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FACTORS INFLUENCING UNMANNED AERIAL VEHICLE MARKET DEMAND

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Chen Lingfeng
STI West Negros University, Bacolod City, Philippines
https://orcid.org/0009-0001-3022-2929

Anamor B. Jerez, MBA
Faculty, College of Business Management and Accountancy, STI West Negros University, Philippines
https://orcid.org/0009-0002-0879-1487

Mylene A. Bautista
Faculty, STI West Negros University, Bacolod City, Philippines
https://orcid.org/0009-0003-6801-8215

Abstract:

The primary purpose of this study is to determine the degree of Factors Influencing Unmanned Aerial Vehicles Market Demand. The variables included in this study are number of years of company existence, form of organization, number of employees, size of company, and nature of operations. The factors influencing unmanned aerial vehicles' market demand is divided into technological innovation, applications and industries, consumer preferences, and regulatory and economic factors. The degrees of factors influencing unmanned aerial vehicle market demand in the aforementioned areas are all interpreted as high degree. Results revealed no significant difference in the degree of factors influencing unmanned aerial vehicles market demand in the areas composed of consumer preferences and regulatory and economic factors when grouped and compared according to the aforementioned variables. Results revealed no significant difference in the degree of factors influencing unmanned aerial vehicles market demand in the areas composed of technological innovation, and applications and industries when grouped and compared according to form of organization, number of employees, size of company, and nature of operations. However, there is significant difference in terms of number of years of company existence.

Keywords: Unmanned aerial vehicle, market demand, technological innovation, applications and industries, consumer preferences, and regulatory and economic factors.

Introduction:

Nature of the Problem

The rising prominence of Unmanned Aerial Vehicles (UAVs) in modern industries has sparked a transformative shift in operational paradigms, necessitating a thorough exploration of the factors driving market demand. Authors Mohsan et al. (2023) stated that UAVs appear in great diversity in various applications for economic, commercial, leisure, military, and academic purposes. The drone industry has seen a sharp uptake in the last decade as a model to manufacture and deliver convergence, offering synergy by incorporating multiple technologies. In recent years, UAVs have evolved beyond their military origins to become indispensable tools across various sectors, such as agriculture, surveillance, logistics, and cinematography. As these technologies mature, understanding the nuanced interplay of elements influencing UAV market demand becomes imperative for enterprises seeking strategic positioning and sustainable growth. China, with its rapid technological advancements and burgeoning UAV industry, serves as a compelling backdrop for this study.

The strategic integration of UAVs in Chinese enterprises has become emblematic of the nation's commitment to technological innovation and economic development. Against this backdrop, the study seeks to investigate the multifaceted determinants of UAV market demand, encompassing variables ranging from technological innovation and regulatory landscapes to consumer preferences and economic factors. By focusing on a specific city in China during the 1st quarter of 2024, the research aims to provide timely insights into the dynamic UAV market, offering valuable guidance for enterprises navigating this transformative landscape.

This study holds broader implications for industry stakeholders, policy-makers, and researchers alike, contributing to the growing body of knowledge that informs strategic decision-making in the rapidly evolving realm of unmanned aerial vehicles.

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Current State of Knowledge

Smith et al. (2019) posit that the rapid evolution of UAV technology is a primary driver of market demand globally. Their conceptual framework emphasizes the importance of continuous technological innovation, highlighting features such as advanced sensors, increased payload capacity, and improved energy efficiency as critical factors shaping the demand for UAVs across diverse industries.

Rogers' (2018) Diffusion of Innovations theory is a cornerstone in understanding organizational behavior concerning UAV technology adoption. This theory underscores the significance of organizational structures, communication channels, and the social system within enterprises in influencing the acceptance and diffusion of innovative technologies. Davis's (2019) Technology Acceptance Model further contributes by elucidating individual perceptions and attitudes toward technology adoption, offering valuable insights into how organizational members embrace UAV technology.

Drawing on foreign conceptual literature, Zhang and Liu (2020) apply Porter's Five Forces model to analyze market dynamics in the global UAV industry. Their work examines factors such as the bargaining power of suppliers and buyers, the threat of new entrants, and the intensity of competitive rivalry. This conceptual framework provides a robust foundation for comprehending the external forces shaping the competitive landscape and market conditions for UAVs internationally.

