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Antecedents of Technology Adoption by Manufacturing Firms in the UAE

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Abstract: Technology adoption growth has become a primary motivator for individuals, businesses, and governments in this competitive world. Hence, this paper presents a study of antecedents of technology adoption by manufacturing firms in the UAE. This study has identified 19 antecedents of technology adoption growth from the literature. A questionnaire survey was conducted by distributing 400 questionnaires to the manufacturing firms' employees involved in production operations in UAE. However, only 330 valid questionnaires were for data analysis. The collected data was analysed to rank the antecedents based on its influenced on adopting new technology in the UAE's manufacturing sector. The ranking was based on mean score and standard deviation values of the antecedents. It was found that the five highest ranks are organization antecedent ranked first with a mean value of 4.50, followed by Time for implementation ranked second with a mean value of 4.44. Technique for operating technology ranked third with a mean value of 4.38, compatibility ranked fourth with a mean value of 4.37, relative advantage ranked fifth with a mean value of 4.36. Following, the collected data were analysed for each antecedent effectiveness in technology adoption. Out of 19 identified antecedents of technology adoption, it was found that ten of it have strong level of effect, while nine have high level of influences on the technology adoption growth. The study's findings can help government agency to formulate policy related to technology adoption growth in UAE manufacturing sector and this will improve the UAE's business and economic growth improves their performance and productivity by leveraging technology.

Keywords: Antecedents, technology adoption, manufacturing industry, UAE

1. Introduction

Businesses are becoming more competitive as a result of the ever-changing and dynamic human needs. To stay afloat, businesses must respond to the needs of their customers. One of the factors that contribute to a firm's competitiveness is technology, which can provide an advantage over competitors and a competitive advantage. This study investigates the factors that influence manufacturing firms' technology adoption. Understanding the factors that influence technology adoption will enable firms to adopt new technologies, giving them a competitive advantage and the ability to improve productivity and performance.

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Technology is critical in increasing organisational productivity and efficiency. Technology has produced remarkable results in a variety of industries such as education (Mohammad AlHamad, 2020), health (Alrahbi et al., 2019), agriculture (Nakano et al., 2018), banking (Aboelmaged & Gebba, 2013), governance (Ahmad & Khalid, 2017; Almuraqab, 2016), manufacturing (Nuseir & Aljumah, 2020). The majority of the positive effects of technology in firms are concentrated in developed countries, with evidence of replication in developing countries including UAE (Ahmad et al., 2019; Mohammad AlHamad, 2020). This is because the UAE has made it a policy priority to ensure the diffusion of technology into all nooks and crannies of its economy. This can be seen in numerous rankings of technology and ICT penetrations in areas such as government readiness, individual readiness and usage, technology friendly environment, ICT infrastructure, digital literacy improvement, knowledge economy, ICT prioritisation and promotion, ICT leveraging, and ICT affordability (Al Athmay, 2015; Rodrigues et al., 2016).

Firms across the globe use different technologies across their value chains from purchases, production, and sales to improve their productivity and performances. Social media applications, digital marketing, mobile and collaborative technologies, e-commerce, novel machineries, Internet-of-things (IoT), big-data analytics, and artificial intelligence are examples of these technologies (Nuseir &Aljumah, 2020; Papadopoulos et al., 2020). These technologies are only as important as the extent to which they are adopted by the intended organisations.

Although there is agreement on the importance of technology adoption by individuals, firms, and governments (Dhirasasna et al., 2020; Igwe et al., 2020; Liu et al., 2020), there is no agreement on the drivers of technology adoption or why technology adoption varies significantly across individuals, firms, and organisations. The identification of the antecedents of technology adoption is thus the primary concern of researchers.

The use of technology by individuals, businesses, and governments generates demand. It is required not for its own sake, but to improve productivity and performance. One of the primary reasons for firms to adopt technologies is to increase their competitiveness and performance. As a result, firm performance has been shown to improve with the adoption of technology (Ahmad et al., 2019; Chege et al., 2020; Igwe et al., 2020).

Studies in the UAE look into the adoption of technology in various industries (Alhashmi et al., 2019; Ameen et al., 2019; Mohammad AlHamad, 2020). However, there is no empirical evidence of technology adoption among UAE manufacturing firms. The outcomes of technology adoption studies differ depending on the context (Aboelmaged & Gebba, 2013). As a result, most findings may not be applicable to manufacturing firms, which are capital and labour intensive and rely on technology to function efficiently (Che & Zhang, 2016). Understanding the drivers of technology adoption in the industry is thus an important research niche that previous UAE research efforts have yet to adequately explore. This research would be able to fill an important knowledge gap by investigating technology adoption by UAE manufacturing firms.

