Determining Factors Affecting Perceived Airline Preference Among Filipinos: An Integration of SERVQUAL and Rational Choice Theories

Gionas D. Camarillo[1], Sophia Ann E. Lacson[1], Christopher S. Que[1]
Ven Yshee B. Velasquez[1], and Yoshiki B. Kurata[1,2,3]
[1]Department of Industrial Engineering, Faculty of Engineering
University of Santo Tomas
Manila, Philippines
[2]Research Center for Social Sciences and Education
University of Santo Tomas, Manila
Philippines
[3]Management Engineering Program Cluster, Graduate School
University of Santo Tomas, Manila
Philippines
gionas.camarillo.eng@ust.edu.ph, sophiaann.lacson.eng@ust.edu.ph,
christopher.que.eng@ust.edu.ph,
venyshee.velasquez.eng@ust.edu.ph, ybkurata@ust.edu.ph

Abstract

The aviation sector in the Philippines offers various local and commercial airlines, with mainline, regional, and charter airlines operating in different sectors. This study discussed the research opportunity to determine the airline preferences among Filipinos in association with the SERVQUAL model and the Rational Choice Theory. The variables conceptualized in relation to Airline Preferences show the independent variables derived from the Rational Choice theory, namely Customer Lifestyle, Flight Comfort, and Flight (airline) Safety. Partial Least Squares - Structural Equation Modelling (PLS-SEM) was used to assess the structural importance of independent variables in relation to dependent variables. 625 Filipinos were gathered to assess these factors, with the respondents being Filipino citizens, at least 18 years old, and having traveled through air transportation at least once in their lifetime. Having 622 valid responses out of 625, results showed that in the SERVQUAL model, Customer Satisfaction is the most significant factor in Filipinos' perceived airline preference, while for the Rational Choice Theory, it was found that Customer Lifestyle had the strongest influence on Resource Allocation. Given these, it was recommended that airlines should prioritize improving their overall service quality and focus on aligning their services and marketing strategies to different lifestyle preferences.

Keywords
Air Transportation, Commercial Airlines, Tourism, Satisfaction, Partial Least Square - Structural Equation Method (PLS-SEM)

1. Introduction

The tourism industry has been transformed as a result of the availability of air travel, which has made it easier and more affordable for tourists to travel to destinations. Air travel contributes significantly to the economy's expansion and gives passengers a more efficient way to travel long distances across national and international borders (Tiwari et al. 2019). Individuals, businesses, and nations all over the world are brought together through the medium of air travel, which acts as a fundamental link. In the Philippines, travelers have several options for commercial airlines to board domestically and internationally. Despite significant competition in local and international airline services, the stated airlines lead the market through differences in their service quality. Examining the periods from 2018 to 2023, flight operational statistics have entailed the gradual return of normal operations since the COVID-19 pandemic in airlines in 2022. This calls for a significant increase in the pressure for airline services to keep pace with the demand, along with maintaining service quality for customers. Studying the factors that impact Filipinos' airline preferences requires analyzing many components that address their demands, preferences, and circumstances.

The airline sector must thoroughly study and capitalize on the relevance of service quality to consumer preference, as it significantly impacts their business stability and consumer loyalty (Caiga et al. 2018). Although these airlines are frequently promoted as inexpensive to engage more purchases, it is equally essential to equate or surpass the service value offered to gain repeat buyers. Filipino airline preferences are influenced by various factors, and each establishment emphasizes individual factors in its business. Philippine Airlines, the oldest airline in Asia, focuses on providing excellent customer service to enhance passenger perception (Margarita et al. 2023). Meanwhile, flight attendants in the Philippines stress the importance of courses like Risk Management and Global Culture for enhancing service quality (Paguinto et al. 2023). With these several variables coming into play in consumers' airline preferences, it is essential to study which factors are significant to Filipino consumers.