Yang and Li's (2018) conceptual study delves into the nuanced factors influencing UAV market demand, emphasizing the role of consumer preferences and the impact of regulatory and economic factors. Their framework underscores the need for a holistic understanding of the socio-economic and regulatory contexts in shaping the adoption patterns of UAV technology. Zhao et al. (2019) contribute by exploring the influence of applications and industries on market demand, offering insights into the diversified use cases that drive demand across borders.

Extending the exploration to India, Patel et al. (2018) conducted a study that added a cultural dimension to the understanding of consumer preferences in the technology sector. The research highlighted the impact of cultural factors on consumer choices, indicating that aligning technology products with cultural expectations is crucial for market success. This underscores the need for global technology companies to tailor their products to diverse cultural contexts, recognizing the nuanced preferences that arise from distinct societal norms and values.

A South Korean study by Kang et al. (2019) investigated competitive forces in the technology market, emphasizing the dynamic nature of the industry driven by rapid innovation and changing consumer preferences. This domestic research shed light on the competitive landscape within South Korea, showcasing the importance of continuous innovation in maintaining competitiveness within the technology sector. The study contributes valuable insights into the fast-paced and ever-evolving nature of technology markets within specific regional contexts.

Theoretical Underpinnings

The theoretical framework for this study draws on a multidisciplinary approach, integrating key concepts from innovation theory, organizational behavior, and market dynamics. Grounded in Rogers' Diffusion of Innovations theory state that the adoption and diffusion of Unmanned Aerial Vehicles (UAVs) in enterprises are explored through the lens of technological innovation. The author Landau et al, (2022) stated that Diffusion of Innovations theory is a well-established empirical framework that conceptualizes the process of innovation diffusion. The theory posits that innovation diffusion is influenced by the characteristics of an innovation, the communication channels through which information about the innovation is disseminated, the social system in which the innovation is embedded, the extent of change agents' promotion, and the rate of adoption over time. In the context of UAVs, technological innovation is paramount, with features such as advanced sensors, autonomous capabilities, and real-time data analytics influencing their adoption.

Organizational behavior theories, particularly the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), complement the framework by examining how internal factors within an organization, such as the form of organization and the number of employees, impact the acceptance and utilization of UAV technology. TAM according to Musa et al, (2024) is a well-regarded theoretical framework that elucidates how users come to accept and utilize technology. It posits that perceived ease of use and perceived usefulness influence an individual's intention to use technology, while UTAUT extends this to include factors like social influence and facilitating conditions. These theories contribute to understanding how organizational structures and employee perceptions shape the integration of UAVs in business operations.

Furthermore, market dynamics are explored through the lens of Porter's Five Forces model, considering the bargaining power of suppliers and buyers, the threat of new entrants, the threat of substitute products or services, and the intensity of competitive rivalry. This model provides a comprehensive framework for analyzing the external factors that influence the demand for UAVs in the market. The interconnectedness of these theoretical perspectives

enables a holistic examination of the factors influencing UAV market demand, incorporating both internal organizational dynamics and external market forces. By synthesizing these theories, this study aims to provide a nuanced understanding of the intricate relationships among technological innovation, organizational behavior, and market dynamics in shaping the demand for UAVs within the specified city in China during the 1st quarter of 2024.

Objectives

This study aims to determine the degree of factors influencing the unmanned aerial vehicle market demand of an enterprise in one of the cities in China for the 1st quarter of calendar year 2024. Specifically, it aims to determine the following questions:1) the profile of the respondents in terms of number of years of company existence, form of organization, number of employees, size of company, and nature of operations; 2) the degree of factors influencing unmanned aerial vehicle market demand according to the area of technological innovation, applications and industries, consumer preferences, and regulatory and economic factors; and 3) the significant difference in the degree of factors influencing unmanned aerial vehicle market demand when grouped and compared according to the aforementioned variables.

Methodology:

This section presents a discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedures for data analysis.