The study also suggests antecedents that manufacturing firms should put in place to improve their performance in terms of technology applications. The study also reveals the role of training in mediating the relationship between technology adoption and performance. Understanding this role will help manufacturing companies optimise their technology investments. Policymakers and practitioners will benefit from the research because they will know what policies to initiate or review to conform to the needs of technology adoption toward firm performance. This research will also help manufacturing employees understand their roles in technology adoption through trainings, allowing them to optimise the use of technology as a tool to improve performance and gain a competitive advantage.

As a result, the findings of this study are critical to manufacturing firms. As a result, the findings of this study will assist them in optimising their operations, lowering costs, increasing revenue, and increasing profit.

2. Literature Review

2.1 Technology

As previously stated, technology is an important component of firm performance. This section defines technology and how it relates to firm performance. Because technology is regarded as an essential component of human lives and well-being, it is rigorously researched to identify areas for improvement. This is due to the impact it has on people's lives as a result of new technological innovations that are increasingly reshaping firms and altering daily business activities and processes (Alrahbi, Khan, & Hussain, 2019). At both the firm and country levels, technology plays a critical role in transforming organisational tasks and operational practises, such as meeting the needs of all economic sectors, resulting in rapidly increasing global use (Alkhater, Walters, & Wills, 2018; Ameen et al., 2019). Technology includes a methodology or gadget, a method of doing something or physical equipment, a process, or a product that enhances individual capabilities. Knowledge, processes, machinery, and systems that aid in the production of commodities and services are referred to as technology (Emeka et al., 2015).

Technology, when combined with other resources such as human resources, can contribute to increased productivity (Dauda & Akingbade, 2011). Technology has an impact on how products and services are planned, developed, and distributed. Product quality and price are influenced by technology. The primary role of technical innovation is to ensure the entity's survival as well as the survival of the business ecosystem, which is dependent on achieving firm performance. According to Mumford (2000), technological advancements have an impact on company productivity. As a result of technological advancements, employees are more effective and the company is more

efficient, resulting in increased output (Cabus & Nagy, 2021). As a result, in this study, technology refers to the devices and tools, including hardware and software that help businesses increase productivity.

2.2 Technology Adoption

The phrase "technology adoption" combines two words: "technology" and "adoption." We discussed technology in the previous section. Individuals, corporations, and organisations, on the other hand, adopt something. As a result, technology adoption refers to an individual's or a company's embrace and utilisation of technology. Technology adoption refers to a company's willingness to purchase and implement new technology or systems for its operations. It refers to the extent to which businesses use technology. Adoption or usage of technology refers to the extent and context in which a technology's capabilities are used by users (firms in this context). It relates to the appropriateness, frequency, nature, quantity, purpose, and scope of technological use (Ameen et al., 2019). Technology adoption is "a decision to take full advantage of an innovation as the best course of action available." Adoption and use of technology are also related to the amount of time and frequency with which the technology is used. In other words, it refers to the amount of technology used by businesses to generate output.

Other academics have proposed various definitions of technology adoption. Technology adoption, for example, could be defined as an individual's or organization's acceptance of a newly developed technology (Salahshour Rad et al. 2018). Technology adoption as the "step of selecting a technology for use by an individual or an organisation." Oliveira and Martins (2009) define technology adoption as an organization's readiness to leverage technology infrastructure and IT human resources. Technology adoption, according to Abdallah (2016), is the extent to which individuals or organisations use technology. This study adheres to Abdallah (2016)'s definition of technology adoption, which defines it as the extent to which manufacturing enterprises use technology. The value and benefits of technology adoption at the individual, corporate, and national levels are widely acknowledged in the existing literature. Technology adoption is becoming a more important research topic as new technologies are introduced (Salloum et al., 2019). That may be why, in recent decades, technology adoption has become a major concern in academic libraries worldwide (Al-Fadhli, Corrall, & Cox, 2016). This is one of the motivating factors behind this research.

