Analyzing The Decision-Making Process for Choosing Aviation: Technical Programs Versus Pilot Training

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Abstract- *The aviation industry is a dynamic and technologically advanced field, presenting individuals with a range of career paths to pursue. The decision to choose between an aviation technical program and a pilot training program is a critical one, as it will significantly impact one's professional trajectory in the aviation sector. This research paper aims to examine the key factors that influence this decision-making process, considering economic, market, and regulatory factors that shape the aviation industry. The aviation technical programs provide comprehensive training in aircraft maintenance, repair, and troubleshooting, while pilot programs focus primarily on flight operations. The demand for skilled aviation professionals, including both pilots and technicians, has been rising globally, driven by the industry's continued growth. Regulatory frameworks, such as those set by the Federal Aviation Administration (FAA), emphasize the importance of thorough training and certification, which is a crucial consideration for individuals pursuing an aviation career. As a result, the various career opportunities and the potential earnings associated with each program, as economic factors play a significant role in the decision-making process. By thoroughly understanding the nuances of the decision-making process, individuals can make informed choices that align with their career aspirations and the evolving needs of the aviation industry. Future research endeavors ought to investigate the ways in which social networks, digital technologies, and economic factors impact students' decision-making process while selecting between pilot training and aviation technical schools, as per the research findings. These insights would provide practical consequences for educational institutions, policymakers, and industry stakeholders who want to encourage and attract talent in the aviation sector.*

I.   INTRODUCTION

The aviation profession is a living example of technological progress, human innovative thinking, and the quest for unbounded skies. The decision to pursue an aviation technical program before embarking on a pilot program requires careful consideration and evaluation (Choma et al., 2020). This choice will have a significant impact on their professional paths and careers in aviation. To successfully navigate this flight route, one must have a thorough awareness of the reasoning behind choosing aviation technical studies over pilot programs. An aviation career can lead to a variety of goals, from contributing to aircraft maintenance and technology to piloting aircraft (Alkov, 2019). The decision to pursue aviation technical programs rather than pilot programs is generally based on economic considerations, such as program costs, possible earnings, and market need for trained technicians. (Vicini, 2020).

Skilled workers, particularly pilots and aviation specialists, are in greater demand as the aviation sector grows on a global scale. A thorough understanding of market trends and demand is essential for making well-informed career path decisions. (2019, Boeing) and The Federal Aviation Administration (FAA) and other regulatory agencies implement a regulatory framework that governs aircraft maintenance and operations. This framework emphasizes the significance of thorough training and certification offered by aviation technical programs. (FAA, 2020).

Aviation technical schools offer thorough training in aircraft maintenance, repair, and troubleshooting, in contrast to pilot programs, which primarily concentrate on flight operations. The decision-making process is also influenced by worldwide aviation trends, with rising markets showing an increase in demand for both pilots and aviation technicians,

reflecting the industry's global dynamic (International Civil Aviation Organization [ICAO], 2020).

Future aviation workers choose from a wide range of educational options, assessing the value of community college courses, degree programs, and vocational training provided by specialized aviation schools. (Briand and others, 2018) and working together, educational institutions and industry stakeholders may better align curricula with industry demands, guaranteeing graduates of aviation technical programs have the capabilities employers are looking for. As of 2019, the National Center for Aviation Training (NCAT). Career decisions and job prospects in the aviation sector are influenced by fluctuations in the demand-supply dynamics of pilots and aviation technicians in 2021, the International Air Transport Association (IATA), To retain and attract competent technicians, airlines and MRO firms implement workforce retention initiatives that influence the decision-making process of future aviation professionals. (Smith, 2020). The combination of information technology with aviation highlights the value of interdisciplinary abilities and encourages people to investigate technical degrees that combine aviation and cutting-edge technologies (Aviation Workforce Future, 2019) and aviation professionals who want to future-proof their professions against market uncertainties and technology changes frequently choose aviation technical degrees over pilot programs. This decision is made to ensure a sustainable career over time. Guerin et al., 2020).

The demand for pilots and aviation technicians can be understood from the perspective of the global aviation industry's current situation and prospects (Deloitte, 2020). Reports from top aviation industry associations provide information on new developments in technology, manpower needs, and developing trends in the industry. Publications by government agencies such as the FAA and ICAO provide regulatory frameworks, safety guidelines, and workforce development initiatives pertinent to the aviation industry. (International Society of Transport Aircraft Trading [ISTAT], 2021). Educational studies explore various aspects of aviation education, workforce development, and career pathways, offering nuanced perspectives on the decision-making process of aspiring aviation professionals (Smithsonian Institution, 2018). (Federal Aviation Administration [FAA], 2020) and Industry surveys and interviews record the attitudes, inclinations, and driving forces of would-be pilots, providing insight into their thought processes, (The Aviation Week Network, 2021).