Research Design

This study sought to determine the degree of factors influencing the unmanned aerial vehicle market demand in one of the cities in China for the 1st quarter of the Calendar Year 2024. Four areas were considered: technological innovation, applications and industries, consumer preferences, and regulatory and economic factors. A descriptive research design was employed in this study, considering the nature of the data involved. Descriptive research design is typically concerned with describing the problem and its solution. It is a more specific and purposive study. It is used to identify the target group's characteristics or the average product or service user. (3G E-Learning LCC, USA, 2022). This study focuses on an existing phenomenon, the Degree of factors influencing the unmanned aerial vehicle market demand; the researcher chose to employ the descriptive research design because it simply collects detailed information and describes the phenomenon being studied. This type of research design was the most suitable for this study.

Study Respondents

The respondents were the one hundred (100) owners and or managers of business enterprises located in Beijing, China. Since the number of respondents is limited, purposive sampling was employed. To get a percentage, the respondents come from different departments. The researcher purposively selected the respondents from the employees of an educational institution.

Instruments

The study used a self-made survey questionnaire. It was subjected to validity (4.93-excellent) and reliability (0.804-good). All of them were interpreted as worthy and good; respectively. The survey questionnaire divided into two parts: Part I shows the profile of the respondents. The respondents filled in the questionnaire that determined the four (4) variables used in the study, namely Number of years of company existence, Form of Organization, Number of Employees, Size of Company, and Nature of Operations. Part II covered topics that determine the degree of factors influencing unmanned aerial vehicle market demand. Four (4) degree areas are included in the study: a) Technological Innovation, b) Applications and Industries, c) Consumer Preferences, and d) Regulatory and economic factors There are five (5) items each in the areas of technological innovation, applications and industries, consumer preferences, and regulatory and economic factors, with a total of twenty (20) items. Degree of Factors Influencing the Unmanned Aerial Vehicle Market Demand is categorized according to a 5-part scale with the following categories: 5 as the highest or "Very High Degree," 4 as "High Degree," 3 as "Moderate Degree," 2 as "Low Degree" to 1 as the lowest or "Very Low Degree."

Data Gathering Procedure

After establishing the validity and reliability of the instruments, the researcher wrote a letter to the management of each business owners as a respondents asking for approval to conduct the study and administer the questionnaire to the respondents. After approval was obtained, the researcher made a schedule for conducting the survey. The survey is done within four (4) days. Each day is allocated to specific UAV users. The researcher instructed the

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respondents on how to complete the questionnaire objectively and honestly. The questionnaire was given to individual employees, and the respondents answered it personally. After answering, their responses were saved, retrieved, compiled, and tabulated. The data acquired from the respondents' responses were tallied and tabulated using the proper statistical methods. The raw data were translated into numerical ratings. Then, tabular presentations, statistical derivations, and computer processing were made possible. The data above were processed on a computer using the Statistical Package for Social Sciences (SPSS).

Data Analysis and Statistical Treatment

Objective No. 1 employs the descriptive-analytical scheme and frequency and percentage count to determine the respondent's demographic profile regarding number of years of company existence, form of organization, number of employees, size of company, and nature of operations.

Objective No. 2 also employs the descriptive-analytical scheme and mean to determine the respondents' satisfaction with the areas of technological innovation, applications and industries, consumer preference, and regulatory and economic factors.

Objective No. 3 used the comparative analytical scheme and Mann-Whitney U test to determine if there was a significant difference in the degree of factors influencing unmanned aerial vehicle market demand when respondents were grouped and compared according to the abovementioned variables.

Ethical Consideration

Participants' identities are confidential and must be kept secretive or anonymous, and it must also be guaranteed that self-identifying statements and information are not included. Anonymity and confidentiality are essential because they safeguard the privacy of persons who willingly consent to participate in research. The study must fully consider the possible harm to the participants, the researcher, the larger community, and the institution. The harm can be in the form of distress, shame, and worry, which are difficult to anticipate or manage, as well as bodily harm, resource loss, emotional harm, and reputational impairment.

Results and Discussion:

This section presents, analyzes, and interprets the data that were gathered consistent with its predetermined objectives.