2.3 Firm Performance

Every business organisation strives for profit maximisation, which is accomplished through a variety of phenomena such as increased productivity, lower costs, and increased turnover. Thus, one of the primary goals of businesses is to increase productivity. Firm performance is concerned with the indicators of a firm's production, financial, and market performance (Akbar, Bon, &Wadood, 2020). However, Emeka, Ifeoma, and Emmanuel (2015) define firm performance as "the sum total of how a firm performs from production level to marketing and the results of all firm operations and strategies." Furthermore, Vries et al. (2021) explained that firm performance includes sales, employment, input, imports, production, and exports. The definition appears to be all-inclusive. Abdallah (2016), on the other hand, added that firm performance entails firm efficiency in terms of how the firm uses scarce resources to achieve its goals.

The outcome of the firm's activities is its performance. As a result, it is quantifiable. However, no comprehensive or universally accepted measure of firm performance exists. It is measurable through operational and financial indicators. The operational indicators include technical excellence, product quality, market share, and effectiveness of marketing (Barnett and Salomon, 2006). In contrast, financial indicators include liquidity, increased sales, profits, and return on equity (Barnett and Salomon, 2006).

Firm performance has emerged as a major concern for businesses. Every organisation aimed to increase and improve their productivity (Dess, Lumpkin, & Covin, 1997). As a result, organisations consider the factors that lead to such improvement, particularly technology adoption (Marsh, 2018). Appropriate technology and skilled labour are thought to be a prerequisite for increased productivity (Kwon & Stoneman, 2006).

There are several factors that influence business productivity. For example, Kibiya, Aminu, and Abubakar (2019) discovered a link between intellectual capital and firm performance. Intellectual capital (IC) is defined as a firm's intangible value, such as the value of its employees' knowledge, skills, training, and staff development, as well as information that can provide a competitive advantage to the company. IC is a formalised material that is used to add value to the company. Other research supports the notion that human capital has an impact on corporate productivity. Cabus and Nagy (2021) have highlighted the relationship between human capital factors such as training and skills and company productivity.

Similarly, technology innovation is regarded as a critical factor in firm performance. According to Chen, Wang, and Huang (2019), innovation introduces novel organisational processes and methods that improve firm practises, thereby leading to higher firm performance in workplaces. This viewpoint is supported by the findings of Nakano, Tsusaka, Aida, and Pede (2018) discovered that increased productivity is associated with the adoption of new technology. Adoption of technological innovations, such as advanced applications, enables firms to improve automated systems, content management, customer targeting, and analysis mechanisms for efficient and low-cost business solutions, ultimately leading to increased firm productivity and profitability (Nuseir&Aljumah, 2020). Several studies

have been conducted to determine the role of technology in improving enterprise productivity (Papadopoulos, Baltas, & Balta, 2020). The studies also link firm performance to firm size and training.

2.4 Firm Size

Firms strive to expand in size in order to thrive in today's fiercely competitive business environment (Boadu et al., 2018). According to studies, large corporations are more productive and have more leverage to grow and fulfil their corporate mandates (Dutta, 2020). This is because large firms benefit from economies of scale, which results in lower costs; they also have a greater ability to obtain innovative resources; have more resources to promote their products, carry out research and development activities, and train their employees, all of which improve their productivity (Wang et al., 2018). There is a strong link between firm size and firm performance. The number of employees was also used to calculate firm size in (Morris, Vanino, and Corradini 2020). (Dosi, Guarascio, & Ricci, 2021) also used the number of employees as a measure of firm size and discovered that it was related to training and firm performance. Chemin (2018), on the other hand, considers budget size as a measure of firm size rather than employee number.

Firm size is an important determinant of firm performance. Williams (2020) noted the importance of firm size in controlling its effect on the productivity model and discovered that productivity varies with firm size. Similarly, Bokpin, Ackah, and Kunawotor (2018) discovered a controlling effect of firm size on productivity. The study, however, finds no relationship between productivity and firm size.