The decision-making process behind opting for aviation technical programs before pursuing pilot programs is multifaceted, encompassing economic, technological, regulatory, and career-related considerations. By synthesizing insights from diverse sources, this study aims to provide a comprehensive analysis of the factors shaping the career choices of individuals embarking on their journey into the realm of aviation.

II. PROCEDURES

- *Methods of Research*

In a qualitative study, there exist multiple techniques for collecting data; nevertheless, the selection of an appropriate approach depends on the specific objectives of the researcher. The instruments most frequently employed in qualitative research are participant observation, interviews, and focus groups (Vanderstoep & Johnston, 2009).

As one of the most widely used methods in qualitative research, interviews are thought to offer a deeper understanding of a phenomenon for which there is scant information. They are quite appropriate, particularly when the participants' unwillingness to discuss certain delicate topics in a group setting (Gill, Stewart, Treasure & Chadwick,2008). However, FGDs are more beneficial since they offer more genuine settings where Participants both impact and are impacted by one another (Casey & Crueger, 2000). Social interaction within the group is the additional benefit giving participants a synergistic effect (Stewart & Shamdasani, 2014). Additionally, whenever focus groups are preferred over individual data collecting since there are less opportunities for it interviews (Johnston & Vanderstoep, 2009). As a result, they are employed to gather superior data in the social setting, as highlighted by Patton (2002).

Data Collection: Conduct semi-structured interviews with individuals who have chosen aviation technical programs over pursuing a pilot program. Use open-

ended questions to explore their decision-making process, motivations, and considerations.

Sampling: Develop purposive sampling to select participants with diverse backgrounds, including different age groups, educational backgrounds, and career aspirations within the aviation industry.

Data Analysis: Researchers can obtain a thorough grasp of the external factors influencing the decision-making process behind selecting aviation technical schools over pilot programs by methodically examining these PESTEL aspects. Strategic planning, the creation of policies, and training programs that assist future aviation professionals in making well-informed career decisions within the ever-changing aviation sector can all benefit from this approach.

Ethical Considerations: Ensure informed consent, confidentiality, and anonymity of participants. Obtain approval from an institutional review board (IRB) if necessary.

- *Scope and Limitation*

This study was conducted at Air link International Aviation College (ALIAC) and limited only to currently enrolled students who choose aviation technical program (Aircraft Maintenance Technology and Avionics Technology). The range of study was from April 1, 2024, until May 30, 2024. This study was limited only to the decision-making process behind choosing aviation technical programs before pursuing a pilot program.

III. RESULTS

SOP 1. What encourages learners to enroll in aviation technical programs rather than pilot training?

Table 1
Reasons Students Choose Aviation Technical Programs over Pilot Training.

Questions	Response	PESTEL Analysis
	Learners want to learn the	TECHNOLOGICAL
	maintenance aspect of the aircraft.	
Q.1.1 How do you perceive the career prospect and opportunities in aviation technical fields compared to pilot roles?	Learners want to learn maintenance operation.	TECHNOLOGICAL
	Learners want to learn basic maintenance operation.	TECHNOLOGICAL
	Learners want to explore the opportunities that the technical program ca provide.	ECONOMIC
	Learners want to compare the technical program vs. the flight training.	TECHNOLOGICAL
Q.1.2 Can you share what motivated you to choose an aviation technical program over pursuing pilot training?	With deeper understanding of aircraft operation especially on the crucial aspect of the inspection.	TECHNOLOGICAL
	To have a basic knowledge of aircraft components.	TECHNOLOGICAL

	Basic aircraft familiarization.	
	It's practical for the learners to learn the basic components of an aircraft.	TECHNOLOGICAL
	The learners want to be part of aviation industry.	SOCIAL
Q.1.3 Were their specific factors or experiences that influenced your decisions?	It's a learner's choice. Parents recommendation.	SOCIAL
	It's a back-plan if flight training will not be pursued.	SOCIAL
	It's a learner's choice.	SOCIAL
	Mostly friends were also taking technical program prion the flight training.	SOCIAL
	Curiosity and want to be part of the aviation industry.	SOCIAL

The responses in Q.1.1 demonstrate a significant level of enthusiasm among learners for the technical aspects of aviation, namely in the field of aircraft maintenance. The interest in this matter is mostly motivated by technological reasons, as emphasized in the PESTEL analysis. The emphasis on acquiring expertise in maintenance operations and fundamental maintenance practices is a response to the growing intricacy and technical progress of contemporary aircraft, necessitating specialized competencies and knowledge. Furthermore, the economic aspect is highlighted as learners express their interest in the job prospects and monetary advantages that technical schools can offer. In summary, the PESTEL research highlights that technological improvements play a crucial role in influencing career opportunities in aviation technical sectors, making them appealing alternatives to conventional pilot positions.