The Philippine airline industry has faced significant financial challenges in recent years. Philippine Airlines (PAL) suffered massive losses of P73 billion in 2020 and P16.6 billion in the first half of 2021, while Cebu Pacific lost P20.8 billion in 2020 and P13.8 billion in early 2021 (Masigan 2021). Unlike international counterparts, the Philippine government did not provide financial aid to struggling airlines, forcing them to rely on internal resources. To recover, airlines increase ticket prices, with full financial recovery projected by 2025. Despite these difficulties, the industry expects a passenger surge, with an estimated 2.5 billion annual travelers in the region by the mid-2030s (Betia et al. 2023). Post-pandemic demand has overwhelmed Philippine airports, which currently serve 50 million passengers despite a 32 million capacity (Department of Transportation 2023). The rise of low-cost carriers has fueled demand and intensified competition. Airlines like PAL and Cebu Pacific continue optimizing operations while balancing profitability. Pricing strategies such as promotions attract more passengers, yet competition remains fierce. However, market fluctuations make long-term profitability uncertain. Studying consumer preferences could help airlines refine strategies, optimize operations, and remain competitive in a dynamic industry.

1.1 Objectives

This study aims to identify the statistically significant factors influencing airline preference among Filipinos in deciding which airline to choose, depending on what factors weigh most through Structural Equation Modeling (SEM) and incorporating behavioral theories such as SERVQUAL and Rational Choice Theory. This study aspires to recommend utilizing the knowledge acquired from this study to improve airline services and aid in satisfying passenger expectations and experiences.

2. Literature Review

The airline industry has undergone significant changes over the years, influenced by various factors that affect consumer preferences and behaviors. Understanding these factors is crucial for airlines to effectively enhance their services and meet customer expectations. Segmentation is a critical aspect of understanding customer preferences in the airline industry. It involves categorizing customers into distinct groups based on their characteristics and behaviors, allowing the airline to tailor their services accordingly (Hoenig 2025). This approach helps identify target markets and develop strategies that cater to the specific needs of different customer segments.

Applying the SERVQUAL model has been instrumental in assessing service quality in the airline sector. This model, developed by Parasuraman et al. (1988), evaluates service quality based on five dimensions: Reliability,

Responsiveness, Assurance, Tangibles, and Empathy. Research has shown that these dimensions significantly influence customer satisfaction and loyalty in the airline industry (Namupala 2019). Airlines can identify gaps between customer expectations and perceptions by understanding these dimensions, leading to improved service delivery. Rational Choice Theory also plays a vital role in understanding airline preferences. According to this theory, consumers decide by weighing available alternatives' costs and benefits (Li et al. 2022). In the context of airline travel, factors such as ticket prices, flight schedules, and service quality are critical in shaping consumer choices. This theory provides insights into how passengers prioritize airline service aspects based on their preferences and constraints.

Recent studies have highlighted the importance of incorporating behavioral theories into airline marketing strategies. For instance, research by Sun et al. (2024) emphasizes the need for airlines to understand the psychological factors that influence consumer decision-making. By leveraging insights from behavioral economics, airlines can develop more effective marketing strategies that resonate with their target audience. The literature indicates that a comprehensive understanding of customer preferences, service quality dimensions, and behavioral theories is essential for airlines to enhance their competitiveness and improve passenger satisfaction. Future research should continue to explore these areas to provide actionable insights for airline operators.

3. Methods

This study integrates SERVQUAL and Rational Choice Theory to provide a comprehensive understanding of consumer behavior and decision-making, particularly in the context of airline services. SERVQUAL assesses service quality dimensions that influence passenger satisfaction and airline preference. The Rational Choice Theory explains how travelers make decisions based on a cost-and-benefit analysis. The study utilized Partial Least Squares- Structural Equation Modelling (PLS-SEM) to assess the purpose of the importance of independent variables in relation to the dependent variables. As for the sample size for this study with the utilization of PLS-SEM, Hair et al. (2022) discussed the proposed method of Kock and Hadaya (2018) in computing the sample size for the said approach, which is the inverse square root method, as shown in Table 1. This method assumes a common power level of 80% and uses *Pmin*, which represents the path coefficient in PLS-SEM in computing for the minimum sample size. Presented below are the standard computed sample sizes for significance levels of 1%, 5%, and 10%:

Table 1. Suggested minimum sample size based on the inverse square root method

Pmin	Significance Level		
	1%	5%	10%
0.05 - 0.1	1004	619	451
0.11 - 0.2	251	155	113
0.21 - 0.3	112	69	51
0.31 - 0.4	63	39	29
0.41 - 0.5	41	25	19

Source: (Hair et al. 2022)

Assuming a *Pmin* range of 0.05 - 0.1 for the study, with a 5% significance level, the suggested minimum sample size for a study using the PLS-SEM approach is 619.

