4: Extraction Method and Principal Component Analysis

	Extraction
Using AI Applications to learn tasks in my job	.884
Using AI Applications enhances my knowledge	.909
Using AI Applications to make some decisions.	.833
Using AI Applications to improve my performance	.865
Using AI Applications makes my job easier	.716
How satisfied you are with the overall experience of using AI in developing decisions	.815
Having AI Applications available is important to assist in making decisions	.982
Does AI Application meet managerial needs	.845
Does AI Application accelerates making decisions	.818
How easy was it to use AI Applications in developing decisions	.819
My interaction with AI Applications is clear	.536
AI Applications are flexible for my job	.895
AI Applications are easy to use	.900
AI Applications are easy to learn decisions	.869
Learning to operate AI Applications is easy	.848

#### 4. DISCUSSION

This study demonstrated how managers' decisions are positively impacted by having knowledge regarding the adoption of AI, which is consistent with our hypothesis and the survey data. H1 is looking into how managers' opinions on the benefits of adopting AI education influence how they make decisions. The results of the survey about the importance of AI adoption education for workers support our best hypothesis, which was the perceived usefulness, with an extraction range from (0.716) to (0.909). This shows that managers may make decisions more easily by utilizing AI apps to teach them.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906 <sup>a</sup>	.821	.818	.42498

a. Predictors: (Constant), PE, PU, PV

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.529	3	48.176	266.743	.000 <sup>b</sup>
	Residual	31.426	174	.181		
	Total	175.955	177			

a. Dependent Variable: How satisfied are you with the performance of chatgpt technology in your supply chain management process  
 b. Predictors: (Constant), PE, PU, PV

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.019	.187		5.454	.000
	PU	.270	.072	.238	3.775	.000
	PV	.708	.111	.572	6.350	.000
	PE	.892	.103	.554	8.630	.000

a. Dependent Variable: How satisfied are you with the performance of chatgpt technology in your supply chain management process

H2: The Perceived Value explores managers' satisfaction levels with the learning outcomes from utilizing AI to guide their choices as it is (0.815 to 0.982). This demonstrates the positive correlation between preparing managers to use AI and the benefits and values this has for their ability to make managerial judgments.

H3: How simple it is for managers to understand how to use AI to make judgments is gauged by how easy they consider the technology to be to use in the workplace. The extraction result, which falls between (0.536) and (0.900), shows how perceived usability affects how managers make decisions.

## 5. SIGNIFICANCE AND LIMITATIONS

This research adds the notion of education to managers' toolkit for making managerial decisions. The functional methodology for training managers on AI applications incorporates the TAM model while taking into account the influence of perceived utility, perceived value, and perceived ease of use on making decisions. The importance of managers' training in utilizing AI applications for decision-making is highlighted in this study, which sets it apart from other research studies in the field. Study sites are organizations in the United Arab Emirates. Results may differ in other nations. By closing this gap, researchers will be able to improve their next search efforts.

## 6. CONCLUSION

AI in management education will have an impact on decision-makers in a number of industries, including global technology, education, and finance. Rather than the internet, a forthcoming immersive environment will provide creative training to managers who will use AI adoption to guide their decisions. This can be taken into consideration when making decisions. This study looked at managers' learning motives and perspectives while embracing AI technology, with an eye toward the possible educational benefits of diverse applications of the world structure. The managers' views of the viability and utility of the AI Applications had a significant impact on their propensity to make managerial judgments. To explore the theories surrounding technological adoption, it is suggested that user perceptions of the newest technology and its usability have a

major impact on how much technology is accepted. These findings support the conclusions made by previous studies. It could also be a sign of how managers view the state of AI application technologies today. Our investigation has certain limitations. It may require a lot of work because a theoretical framework only takes into account two important variables: an individual's degree of innovation and their degree of happiness when they come up with the best solutions to problems and make decisions. Second, because the poll has been promoted online and on social media, more managers might take part in it. The last benefit is the adaptability of AI applications.

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