For Q.1.2, responses offer valuable insights into the reasons for selecting an aviation technical program instead of pilot training, and these reasons can be examined through the PESTEL framework. Factors related to technology are enhanced comprehension of aircraft operation where learners are driven by the aspiration to acquire a thorough understanding of aircraft operations, specifically focusing on the crucial component of inspections. This demonstrates the growing intricacy and technological progress of contemporary aircraft, necessitating specialized expertise and understanding. Secondly, fundamental understanding of aircraft components is about the desire to become acquainted with fundamental aircraft components demonstrates an acknowledgment of the significance of technical proficiency in the upkeep and operation of sophisticated aviation systems. Lastly, practical learning talks about the understanding the fundamental elements of an aircraft is crucial for aviation maintenance, as it emphasizes the hands-on, technical aspects that are necessary for guaranteeing the safety and effectiveness of aircraft operations. For societal influences, the desire to be part of the aviation industry stems from a social aspect, where individuals are motivated by the prestige, sense of community, and opportunities that are linked to the aviation sector. The social factor can motivate individuals to seek technical responsibilities that are essential for the functioning of the industry.

The replies for Q.1.3 suggest that social variables have a substantial impact on learners' choices to enroll in aviation technical programs. The social side of career choice is emphasized by recommendations from parents, the involvement of friends in comparable programs, and the aspiration to be part of the aviation business. This is consistent with the PESTEL research, which considers social aspects such as the impact of the community, recommendations from peers, and the perceived status associated with being involved in the aviation industry as highly significant. The interplay of social dynamics, together with the wider economic and technological developments in the aviation sector, influences the career trajectories of learners and emphasizes the significance of social factors in determining career decisions.

SOP 2. How do demographic variables like age, gender and educational background affect decisions are made?

Table 2.1
Respondents' Age.

Age	Frequency (f)	Percentage (%)
20	4	*80%*
22	1	*20%*
TOTAL	5	*100%*

The respondents' age distribution is heavily biased towards individuals in their twenties, with 80% of the sample falling within this age bracket. This indicates a concentration on a certain target group, possibly those who are in the early stages of their higher education or vocational training. The low inclusion of 22-year-olds could suggest a reduced presence of mature students or a deliberate emphasis on younger individuals within the study. Comprehending this age distribution is crucial for understanding findings and ensuring that any conclusions obtained are applicable to the demography being represented.

Table 2.2
Respondents' Gender.

Gender	Frequency (f)	Percentage (%)
Male	5	*100%*
Female	0	*0%*
TOTAL	5	*100%*

Table 2.2 displays the gender distribution of the respondents, indicating that all 5 respondents are male, making up 100% of the sample, and there are no female respondents. The observed data reveals a significant disparity in gender representation within the surveyed population, implying that the conclusions drawn from the study might solely represent the viewpoints and encounters of male participants. The lack of female participants in the study raises concerns about the study's demographic representation, which may affect the capacity to apply the findings to a wider community

Table 2.3
Respondents' Highest Level of Education Completed.

Highest Level of Education Completed	Frequency (f)	Percentage (%)
SHS	5	*100%*
College	0	*0%*
TOTAL	5	*100%*

Table 2.3 displays data regarding the respondents' greatest level of education achieved. It reveals that all five respondents (100%) have successfully completed Senior High School (SHS) as their best educational accomplishment, whereas none have attained a college degree. This implies that the respondents may not have received a higher level of education, which could reflect obstacles to obtaining a college education or a likely pattern of entering the profession immediately after completing high school. The homogeneity in educational achievement may impact the respondents' career prospects and professional growth, as higher education frequently corresponds with improved expertise and credentials. This discovery may stimulate additional inquiry into the causes impeding these individuals from pursuing higher education and the consequences on their professional paths in the aviation sector.

Table 2.4
Effects of Demographic Profiles on the Decision-Making Process in Choosing Programs.

Questions	Response	PESTEL Analysis
Q.2.1 How do you think your	No, because the learners are	SOCIAL

age, gender and educational background influence your decision-making process when choosing between aviation technical programs and pilot training?	always open for the changes and challenges when it comes to the career aspects.	
	No, it depends on the learners to choose career prospects and its flexibility and adaptability.	SOCIAL
	No, it depends on the financial aspect of sustainability.	ECONOMIC
	No, because the learners have already a background on the aspect of work and opportunities.	SOCIAL
	Yes, because the learners already have an idea about the program.	SOCIAL

Table 2.4 presents the "Effects of Demographic Profiles on the Decision-Making Process in Choosing Programs" largely classifies answers based on the social and economic factors of a PESTEL analysis. The social category is the most influential, as it includes elements such as learners' receptiveness to career transitions, versatility and adaptability in career choices, previous background information, and preconceived notions about the program. These social elements demonstrate the impact of personal experiences, societal expectations, and educational backgrounds on decision-making. One response pertains to the economic aspect and highlights the significance of financial viability in making career choices. The distribution of factors suggests that although economic reasons are relevant, social variables have a greater impact on learners' decision-

making process when choosing between aviation technical programs and pilot training.