4. Data Collection

The study surveyed at least 619 respondents who satisfied the following criteria: (1) must be a Filipino citizen residing in the Philippines, (2) age must be at least a minimum of the consenting age for travel, which is 18 years old as of

May 2024, and (3) must have traveled through air transportation (regardless of choice of airline) at least once in their lifetime. Through the use of Google Forms, the study utilized a self-administered survey containing socio-demographic questions and 5-point Likert scales (1 - strongly disagree; 5 - strongly agree) to let the respondents rate all the measures under the twelve constructs. Meanwhile, to accommodate participants without digital access, printed questionnaires were also distributed for offline completion.

Partial Least Square - Structural Equation Modeling (PLS-SEM), which is an extension of the traditional SEM, was used. It is a multivariate statistical technique that has increased substantially during the past decades in all fields of social sciences, particularly business (Hair et al. 2019). As the complexity and number of constructs and structural relationships grow in multivariate modeling, there is also a growing necessity to deepen the understanding of the variables structure and their interconnections, such as in this study (Kurata et al. 2023; Kurata et al. 2022). Given this, SmartPLS, a comprehensive statistical tool, was used to analyze research results using the PLS-SEM method. This is because the software can also manage complex models with many variables and relationships, which might be challenging for other SEM techniques.

5. Results and Discussion

5.1 Numerical Results
A total of six hundred twenty-five (625) Filipino participants voluntarily participated in the study. Following the pre-determined criteria, only those who satisfied all three (3) respondent characteristics would be considered for statistical analysis. After assessing the respondents' profiles, 622 out of 625 were considered valid responses. The demographic analysis revealed that the majority (60.61%) were between 21-30 years old, indicating that younger adults are more active in air travel, possibly due to work, studies, or disposable income. In terms of gender distribution, 36.5% identified as male, while 63.5% identified as female, suggesting that women may have a higher participation rate in travel-related surveys or are more inclined to share travel experiences. Most participants resided in the National Capital Region (49.68%) and CALABARZON (32.32%), reflecting the concentration of economic activity and accessibility to major airports in these regions. Students comprised the largest group (60.45%), followed by employed individuals (23.95%), which could be a factor in the accessibility of the study's questionnaire. Air travel remained occasional for most, with 55.63% flying once a year and 34.41% traveling two to three times annually. Leisure (41.16%) and family vacations (37.78%) were the main reasons for travel, highlighting its role in relaxation and family bonding. Due to significant limitations of the study, such as accessibility, the demographics could be further explored in studies.

Table 2. Model Fit Indices

Parameters	Saturated Value	Estimated Value	Threshold	Suggested By
Standardized Root Mean Squared Error (SRMR)	0.067	0.073	≤0.08	(Hair et al. 2021)
Normal Fit Index (NFI)	0.796	0.791	≥ 0.70	(Yusif et al. 2020)

Table 2 shows the following parameters that present the results for the model's fit. Analysts should assess the fit of their originally specified model. Assessing the fit of a mode with a saturated structural model can serve as a useful intermediate step in model fit assessment to localize potential sources of misfit (Schuberth et al. 2022). Standardized Root Mean Squared Residual (SRMR) and the Normal Fit Index (NFI) values thus follow the saturated structural model results. An SRMR value of 0.067 indicates a model fit since the value is below 0.08 (Hair et al. 2021). Furthermore, according to Bentler (1990), the NFI value should be greater than or equal to 0.9 for a fit model. Because the NFI value is 0.796, it is still acceptable, and it will still have room for improvement (Yusif et al. 2020). Regardless,