Table 2
Profile of the Respondents

Variable	Category	Frequency	Percentage (%)
Number of Years of company existence	Shorter (Below 4 years)	40	40.0
	Longer (4 years and above	60	60.0
	Total	**100**	**100.0**
Form of Organization	Sole Proprietorship	26	26
	Partnership or Corporation	74	74
	Total	**100**	**100.0**
Number of Employees	Few (Below 66)	48	48
	Many (66 and above)	52	52
	Total	**100**	**100.0**
Size of Company	Small and Medium	39	39
	Large Enterprises	61	61
	Total	**100**	**100.0**
Nature of Operations	Technology Business Operations	30	70
	Non-Technology Business Operations	70	70
	Total	**100**	**100.0**

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Table 2 shows the frequency and percentage distribution of one hundred (100) respondents regarding the number of years of company existence, form of organization, number of employees, company size, and nature of operations in tabular format.

Of the respondents, in several years of company existence, 60% comprised companies with a more extended existence, and 40% have a shorter year of company existence. In terms of form of organization, 74% are formed as partnerships or corporations, and 26% are formed as sole proprietorships. 52% of the respondents have many employees, and 42% of the respondents have fewer number of employees. Regarding the company size, 61% of the respondents are large enterprises and 39% are small and medium enterprises. In terms of the nature of operations, 70% of the respondents are from non-technology business operations, and 30% are from technology business operations. A

Table 3
Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand According to the Area of Technological Innovation

Technological Innovation **Items**	**Mean**	**Interpretation**
What is the degree of these factors influencing the market demand for unmanned aerial vehicles?		
1. Technological advancement of unmanned aerial vehicles	3.74	High Degree
2. Research and development initiatives on unmanned aerial vehicles	4.60	Very High Degree
3. Integration of cutting-edge features for UAV products	4.46	High Degree
4. The pace of technological change in shaping UAVs	4.36	High Degree
5. Technological partnerships or collaborations on unmanned aerial vehicle technology	4.53	Very High Degree
Overall Mean	**4.34**	**High Degree**

Table 3 shows the degree of factors influencing unmanned aerial vehicles market demand according to the area of technological innovation. The overall mean score of 4.34 is interpreted as a high degree.

The highest mean in this area is 4.60, interpreted as very high degree, in Item No. 2, which states, "Research and development on unmanned aerial vehicles." According to Panneerselvam (2015), technological innovation is pivotal in shaping market dynamics, with research and development initiatives.

The lowest mean score in this area is 3.74, interpreted as high degree, in Item No. 1, which states, "Technological advancement of unmanned aerial vehicles."

These findings underscore the importance of strategic investments in R&D and collaborations for firms aiming to capitalize on emerging UAV market trends. According to Johnson & Cubby, (2014) companies adept at leveraging technological advancements are better positioned to meet evolving consumer preferences and regulatory requirements effectively. Such insights are critical for stakeholders seeking to enhance competitiveness and navigate the dynamic UAV market landscape.

Table 4
Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according to the Area of Applications and Industries

Applications and Industries **Items**	**Mean**	**Interpretation**
What is the degree of these factors influencing the market demand for unmanned aerial vehicles?		
1. Specific applications (e.g., surveillance, agriculture, logistics) of unmanned aerial vehicles	4.40	High Degree
2. Industry-specific regulations of unmanned aerial vehicles sector	3.65	High Degree
3. The trends in various industries influences demand on unmanned aerial vehicle applications	4.38	High Degree
4. The influence of adaptability of unmanned aerial vehicles to diverse applications	4.43	High Degree
5. Partnerships and collaborations with industry stakeholders influence on market demand for unmanned aerial vehicles	4.40	High Degree

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Volume 1, Issue no. 10 (2024)

Overall Mean	**4.25**	**High Degree**

Table 4 presents insights into the degree of factors influencing unmanned aerial vehicle (UAV) market demand, in the area of applications and industries. The overall mean score of 4.25 interpreted as a high degree.