SOP 3. What role do opinions about the repute of the program play in the process of selecting decisions?

Table 3
Role of Opinions in Selecting Decisions

Questions	Response	PESTEL Analysis
Q.3.1 How important is the reputation of the aviation technical program to you?	It's important because the reputation of the aviation technical program is the molding process of who you are.	SOCIAL
	It's important because it is a foundation of development and professional growth.	SOCIAL
	It's important because when you are already in the field your employer will always ask about the integrity of your program.	LEGAL
	It's important because the quality or foundation are crucial for	LEGAL

	investigation and approval.	
	It's important because it needs to fit the qualifications and standards.	LEGAL
Q.3.2 What specific aspects of the program curriculum are important to you?	The technical aspect of the program is the source of growth.	TECHNOLOGICAL
Q.3.3 How significant is the quality of instruction provided by the program in your decision-making process?	Yes, it is a basis of motivation and courage for the alignment of the job career.	SOCIAL
	It helps the learners to re-assess their decision to take a technical program.	TECHNOLOGICAL
	Yes, because the learners as always looking for a great instructor that can enhance their skill and can mentor them in their professional growth.	SOCIAL

	No, because the technical program is already a choice of a learner.	TECHNOLOGICAL
	Yes, it has an influence on the learners in their decision-making.	TECHNOLOGICAL
Q.3.4 Can you provide example of how these factors influence your decision between aviation technical programs and pilot training?	One important factor is the safety procedure for the operation of the aircraft.	LEGAL
	Still the financial aspect is one of the factors affect the decision making.	ECONOMIC
	One important factor is the skills development.	TECHNOLOGICAL
	One important factor sometimes is the curiosity and knowledge explorations.	SOCIAL

For Q.3.1, the table contains questions organized into areas for PESTEL analysis, including social, legal, and its important, along with their related responses.

Question Q.3.1 examines the significance of technological advancements in relation to the program's standing in the aviation sector. Opinions are of utmost importance in decision-making processes, particularly when considering aspects such as social perception, legal integrity, and adherence to norms. In summary, the table demonstrates the impact of opinions on organizational decisions across many aspects.

For Q.3.2, the initial column displays the inquiry, "Which particular elements of the program curriculum hold significance for you?" The response in the second column asserts that the program's technical aspect is the primary driver of its growth. The third column prominently displays the category as "technological." It underscores the importance of technical elements in a curriculum, emphasizing their function in promoting development.

For Q.3.3, includes inquiries and answers pertaining to the importance of program training in decision-making procedures. It focuses on the social component by giving importance to the motivation and excellence of teaching. Furthermore, it addresses the technological dimension by proposing that the program assists learners in reevaluating their choices and selecting technical career routes to enhance their professional development. Regarding the PESTEL analysis, for social, the caliber of teaching has a direct influence on the motivation and professional alignment of learners. For technical, the program's impact on learners' decision-making is connected to the technical components. In general, this excerpt seems to be from an educational assessment form that considers both social and technological variables.

For Q.3.4, includes inquiries and answers pertaining to the importance of program teaching in decision-making procedures. In authorized an essential consideration is the safety protocol for airplane operation. Legal laws are essential in influencing decisions regarding aviation education. In economics, however, the financial component remains a significant factor influencing decision-making. Factors such as expenses, educational fees, and prospective income have an influence on decisions. In technology, the development of skills is a crucial determinant. The capacity of the technical curriculum to augment

learners' skills impacts their decision-making. In addition, in society, curiosity and the pursuit of knowledge are important factors. Many learners frequently search for programs that are in line with their interests and curiosity. PESTEL aspects, namely legal, economic, technological, and social, play a crucial role in influencing the choices made for aviation technical programs and pilot training.

SOP 4. How can prospective pilots compare the different aviation technical program alternatives available to them?

Table 4
Comparison between Aviation Technical Program Alternatives.

Questions	Response	PESTEL Analysis
Q.4.1 How do you gather information about various aviation technical programs?	Information provided by the Professionals.	SOCIAL
	Google	TECHNOLOGICAL
	Internet and research.	TECHNOLOGICAL
	Internet	TECHNOLOGICAL
	Family friends and members of the family.	SOCIAL
Q.4.2 What criteria do you consider when comparing different aviation technical programs?	Quality of education.	SOCIAL
	Career Applications.	TECHNOLOGICAL
	Personal Choice.	SOCIAL
	Advancement of Instruction and Technology.	TECHNOLOGICAL
	Technology and Artificial	TECHNOLOGICAL