in the context of exploratory research using PLS-SEM, these metrics are secondary to the model's ability to generate useful insights and predictions about relationships in the data (Ringle et al. 2024).
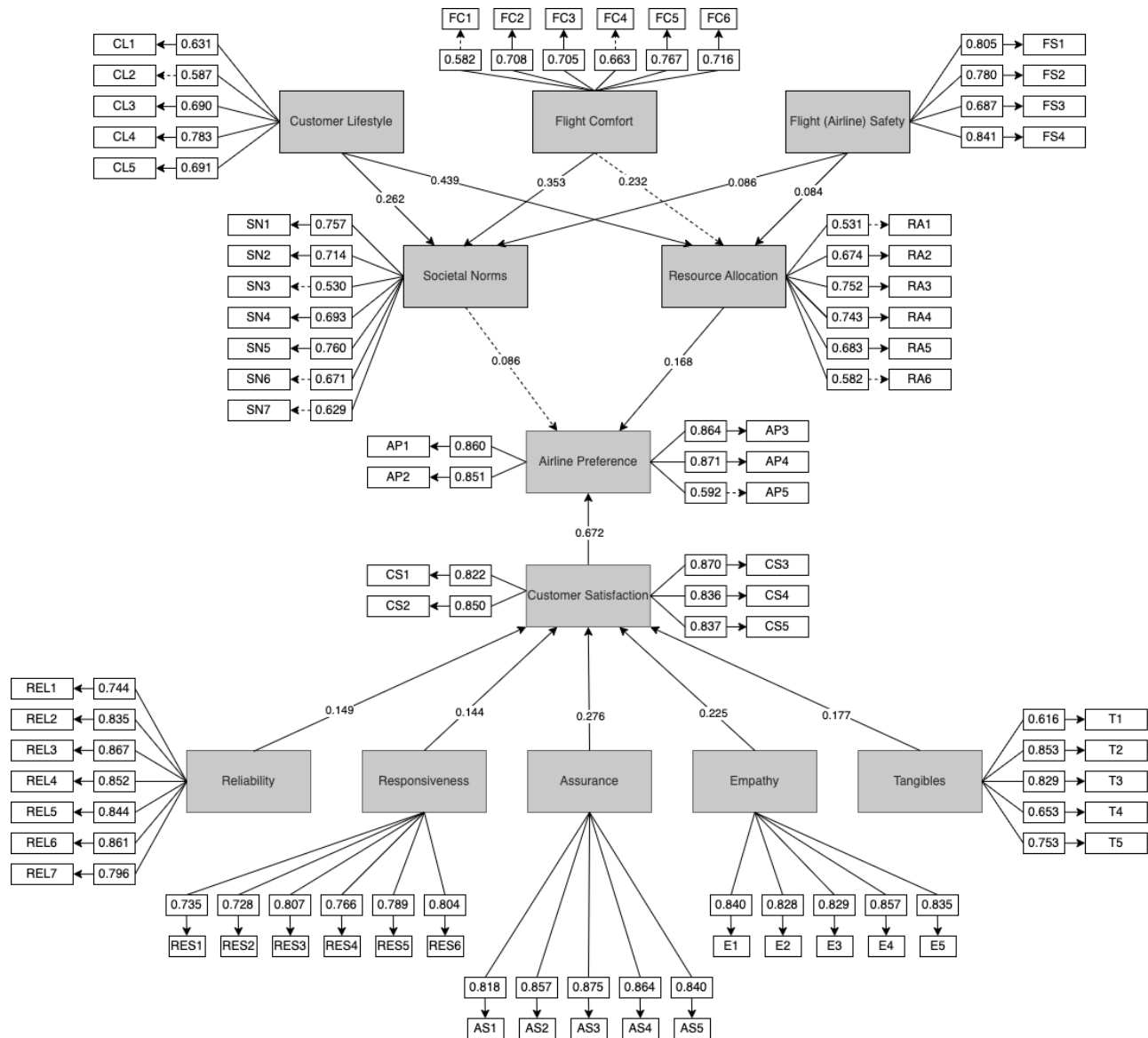
5.2 Graphical Results

Figure 1. Initial SEM with Indicators for Factors Affecting
Perceived Airline Preference Among Filipinos

Figure 1 shows the initial SEM model for factors affecting perceived airline preference among Filipinos, connecting them to the formulated constructs based on the literature review. Upon uploading the data from the survey, SmartPLS automatically generates the loading factors (also referred to as outer loadings) of each latent variable. Loading factors are the bivariate correlations between a construct and the indicators. They determine an item's absolute contributions to its assigned constructs (Hair, 2021). To be valid in measuring the construct, the ideal loading factor should be greater than 0.7 while loading factors between 0.5 and 0.7 are still considered acceptable in other empirical studies.

This means that loading factors less than 0.5 must be removed from the model (Purwento & Sudargini, 2021). However, loading factors also affect the convergent validity. Thus, even if the initial results had no values less than 0.5, the researchers removed the item that had the lowest loading factor, which is item SN3, which had 0.530. The removal of items with the lowest loading factor was continuously done until the convergent validity, measured by the average variance extracted (AVE), improved. Further utilizing the SmartPLS software, bootstrapping was used to identify that two (2) hypotheses were insignificant because their p-values were above the threshold of 0.05: Hypothesis four (H4), how a person perceives flight comfort has a significant effect on how they allocate their resources, and hypothesis seven (H7), societal norms have a significant effect on how people choose an airline.