The highest mean score in this area is 4.40 in Item No. 1, which states, "Specific applications such as surveillance, agriculture, and logistics) of unmanned aerial vehicles, and in Item No. 5, which states, "Partnerships and collaborations with industry stakeholders influence on market demand for unmanned aerial vehicles," which are critical determinants of market demand, with their strategic importance. (Jones & Smith, 2019).
The lowest mean score in this area is 3.65, interpreted as a moderate level, in Item No. 2, which states, "Industry-specific regulations influence on market demand for unmanned aerial vehicles sector." In contrast, industry-specific regulations (3.65) play a pivotal yet somewhat attenuated role in shaping consumer demand and market behavior in the UAV sector.

These findings highlight the nuanced interplay between regulatory frameworks and application-driven market demands within the UAV industry. Companies navigating this landscape must carefully balance compliance with regulations while strategically aligning product offerings with high-impact application domains to maximize market responsiveness and consumer adoption.

Table 5
Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Consumer Preferences

Consumer Preferences **Items**	**Mean**	**Interpretation**
What is the degree of these factors influencing the market demand for unmanned aerial vehicles?		
1. Consumer preferences and expectations influence on market demand for unmanned aerial vehicle products	4.58	Very High Degree
2. Design, features, and brand reputation influence on consumer choices for unmanned aerial vehicles	4.47	High Degree
3. Influence of customer reviews and feedback in shaping the market demand for unmanned aerial vehicles	3.77	High Degree
4. Consumer awareness of UAV technologies influence on market demand of unmanned aerial vehicle products	3.60	High Degree
5. Influence of marketing and promotional activities on UAVs market demand	4.48	High Degree
Overall Mean	**4.18**	**High Degree**

Table 5 shows the degree of factors influencing unmanned aerial vehicle (UAV) market demand in the area of consumer preferences. The overall mean score is 4.18, indicating a high degree of influence of these factors on market demand.

The highest mean score in this area is 4.58, interpreted as very high degree, in Item No. 1, which states, "Consumer preferences and expectations influence on market demand for unmanned aerial vehicle products."
The lowest mean score in this area is 3.60, in Item no. 4 which states, "Influence of consumer awareness of UAV technology on unmanned aerial vehicle products." Despite this lower score, customer reviews and feedback still hold significant sway over market dynamics. This indicates that while consumers' direct input through reviews and feedback is valuable, it may not exert as pronounced an influence as factors like consumer preferences or marketing activities in shaping UAV market demand. Therefore, companies should not overlook the importance of actively managing and responding to customer feedback to maintain positive market perceptions and enhance product offerings.

Table 6
Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Regulatory and Economic Factors

Regulatory and Economic Factors **Items**	**Mean**	**Interpretation**
What is the degree of these factors influencing the market demand for unmanned aerial vehicles?		
1. Regulatory frameworks and policies on UAV industry	4.51	Very High Degree
2. Economic conditions (e.g., GDP, market trends) influence on UAVs market demand	4.61	Very High Degree

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Volume 1, Issue no. 10 (2024)

3. Government incentives or subsidies for UAVs industry	4.62	Very High Degree
4. Global economic stability's influence on UAV products market demand	4.57	Very High Degree
5. Influence of geopolitical factors in the market demand for the UAV industry	4.06	High Degree
Overall Mean	**4.47**	**High Degree**

Table 6 provides an overview on the degree of factors influencing UAV market demand in the area of regulatory and economic. The overall mean score is 4.47, which is interpreted as a high degree.
The highest mean score in this area is 4.62, in Item No. 3 which states, "Influence of government incentives or subsidies in shaping the market demand for UAVs." Economic conditions, government incentives, and regulatory frameworks received the highest ratings, indicating their substantial impact on market dynamics (Brown & Clark, 2018).

The lowest mean score in this area is 4.06, in Item No. 5 which states, "Influence of geopolitical factors in the market demand for the UAV industry."

These findings suggest that favorable economic conditions such as GDP growth and market trends can spur increased investment in UAV technologies for various applications like delivery services or agricultural monitoring (Brown & Clark, 2018). Government incentives and subsidies further amplify market demand by lowering barriers to entry and fostering innovation in UAV development and deployment. Regulatory frameworks, when clear and supportive, provide certainty for companies and investors, encouraging long-term planning and investment in UAV projects.