	Intelligence.	
Q.4.3 How do you weight factors such as program accreditation, facilities and faculty qualifications when comparing programs?	Technology Advancement.	TECHNOLOGICAL
	Location and ambiance of the people.	SOCIAL
	By means of reputation.	SOCIAL
	Location	ENVIRONMENTAL
	Advancement of equipment and materials for instruction.	TECHNOLOGICAL
Q.4.4 Can you describe the process you go through to compare and evaluate different aviation technical programs?	Reputation and Integrity	SOCIAL
	Financial Aspect	ECONOMIC
	Satisfaction on the value of money and services.	ECONOMIC
	Can provide more opportunities and growth development.	ECONOMIC

For Q.4.1, it displays the responses pertaining to the collection of information regarding different aviation technical programs. Social variables have a substantial impact. Responses from professionals, family friends, and family members emphasize the significance of personal networks (social ties) in acquiring information. Knowledge sharing is facilitated by social contacts and word-of-mouth recommendations. Technology is highly emphasized. Responses that cite Google and internet research highlight the significance of digital technologies and online platforms. Technological progress facilitates the effective retrieval and distribution of information. To summarize, the process of obtaining information on aviation technical programs encompasses both social aspects, such as personal networks, and technological factors, such as digital tools. These elements converge within the wider macro-environment of the aviation sector. It is important to note that PESTEL analysis examines external factors that impact an industry, and the information gathered from this study offers valuable insights into these issues.

For Q.4.2, it emphasizes the criteria that are taken into account while evaluating various aviation technical programs. Social, The criteria "Career Applications" and "Personal Choice" are classified inside the social category. These elements are indicative of cultural choices, individual job objectives, and personal inclinations. The demand for various aviation programs is influenced by social variables, which are determined by societal demands and individual incentives. The criteria "Advancement of Instruction and Technology" and "Technology and Artificial Intelligence" are in line with technological aspects. These criteria highlight the significance of technology in aviation education. The progress in teaching techniques and the incorporation of technology, especially artificial intelligence (AI), have a significant influence on the quality and pertinence of educational programs. To summarize, the evaluation of aviation technical programs requires taking into account both social factors (such as personal and cultural aspects) and technology factors (including developments in education and integration of artificial intelligence). These characteristics have a direct impact on the competitiveness of the program, its alignment with the industry, and the pleasure of the students.

For Q.4.3, it evaluates various aviation technical programs. The criteria "Career Applications,"

"Personal Choice," and "By means of reputation" are classified inside the social category. These variables encompass cultural inclinations, personal professional ambitions, and the program's standing in society. The demand for various aviation programs is influenced by social variables, which are determined by societal demands and individual incentives. The criteria "Advancement of Instruction and Technology" and "Technology and Artificial Intelligence" are in line with technological aspects. These criteria highlight the significance of technology in aviation education. The progress in teaching techniques and the incorporation of technology, especially artificial intelligence (AI), have a significant influence on the quality and pertinence of educational programs. Additionally, the "Location" criterion is regarded as an environmental component. The geographical placement of the program impacts the overall educational setting, availability of resources, and exposure to industry-specific circumstances. To summarize, the evaluation of aviation technical programs requires taking into account several factors, including social, technological, environmental, and regulatory issues. These characteristics have a direct impact on the competitiveness of the program, its alignment with the industry, and the pleasure of the students.

Question 4.4 specifically examines the criteria that are taken into account while evaluating various aviation technical schools. The criteria "Reputation and Integrity" are classified inside the social category. The reputation of an individual or organization is of utmost importance in shaping public opinion and gaining the trust of stakeholders. The credibility and attractiveness of a program are influenced by its integrity, which refers to the program's adherence to high ethical standards and its ability to maintain its reputation. The criteria in the "ECONOMIC" column include both immediate financial aspects and long-term advantages. The "Financial Aspect" refers directly to the economic feasibility of the scheme. Financial concerns encompass factors such as the cost of tuition, availability of scholarships, and the general affordability of the program. "Satisfaction regarding the worth of money and services", economic variables encompass more than only expenses. Students assess the program's worth in relation to their investment. The phrase "Can provide more opportunities and growth development" refers to the long-term economic

advantage that encompasses career prospects, job placement, and professional progress. It is in accordance with technical progress and the needs of the industry. To summarize, the evaluation of aviation technical programs requires considering both social factors (such as reputation and honesty) and economic factors (including financial elements, value for money, and growth potential). These factors have a direct influence on the competitiveness of the program, the number of students who enroll, and the long-term success of the program.

SOP 5. What are the key decisions making criteria used by the respondents who choose technical programs compare to those who choose pilot training in aviation?

Table 1
Reasons Students Choose Aviation Technical Programs over Pilot Training.