3. Methodology

The study design, methods, tactics, and processes used in a well-planned investigation to learn anything new are referred to as methodology. Methodology describes the logic and flow of the systematic approaches used to conduct research in order to gain a better understanding of a study problem. It includes data collection, participants and data analysis. Thus, research design is very essential and carefully considered step of a research. Research design is a strategy for getting from "here to there," where "here" refers to the original collection of questions to be answered and "there" refers to a set of conclusions (solutions) concerning those questions (Orasa 2014). According to MacMillan and Schumacher (2001), it is "a strategy for selecting individuals, settings, and data collection methods to address a research question" (s). A good study design, is one that yields credible findings. The term "research design" refers to the methodical framework for conducting studies that bridges the gap between research questions and actual study execution. The quantitative method was used to conduct this study. Descriptive survey methodology was used for data collection. A descriptive survey is an investigation into the occurrence of a phenomenon in its natural state, wherein its characteristics are noted and described. Methods of collecting information "used to describe, compare, or explain individual and societal knowledge, feelings, values, preferences, and behaviour," surveys fit this description. By studying a representative subset of a population, survey researchers can provide a "quantitative or numeric description of trends, attitudes, or opinions of that population" (Creswell, 2014), which serves as the foundation for generalising inferences drawn from the sample to the population. A non-experimental quantitative design that seeks to describe reality is the survey method. According to Mathers, Fox, and Hunn (2009), the advantages of survey research include: internal and external validity, which allows sample inferences to be generalised to the larger population, cost effectiveness, broader geographical sample coverage, ethical advantage, and flexibility. As a result, the survey research technique is used.

To ensure proper response, 400 questionnaires were distributed to manufacturing firms employees involved in production operations in the UAE for data collection. The details of how the questionnaire was administered are shown in Table 1.

Table 1 - Questionnaire administration

Questionnaires	Frequency	Percentage
Distributed	335	100%
Returned	330	98.5%
Responded	330	98.5%
Useable/Valid	330	98.5%

According to the questionnaire distribution results shown in Table 4, 335 sets of questionnaires representing 100% were distributed, of which 330 representing 98.5 percent were retrieved and 330 representing 98.5% were fully responded.

4. Results and Discussion

4.1 Data Normality

The normality of the data is an important factor because out-of-whack data can compromise the accuracy of an analysis. The concept of the normal distribution, from which our word "normal" is derived, characterises a population's

shape as a bell curve, which resembles a symmetrical mountain. It's much harder to perform statistical distribution analysis when the data doesn't fit this model. Statistical and graphical methods are used to establish the normality of the data. The Normal Q-Q plot, histograms, skewness, and kurtosis are all examples of these. Kurtosis shows whether the distribution of a given variable is abnormally skewed (with short, thick tails) or flat (with long, thin tails), while skewness reveals the symmetries in the data (Tabachnick & Fidell, 2007).

In this analysis, we used skewness and kurtosis to see if the data followed a normal distribution. Values of skewness and kurtosis between -3 and +3, as stated by George and Mallery (2010), indicate a symmetric distribution appropriate for parametric tests under the assumption of normality. In this regard, the skewness and kurtosis values for the entire constructs in this study are shown in Table 2 below.

Table 2 - Data normality

Antecedents	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Power supply	335	4.27	.921	-1.639	.133	2.873	.266
Man power	335	3.83	1.117	-1.002	.133	.613	.266
Size of the firm	335	4.20	.822	-1.427	.133	3.459	.266
Cost of implementation	335	4.19	.955	-1.208	.133	1.313	.266
Time for the implementation	335	4.44	.739	-1.524	.133	2.596	.266
Technology accessibility	335	4.35	.845	-1.162	.133	.520	.266
Techniques for operating the technology	335	4.38	1.011	-1.645	.133	1.946	.266
Culture and scalability of the technology	335	3.95	1.028	-1.067	.133	.536	.266
Availability of technology infrastructure	335	4.05	.879	-.711	.133	-.151	.266
Availability of the technology resource	335	4.19	.855	-1.192	.133	2.083	.266
Transition	335	4.21	.938	-.916	.133	-.249	.266
Ease of operations	335	4.12	.906	-.974	.133	.288	.266
Relative advantage	335	4.36	.920	-1.506	.133	1.409	.266
Compatibility	335	4.37	.928	-1.471	.133	1.191	.266
Compatibility	335	4.29	.765	-1.198	.133	1.619	.266
Market transparency	335	4.17	.922	-1.019	.133	.238	.266
Security	335	4.13	.970	-1.494	.133	2.005	.266
Market uncertainty	335	4.25	1.091	-1.478	.133	1.129	.266
Organization cluster	335	4.50	.762	-1.795	.133	3.175	.266

Table 2 shows the results of the normality test of the constructs used in multivariate analysis using skewness and kurtosis. All the variables were found to be within the recommended range of -3 and +3 (George & Mallery, 2010).