On the other hand, geopolitical factors may pose challenges due to their unpredictability. For instance, changes in international trade policies or geopolitical tensions can disrupt supply chains or market access for UAV technologies, impacting demand and profitability. Companies navigating these factors must adopt agile strategies to mitigate risks and seize opportunities in different global markets.

Table 7
Difference in the Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Technological Innovation when grouped and compared according to variables

Technological Innovation

Variables	Categories	N	Mean Rank	Mann Whitney U - test	Sig. Level	*p*-value	Interpretation
Number of years of company existence	Shorter	40	39.76	770.50	0.05	0.002	Significant
	Longer	60	57.66				
Form of Organization	Sole Proprietorship	26	59.31	733.00		0.064	Not Significant
	Partnership or Corporation	74	47.41				
Number of Employees	Few	48	52.67	1144.00		0.461	Not Significant
	Many	52	48.5				
Size of Company	Small and Medium	39	52.81	1099.50		0.513	Not Significant
	Large Enterprises	61	40.02				
Nature of Operations	Technology Business Operations	30	50.60	1047.00		0.982	Not Significant
	Non-Technology Business Operations	70	50.46				

Table 7 presents the different comparative analysis of the degree of factors influencing UAV market demand in the area of Technological Innovation when grouped and compared according to number of years of company existence, form of organization, number of employees, size of company, and nature of operations using the Mann-Whitney U Test.

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Volume 1, Issue no. 10 (2024)

As shown in the table, the Number of Years of Company Existence, the computed mean rank in respondents with a shorter year of existence is 39.76, while for the group of respondents with a longer number of years in existence is 57.66, with a p-value of .002, which is interpreted as significant.

In terms of form of organization, the computed mean for sole proprietorship organization, the computed mean is 59.31, while for partnership and corporation form of organization is 47.41, with a p-value of .064, which is interpreted as insignificant.

In terms of the number of employees, respondents with fewer number of employees, the computed mean is 52.67, while respondents with many employees is 48.5, with a p-value of .461, which interpreted as not significant.

On the size of company, the computed mean for respondents representing small and medium enterprise is 52.81 while computed mean for large enterprises is 40.02, with a p-value of .513, which is interpreted as insignificant.

Also, regarding the nature of operations, the computed mean for respondents with technology business operations is 50.6, while the computed mean for non-technology business operations is 50.46, with a p-value of .982, which is interpreted as insignificant.

Hence, when the respondents are grouped according to the form of organization, number of employees, size of company, and the nature of operations, the p-value is greater than 0.05, interpreted as insignificant. Therefore, the null hypothesis, "There is no significant difference in the degree of factors influencing unmanned aerial vehicles market demand," is accepted. It implies that the nature of operations, number of employees, size of company, and the nature of operations do not affect the degree of factors influencing unmanned aerial vehicle market demand in Technological Innovation.

However, when respondents are grouped according to the number of years of company existence, the p-values are less than 0.05, interpreted as significant. Hence, there is a substantial difference in the degree of factors influencing unmanned aerial vehicle market demand when grouped and compared according to the abovementioned variable.

Table 8
Difference in the Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Applications and Industries when grouped and compared according to variables

Applications and Industries							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Number of years of company existence	Shorter	40	27.49	279.50	0.05	0.000	Significant
	Longer	60	65.84				
Form of Organization	Sole Proprietorship	26	57.83	771.50		0.123	Not Significant
	Partnership or Corporation	74	47.93				
Number of Employees	Few	48	46.84	1072.50		0.214	Not Significant
	Many	52	53.88				
Size of Company	Small and Medium	39	48.95	1129.00		0.661	Not Significant
	Large Enterprises	61	51.49				
Nature of Operations	Technology Business Operations	30	48.45	988.50		0.635	Not Significant
	Non-Technology Business Operations	70	51.38				

Table 8 presents the different comparative analyses of the degree of factors influencing UAV market demand in the area of Applications and Industries when grouped and compared according to the number of years of company existence, form of organization, number of employees, size of company, and nature of operations using the Mann-Whitney U Test.