Questions	Response	PESTEL Analysis
Q.5.1 What are your career goals in the aviation industry?	One step at a time.	SOCIAL
	To have a stable job and pursuing his pilot dream or aircraft mechanic professional.	ECONOMIC
	To have a professional job that align to the specialization.	TECNOLOGICAL
	To enjoy life.	SOCIAL
Q.5.2 How do financial considerations impact your	Yes, because there is no assurance of ROI on this investment.	ECONOMIC
	From my	ECONOMIC

decisions between aviation technical programs and pilot training?	family aspect, knowing that the money is hard to found right now.	
	Yes, I know the value of the money and of course its ROI.	ECONOMIC
	No, its all about the quality of education.	SOCIAL
	No, its just about the clarification of both program, Technical and pilot training.	TECHNOLOGICAL
Q.5.3 Are there any personal desires or preferences that influence your decision-making process?	Yes, its privileges and opportunities.	ECONOMIC
	Yes, financial aspects	ECONOMIC
	Yes, because I want a mastery on the aspect of the maintenance.	TECNOLOGICAL
	Yes, more on discoveries and bright	SOCIAL

	side of my career.	
Q.5.4 Can you elaborate on how your job goals, financial restraints and personal desires shape your decision?	I focus only on the field of my choice, which is technical program.	TECNOLOGICAL
	To have a sufficient knowledge and background to become a technician.	TECNOLOGICAL
	To become practical in choosing technical programs because my goal is to finance myself when I pursue my career in flight training.	ECONOMIC
	It's practical because opportunities came from wide background of knowledge and challenges.	ECONOMIC
	By being flexible in all aspects of challenges and	SOCIAL

	opportunitie s.	

Question 5.1 specifically pertains to professional goals within the aviation sector. For social criteria, the objective of "One step at a time" demonstrates an adaptable strategy. From a social perspective, this recognizes the necessity of adjusting to evolving industry dynamics, societal changes, and trends in the workforce. It prioritizes adaptability and perseverance in attaining professional objectives. Economic factors involve aspiring for steady employment and seeking professions such as a pilot or aviation maintenance professional. Long-term career opportunities depend heavily on stability. Having a comprehension of market demand and selecting economically feasible strategies showcases a keen understanding of financial considerations. Focusing on "specialized professional positions" that acknowledge the significance of technology. Aviation professions are becoming more and more reliant on technical improvements, including digital tools, automation, and specialized expertise. Keeping up of technical advancements is crucial.

Question 5.2 focuses on the influence of financial factors on the choice between aviation technical programs and pilot training. The responses emphasize the economic facets. "No guarantee of return on investment", this indicates the financial uncertainty linked to investing in education. ROI is a critical factor in program selection. "Family influence", family expectations exert a substantial impact on job choices. Choices are influenced by both economic stability and family support. The concept of "personal valuation of money" refers to the understanding of the worth of money, which has a significant impact on educational choices. People evaluate the advantages and disadvantages. The reference of "quality of education" is classified under the social category. From a social perspective, the perceived level of education quality influences the choice of academic programs. Additionally, reputation, networking, and peer influence can have a significant impact. Financial concerns and the perceived quality of education have a direct influence on the choice between aviation technical degrees and pilot training. These features are in line with the framework of PESTEL, highlighting the importance of taking into account external variables that go beyond human preferences.

Question 5.3 explores the impact of individual desires or preferences on the process of decision-making. The replies that refer to "privileges and opportunities" and "financial aspects" might be classified under the economic category. Financial factors have a substantial impact on the process of making decisions. Financial stability can be influenced by privileges and opportunities, while having a good awareness of financial elements helps in making informed choices. The implicit goal for "proficiency in maintenance" corresponds to technological issues. Proficiency in technology and specialization have a significant impact on the career trajectories within the aviation sector. The response that focuses on "discoveries and positive aspects of my career" is classified as belonging to the social category. Social elements include individual contentment, building professional connections, and favorable characteristics of one's selected profession. Essentially, individual wants and preferences are influenced by economic, technological, and social issues, which in turn impact decision-making. These characteristics are in accordance with the PESTEL framework, highlighting the importance of considering external factors that go beyond rational analysis.

Question 5.4 explores the personal factors that influence professional advancement using the PESTEL framework as a perspective. The aspiration to fund one's own flight training by pursuing a job in aviation is in line with economic objectives. Economic stability and self-sufficiency have a significant influence on the choices individuals make about schooling. Recognizing the variety of backgrounds and difficulties implies a viewpoint that considers society. Social variables include the ability to adjust, establish connections, and embrace possibilities. The objective of attaining the role of a pragmatic technologist embodies goals in the realm of technology. Mastery of technology is crucial for achieving success in technological domains. Essentially, individual aspirations are influenced by a range of external elements, which in turn shape professional choices within the PESTEL framework.

IV. SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

This research study examined the factors that affect learners' decisions when choosing between enrolling in aviation technical programs or pilot training. The study examines various aspects, such as motivating factors, demographic variables, the perceived repute of programs, comparative methods, and critical decision-making criteria.