4.2 Reliability Test

Reliability is a measure to determine how well a research measurement is free of random error and how consistently a scale measures the same variable over time. Cronbach's alpha is the standard for evaluating reliability. When calculating the reliability of a scale, Cronbach's alpha is commonly used. It is recommended that Cronbach's alpha be greater than 0.7 to ensure internal consistency (Memon & Rahman, 2014). The results of reliability test found that for the average factors' Cronbach's alpha was 0.933, well above the threshold of statistical significance (0.7).

4.3 Respondents' Demographics

The profile of the respondents is presented in Table 3. It contains information on the respondents' gender, age, marital status, and highest educational qualification.

Table 3 - Respondents' profile

Respondents' Details	Response	Frequency	Percent
Gender	Male	274	81.8
	Female	61	18.2
Age	18-29 years old	48	14.3

	30-39 years old	146	43.6
	40-49 years old	103	30.7
	50 years old and above	38	11.3
Marital Status	Single	109	22.2
	Married	214	74.2
	Divorced	12	3.6
Educational Level	Degree	283	84.46
	Masters	35	10.44
	PhD	17	5.1
Indicate your department	Production	23	6.87
	Purchasing	24	7.20
	Marketing	58	17.31
	Technical	12	3.58
	Accounting	89	26.6
	Human resources	73	21.8
	Customers care	26	7.7
	Packaging	22	6.5
	Others	6	1.8
Duration of Experience	Less than 5 years	35	10.5
in department	5-10 Years	200	59.7
	11-15 years	52	15.5
	Above 15 years	48	14.3

Table 3 shows that male respondents accounted for 81.8 percent of all responses, with females accounting for the remaining 18.2 percent. Similarly, the majority of respondents are between the ages of 30-39, with 43.6 percent responding, followed by those between the ages of 40-49, with 30.7 percent responding. Younger respondents aged 18 to 29 accounted for 14.3 percent, with the elderly over 50 accounting for the remaining 11.3 percent. According to the results, 74.2 percent of respondents are married, 22.2 percent were single, and 3.6 percent were divorced. The majority of respondents (84.47 percent) have completed degree level education, followed by those with a master's degree (10.44%) and a PhD (5.0 percent). Examination of working department of the respondents revealed that 6.87% of respondents worked in production, 7.20% in purchasing, 17.31% in marketing, 3.58% in technology, 26.6% in accounting, 21.8% in human resources, 7.7% in packaging, and 6.5% in other departments. Years of experience in the department revealed that 10.5%, 59.7%, 15.5%, and 14.3% had less than 5 years' experience, 5-10 years' experience, 11-15 years' experience, and more than 15 years' experience, respectively.

4.4 Ranking and Level of Effectiveness of Technology Growth Antecedents

The descriptive analysis was used to rank the causes of the UAE's manufacturing industry's rapid technological growth. The level of the responses was assessed using the evaluation criterion. Throughout the study, a 5-point Likert scale was used, with different scale descriptors. The mean values and standard deviation of the causes was calculated for ranking as presented in table 4.

Table 4 - Rank of technology adoption antecedents in UAE manufacturing firms

Antecedents of Technology Adoption	Mean	Std. Deviation	Ranking
Organization cluster	4.50	.762	1st
Time for the implementation	4.44	.739	2nd
Technique for operating the technology	4.38	1.011	3rd
Compatibility	4.37	.928	4th
Relative advantage	4.36	.920	5th
Technology accessibility	4.35	.845	6th
Complexity	4.29	.765	7th
Power supply	4.27	.921	8th
Market uncertainty	4.25	1.091	9th
Transition	4.21	.938	10th
Size of the firm	4.20	.822	11th
Availability of the technology resource	4.19	.855	12th
Cost of implementation	4.19	.955	13th
Market transparency	4.17	.922	14th
Security	4.13	.970	15th
Ease of operations	4.12	.906	16th

Availability of technology infrastructure	4.05	.879	17th
Culture and scalability of the technology	3.95	1.028	18th
Man power	3.83	1.117	19th