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As shown in the table, the Number of Years of Company Existence, the computed mean rank in respondents with a shorter year of existence is 27.49, while for the group of respondents with a longer number of years in existence is 65.84, with a p-value of 0.00, which is interpreted as significant.

In terms of form of organization, the computed mean for sole proprietorship organization, the computed mean is 57.83, while for partnership and corporation form of organization is 47.93, with a p-value of 0.123, which is interpreted as insignificant.

Regarding the number of employees, respondents with fewer employees, the computed mean is 46.84, while respondents with many employees is 53.88, with a p-value of 0.214, which is interpreted as insignificant.

On the size of company, the computed mean for respondents representing small and medium enterprise is 48.95 while computed mean for large enterprises is 51.49, with a p-value of 0.661, which is interpreted as insignificant. Also, in terms of nature of operations, the computed mean for respondents that have technology business operations is 48.45, while the computed mean for non-technology business operations is 51.38, with a p-value of 0.635, which is interpreted as insignificant.

Hence, when the respondents are grouped according to the form of organization, number of employees, size of company, and the nature of operations, the p-value is greater than 0.05, interpreted as insignificant. Therefore, the null hypothesis, "There is no significant difference in the degree of factors influencing unmanned aerial vehicles market demand," is accepted. It implies that the nature of operations, number of employees, size of company, and the nature of operations do not affect the degree of factors influencing unmanned aerial vehicle market demand in the area of applications and industries.

However, when respondents are grouped according to the number of years of company existence, the p-values are less than 0.05, interpreted as significant. Hence, there is a substantial difference in the degree of factors influencing unmanned aerial vehicle market demand when grouped and compared according to the abovementioned variable.

Table 9
Difference in the Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Consumer Preferences when grouped and compared according to variables

Consumer Preferences							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Number of years of company existence	Shorter	40	48.24	1109.50	0.05	0.512	Not Significant
	Longer	60	52.01				
Form of Organization	Sole Proprietorship	26	47.52	884.50		0.530	Not Significant
	Partnership or Corporation	74	51.55				
Number of Employees	Few	48	48.80	1166.50		0.562	Not Significant
	Many	52	52.07				
Size of Company	Small and Medium	39	49.92	1167.00		0.870	Not Significant
	Large Enterprises	61	50.87				
Nature of Operations	Technology Business Operations	30	52.90	978.00		0.577	Not Significant
	Non-Technology Business Operations	70	49.47				

Table 9 presents the different comparative analysis of the degree of factors influencing UAV market demand in the area of Consumer Preferences when grouped and compared according to number of years of company existence, form of organization, number of employees, size of company, and nature of operations using the Mann-Whitney U Test.

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Volume 1, Issue no. 10 (2024)

As shown in the table, the Number of Years of Company Existence, the computed mean rank in respondents with a shorter year of existence is 48.24, while for the group of respondents with a longer number of years in existence is 52.01, with a p-value of 0.512, which is interpreted as insignificant.

In terms of form of organization, the computed mean for sole proprietorship organization, the computed mean is 47.52, while for partnership and corporation form of organization is 51.55, with a p-value of 0.530, which is interpreted as insignificant.

In terms of the number of employees, respondents with fewer number of employees, the computed mean is 48.80, while respondents with many employees is 52.07, with a p-value of 0.562, which interpreted as not significant.

On the size of company, the computed mean for respondents representing small and medium enterprise is 49.92 while computed mean for large enterprises is 50.87, with a p-value of 0.870, which is interpreted as insignificant.

Also, in terms of nature of operations, the computed mean for respondents that have technology business operations is 52.90, while the computed mean for non-technology business operations is 49.47, with a p-value of 0.577, which is interpreted as insignificant.
Hence, when the respondents are grouped according to the number of years of company existence, form of organization, number of employees, size of company, and the nature of operations, the p-value is greater than 0.05, interpreted as insignificant. Therefore, the null hypothesis, "There is no significant difference in the degree of factors influencing unmanned aerial vehicles market demand," is accepted. It implies that the number of years of company existence, form of organization, nature of operations, number of employees, size of company, and the nature of operations do not affect the degree of factors influencing unmanned aerial vehicle market demand in the area of applications and industries.