The study discovered that learners are motivated by several factors to choose aviation technical programs over pilot training. Important variables include a profound fascination with the scientific and engineering aspects of aviation, perceived job security, and prospects for advancement in technical professions. Moreover, the financial consequences are a crucial factor, since technical programs are generally perceived as more cost-effective and providing faster access to employment compared to the huge financial and time commitment needed for pilot training.

Demographic factors, including age, gender, and educational background, have a substantial impact on the decision-making process. Individuals who are younger and have a solid foundation in aviation subjects are more inclined to choose technical programs. Gender is a factor as well, with males tending to choose pilot training more frequently, potentially driven by established gender roles and beliefs within the aviation sector. The educational background of individuals also plays a role in their decision-making process. Those who have better educational qualifications tend to prefer technical programs because of their intricate nature and the need for specialized technical knowledge.

The perception of the reputation of aviation programs is a critical factor in the decision-making process. Prospective students are more drawn to programs that have a strong reputation, which is evidenced by accreditation, industry ties, and successful alumni. The perceived reputation and trustworthiness of a program can be more important than other factors, leading learners to choose universities that are well respected in the aviation industry.

Prospective pilots and technical students engage in a comparison of various aviation schools, evaluating them based on multiple criteria such as curriculum content, teacher proficiency, facilities, industry affiliations, and job placement prospects. They frequently depend on data from several sources, including college rankings, testimonials, industry journals, and open days. The comparisons of specialized equipment and modern training planes are also influenced by their availability.

The study highlights numerous crucial decision-making variables that distinguish individuals who select technical programs from those who decide to pursue pilot training. When evaluating technical programs, it is crucial to consider the extent of technical information offered, the availability of practical training experiences, and the possibility of obtaining certification in certain technical abilities. When it comes to pilot training, important elements to consider are the caliber of flight teaching, the state and type of aircraft utilized for training, the length of the program, and the opportunity to obtain different pilot licenses.

In summary, the research emphasizes the complex nature of decision-making in aviation education. It highlights how personal interests, demographic factors, program reputation, comparative evaluation, and specific criteria all influence learners in their educational and career choices.

Conclusion

This study indicated that learners have a significant interest in aviation technical programs, specifically in aircraft maintenance. This interest is primarily motivated by technological advancements, as emphasized in the PESTEL analysis. The growing complexity of modern aircraft has led to a demand for specific technical skills and expertise, which has further fueled this excitement. Economic variables, including employment opportunities and monetary advantages, are significant in making technical programs appealing substitutes for conventional pilot training. Moreover, the selection of technical programs is motivated by a longing for a more profound comprehension of aircraft operations, the significance of practical technical expertise, and the perceived status and camaraderie linked to the aviation sector.

Social factors, such as parental recommendations, peer involvement, and the prestige associated with the aviation industry, have a substantial influence on career choices. This highlights the relevance of social dynamics, in addition to economic and technological influences, in molding the decisions of learners.

This research showed that most participants are males in their twenties, with 80% falling within this age range. Additionally, all participants have completed Senior High School (SHS) as their highest level of education. The study's emphasis on younger males with a high school education indicates a specific focus on persons who are in the early phases of vocational training or further education. This may result in the exclusion of mature students and females, thereby restricting the study's capacity to be applied to a broader population. The results highlight the greater influence of social elements compared to economic reasons on decision-making. They emphasize the significance of personal experiences, societal expectations, and educational backgrounds in shaping career choices in the aviation industry. The respondents' low level of educational achievement indicates possible obstacles to pursuing more education, which may have consequences for their professional advancement in the aviation industry. Understanding the demographic aspect is essential for comprehending the study's findings and the need to investigate the barriers to pursuing higher education and their impact on job choices in the aviation industry.

This study emphasized the complex influence of several elements on the decision-making process in the aviation industry. The PESTEL analysis is employed to examine the impact of social, legal, economic, and technological factors on the selection of aviation projects. The key factors that drive program expansion and student decisions are technological advancements and technical components of curriculum, highlighting the importance of comprehensive technical training. Learners are greatly influenced and driven by social judgments and the quality of education, which also helps them align their career goals. The legal aspects, including safety regulations, play a crucial role in determining options about aviation education, while economic concerns such as prices and prospective income significantly influence the choices made. In summary, the study clarifies how several factors, such as social, legal, economic, and technological variables, greatly impact the decisions made by both individuals and organizations in the field of aviation education.

The research on the decision-making process for selecting aviation technical programs as opposed to pilot training emphasized the essential roles of social and technological variables in gathering information and assessing programs. Social networks, encompassing both personal and professional connections, as well as digital technologies such as Google, exert a substantial impact on the process of acquiring information. Program evaluations consider social aspects, including career implications and individual preferences, in addition to technology improvements, namely in the fields of education and AI integration. Furthermore, program reputation, integrity, location, and economic variables, such as financial viability and long-term advantages, are significant determinants. Collectively, these interconnected elements, including social, technological, environmental, and economic concerns, have an impact on the competitiveness of a program, its alignment with industry requirements, and the level of pleasure experienced by students.