Table 4 shows that ten causes have a mean value of 4.21 or higher, indicating that these factors have a strong level of influence. The remaining nine causes have values ranging from 3.41 to 4.20, indicating that they have a higher level of effect. Organization cluster ranked first with a mean value of 4.50, followed by Time for implementation ranked second with a mean value of 4.44. Technique for operating technology ranked third with a mean value of 4.38, compatibility ranked fourth with a mean value of 4.37, relative advantage ranked fifth with a mean value of 4.36, and technology accessibility ranked sixth with a mean value of 4.35. Complexity ranked seventh with a mean value of 4.29, power supply ranked eighth with a mean value of 4.27, market uncertainty ranked eighth with a mean value of 4.25, transition with a mean value of 4.21, firm size ranked eleventh with a mean value of 4.20, and availability of technology resources ranked twelfth with a mean value of 4.19. Cost of implementation, with a mean value of 4.19, ranked 13th, market transparency, with a mean value of 4.17, ranked 14th, security, with a mean value of 4.13, ranked 15th, ease of operation, with a mean value of 4.12, ranked 16th, availability of technology infrastructure, with a mean value of 4.05, ranked 17th, culture and scalability of technology, with a mean value of 3.95, ranked 18th, and main power is reported as the least important with minimum mean value of 3.83.

The second descriptive analysis is to evaluate which of these causes are effective and vice versa. Based on the 5 points Likert scale, a response evaluation criterion was established as in table 5 which was adopted from the work of Hassanain and Iftikhar (2015). It has mean score interval scale for decision making criteria.

Table 5 – Decision evaluation criteria

Scale	Description of scale	Scale of Mean Score Interval	Decision Scale description
1	Strongly Disagree	**1.00-1.80**	No Effect
2	Disagree	**1.81-2.60**	Slight Effect
3	Neutral	**2.61-3.40**	Moderate Effect
4	Agree	**3.41-4.20**	High Effect
5	Strongly Agree	**4.21-5.00**	Strong Effect

Hence, with the decision evaluation criteria as in table 5 and the mean score of the causes in table 4, the decision for the effectiveness of each cause on the technology adoption are decided as in table 6.

Table 6 – Decision on the antecedents

Ranking	Antecedents of technology adoption	Mean	Decision
1st	Organization cluster	4.50	Strong Effect
2nd	Time for the implementation	4.44	Strong Effect
3rd	Technique for operating the technology	4.38	Strong Effect
4th	Compatibility	4.37	Strong Effect
5th	Relative advantage	4.36	Strong Effect
6th	Technology accessibility	4.35	Strong Effect
7th	Complexity	4.29	Strong Effect
8th	Power supply	4.27	Strong Effect
9th	Market uncertainty	4.25	Strong Effect
10th	Transition	4.21	Strong Effect
11th	Size of the firm	4.20	High Effect
12th	Availability of the technology resource	4.19	High Effect
13th	Cost of implementation	4.19	High Effect
14th	Market transparency	4.17	High Effect
15th	Security	4.13	High Effect
16th	Ease of operations	4.12	High Effect
17th	Availability of technology infrastructure	4.05	High Effect
18th	Culture and scalability of the technology	3.95	High Effect
19th	Man power	3.83	High Effect

Table 6 shows the decision on the effectiveness of the 19 antecedents of technology adoption of the technology adoption in UAE manufacturing companies. It indicates that the first 10 ranking of the causes are having strong effect to the technology adoption and the following 9 causes are categorised as high effect to the technology adoption.

5. Conclusion

This study has identified 19 antecedents of technology adoption growth from the literature. A questionnaire survey was conducted by distributing 400 questionnaires to the manufacturing firms' employees involved in production operations in UAE. However, only 330 valid questionnaires were for data analysis. The collected data was analysed to rank the antecedents based on its influenced on adopting new technology in the UAE's manufacturing sector. The ranking was based on mean score and standard deviation values of the antecedents. It was found that the five highest ranks are organization antecedent ranked first with a mean value of 4.50, followed by Time for implementation ranked second with a mean value of 4.44. Technique for operating technology ranked third with a mean value of 4.38, compatibility ranked fourth with a mean value of 4.37, relative advantage ranked fifth with a mean value of 4.36. Following, the collected data were analysed for each antecedent effectiveness in technology adoption. Out of 19 identified antecedents of technology adoption, it was found that ten of it have strong level of effect, while nine have high level of influences on the technology adoption growth. The study's findings can help government agency to formulate policy related to technology adoption growth in UAE manufacturing sector and this will improve the UAE's business and economic growth improves their performance and productivity by leveraging technology.

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