Table 10
Difference in the Degree of Factors Influencing Unmanned Aerial Vehicle Market Demand according in the Area of Regulatory and Economic Factors when grouped and compared according to variables

Regulatory and Economic Factors							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Number of years of company existence	Shorter	40	55.74	990.50	0.05	0.128	Not Significant
	Longer	60	47.01				
Form of Organization	Sole Proprietorship	26	54.62	855.00		0.385	Not Significant
	Partnership or Corporation	74	49.05				
Number of Employees	Few	48	47.97	1126.50		0.386	Not Significant
	Many	52	52.84				
Size of Company	Small and Medium	39	50.42	1186.50		0.983	Not Significant
	Large Enterprises	61	50.55				
Nature of Operations	Technology Business Operations	30	50.57	1048.00		0.988	Not Significant
	Non-Technology Business Operations	70	50.47				

Table 10 presents the different comparative analysis of the degree of factors influencing UAV market demand in the area of Regulatory and Economic Factors, when grouped and compared according to number of years of company existence, form of organization, number of employees, size of company, and nature of operations using the Mann-Whitney U Test.

As shown in the table, the Number of Years of Company Existence, the computed mean rank in respondents with a shorter year of existence is 55.74, while for the group of respondents with a longer number of years in existence is 47.01, with a p-value of 0.128, which is interpreted as insignificant.

In terms of form of organization, the computed mean for sole proprietorship organization, the computed mean is 54.62, while for partnership and corporation form of organization is 49.05, with a p-value of 0.385, which is interpreted as insignificant.

In terms of the number of employees, respondents with fewer number of employees, the computed mean is 47.97, while respondents with many employees is 52.84, with a p-value of 0.386, which interpreted as not significant.

On the size of company, the computed mean for respondents representing small and medium enterprise is 50.42 while computed mean for large enterprises is 50.55, with a p-value of 0.983, which is interpreted as insignificant.

Also, in terms of nature of operations, the computed mean for respondents that have technology business operations is 50.57, while the computed mean for non-technology business operations is 50.47, with a p-value of 0.988, which is interpreted as insignificant.

Hence, when the respondents are grouped according to the number of years of company existence, form of organization, number of employees, size of company, and the nature of operations, the p-value is greater than 0.05, interpreted as insignificant. Therefore, the null hypothesis, "There is no significant difference in the degree of factors influencing unmanned aerial vehicles market demand," is accepted. It implies that the number of years of company existence, form of organization, nature of operations, number of employees, size of company, and the nature of operations do not affect the degree of factors influencing unmanned aerial vehicle market demand in the area of applications and industries.

Conclusions:

In conclusion, the degree of factors influencing unmanned aerial vehicle market demand is high in all areas, including technological innovation, applications and industries, consumer preferences, and regulatory and economic factors. This means that the above-mentioned factors highly influence market demand. In the area of technological innovation, research and development initiatives have a very high degree of influence on the demand for UAVs. Thus, research and development play a vital role in the market growth and development of UAVs; At the same time, technological advancement reveals a high degree of influence, it shows the lowest degree of influence in the area of technological innovation. In the area of Applications and Industries, the result presents a high degree of influence on market demand. UAV companies should invest in partnerships and collaboration among stakeholders that can provide improvements on the specific applications of AUVs that would allow expanding market growth for unmanned aerial vehicles. The area of Consumer Preferences, despite presenting a high degree of results of influence, was found to have the lowest average mean among the areas of factors influencing unmanned aerial vehicles market demand. Consumer expectations and preferences show a very high degree of influence; this suggests that consumer expectations and influences in the UAV market are stable and should be approached uniformly in marketing and product development strategies. Based on the analyses, this study calls for the administration and decision-makers of unmanned aerial vehicle companies determine factors that can influence market growth and sustainability according to the following: 1) Tailored Technological Innovation Strategies; 2) Targeted Industry-specific Applications; 3) Enhanced Consumer Engagement; 4) Adaptive Regulatory Compliance; 5) Organizational Flexibility and Agility; and 6) Further Research and Development.

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