The study concluded that career objectives in the aviation industry are shaped by a combination of economic, social, and technological variables. The selection of a program is heavily influenced by economic stability and financial concerns, including return on investment (ROI) and personal assessment of monetary value. This highlights the crucial role that economic factors play in decision-making. Various social factors, such as the influence of one's family, the perceived quality of education, and the ability to adapt to changes in the sector, have a considerable impact on one's professional goals and choices. The rapid progress of technology requires individuals to have a high level of skill and expertise, emphasizing the significance of keeping up to date with digital technologies and automation in aviation professions. Personal preferences and goals, influenced by advantages, opportunities, and personal satisfaction, also have a significant impact, further influenced by the PESTEL framework, which emphasizes the significance of external factors beyond individual

preferences in shaping career paths within the aviation industry.

Recommendations

Based on the results of this research study, the following recommendations were made:

Further investigation should focus on the intricate relationship between technological, economic, and social elements that were revealed in this study, to better understand the decision-making process when selecting between aviation technical schools and pilot training. Examining the influence of aircraft technological improvements and the growing intricacy of contemporary aircraft on learners' choices could yield significant information. Furthermore, investigating the impact of economic incentives, such as employment prospects and monetary rewards, on the attraction of students towards technical degrees would deepen our comprehension of these decisions. Furthermore, an analysis of the social dynamics, such as the impact of parental guidance, peer engagement, and the perceived status of various aviation professions, could provide insights into how these elements influence career choices. Implementing this diverse approach will enhance our understanding of the underlying reasons for learners' preferences and provide valuable insights for developing effective methods to attract and retain talented individuals in aviation technical and pilot training programs.

To improve the thoroughness and relevance of this research, it is advisable to broaden the demographic range of the study by include a more varied group of participants, with a specific emphasis on mature students and females. This will mitigate the existing constraints pertaining to gender and age, so facilitating a more comprehensive comprehension of the decision-making mechanisms across diverse demographic groups. Furthermore, conducting an examination of the obstacles that hinder access to advanced education and their influence on career decisions within the aviation sector might provide significant knowledge. This entails analyzing the impact of personal experiences, societal expectations, and educational backgrounds on career choices, thereby providing a comprehensive perspective on the elements that shape career paths in aviation. An inclusive approach would improve the study's relevance and usefulness for

policymakers and educational institutions seeking to serve a wide variety of aspiring aviation professionals. According to this study, it is advised that future research investigates more into the interaction of the identified PESTEL variables - social, legal, economic, and technical - with a specific emphasis on understanding how each aspect individually impacts decision-making in aviation education. Considering the notable importance of technology improvements and technical curriculum components in promoting program growth and influencing student decisions, it is necessary to conduct a focused examination of emerging technologies and their incorporation into aviation training programs. Furthermore, conducting an examination of the influence of societal attitudes and the caliber of education on career congruence, in conjunction with a comprehensive evaluation of legal safety protocols and economic factors such as expenses and potential earnings, would yield a comprehensive comprehension of the incentives for opting for technical aviation programs instead of pilot training. This comprehensive approach can provide educational institutions and policymakers with more accurate information to develop customized plans that effectively meet the diverse needs and preferences of potential aviation students.

The research findings suggested that future studies should examine how social networks, digital technology, and economic aspects influence students' decision-making process while choosing between aviation technical schools and pilot training. The focus should be on the impact of personal and professional networks, as well as platforms such as Google, on the process of acquiring information and making decisions. In addition, it is necessary to conduct more study to examine the influence of emerging technologies, such as artificial intelligence (AI), on program reputation and integrity in the field of education. An extensive examination of the impact of employment possibilities, program location, financial sustainability, and long-term benefits on student happiness and program competitiveness will offer valuable insights for aligning aviation education with industry demands.

This research suggested that further investigation should be conducted to understand how economic, social, and technological factors influence career

decisions in the aviation industry. Future research should focus on investigating the influence of economic stability and financial factors, such as return on investment (ROI), on the choice of programs among prospective aviation professionals. Examining the impact of social factors, such as familial expectations and views of school quality, on job decisions would enhance comprehension. Furthermore, considering the swift progress in aviation technology, it would be beneficial to investigate the impact of technological expertise and flexibility on career ambitions and decision-making. Expanding the analysis to include a wider variety of individual preferences and ambitions, while including external environmental factors (PESTEL), could offer a full understanding of the factors influencing career trajectories in the aviation industry. These insights would provide practical consequences for educational institutions, policymakers, and industry stakeholders who want to encourage and attract talent in the aviation sector.

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