Figure 2. Final SEM for Factors Affecting
Perceived Airline Preference Among Filipinos

To improve the overall framework, the researchers refined the model by eliminating specific constructs from several latent variables, including Customer Lifestyle, Flight Comfort, Societal Norms, Resource Allocation, and Perceived Airline. Thus, Figure 2 illustrates the final SEM model for the factors affecting perceived airline preference among Filipinos, indicating no significant relationship between Societal Norms and Airline Preferences, as well as implying

that Flight Comfort is insignificant to Resource Allocation factors. Moreover, it can be seen that the five (5) SERVQUAL characteristics remain intact and show strong relationships with Airline Preferences.

5.3 Proposed Improvements

Multi-group analysis (MGA) in Structural Equation Modelling could be beneficial for future studies on determining the factors affecting perceived airline preferences among Filipinos. This allows researchers to compare structural paths across demographics such as age, income, and flying frequency. Deeper insights into decision-making may be obtained by expanding the scope by incorporating emotional and psychological aspects such as fear of flying, emotional loyalty, or post-trip emotions. Further studies could potentially focus on understanding preferences based on different business models of airlines (low-cost airlines or premium services). Predetermined criteria for having flown by air at least once may have influenced the insignificance of Societal Norms in the preference for airline choice. Future research could explore Societal Norms with the consideration of first-time flyers to further understand and appreciate its overall effect. Incorporating qualitative data could enrich survey findings by allowing participants to express their personal stories, which were difficult to capture using standard survey questionnaires. Such data may explain why other factors like Flight Comfort and Societal Norms were found to be insignificant in influencing Filipinos' perceived airline preferences, thereby providing a deeper understanding of Filipino culture, values, and mindsets.

5.4 Validation

Table 3. Heterotrait-Monotrait Ratio

	AP	A	CL	CS	E	FS	FC	REL	RA	RES	SN	T
AP	**0.878**											
A	0.739	**0.851**										
CL	0.459	0.486	**0.719**									
CS	0.792	0.811	0.459	**0.843**								
E	0.723	0.78	0.456	0.794	**0.838**							
FS	0.657	0.689	0.504	0.687	0.646	**0.780**						
FC	0.645	0.657	0.504	0.662	0.626	0.748	**0.808**					
REL	0.745	0.799	0.447	0.782	0.775	0.734	0.716	**0.830**				
RA	0.489	0.467	0.603	0.457	0.422	0.498	0.456	0.472	**0.733**			
RES	0.723	0.772	0.496	0.766	0.748	0.634	0.616	0.761	0.516	**0.772**		
SN	0.465	0.447	0.49	0.495	0.451	0.51	0.489	0.485	0.567	0.542	**0.766**	
T	0.745	0.73	0.516	0.756	0.738	0.661	0.677	0.73	0.493	0.72	0.487	**0.747**

To validate the model, the researchers utilized the Heterotrait-Monotrait Ratio (HTMT) criterion to assess discriminant validity, as shown in Table 3. The purpose of the assessment is to check and compare if a reflective construct shows

stronger relationships with its own indicators as opposed to other constructs in the PLS path model (Hair et al. 2022). According to the journal of Hair et al. (2018) on PLS-SEM evaluation, Henseler et al. (2015) recommend a threshold value of 0.90 for highly similar constructs (e.g., cognitive, affective satisfaction, loyalty). For more distinct constructs, a more stringent threshold of 0.85 is suggested. According to SmartPLS guidelines (2022), the Heterotrait-Monotrait Ratio of Correlations (HTMT) should not exceed 0.90 to confirm the discriminant validity between the two measured constructs. In this study, the obtained HTMT values were below the 0.90 threshold, confirming the model's strong discriminant validity.

Table 4. Convergent Validity and Composite Reliability

	Cronbach's Alpha (A)	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Airline Preference (AP)	0.901	9.901	0.931	0.771
Assurance (A)	0.905	0.906	0.929	0.724
Customer Lifestyle (CL)	0.684	0.702	0.809	0.517
Customer Satisfaction (CS)	0.898	0.899	0.925	0.711
Empathy (E)	0.894	0.894	0.922	0.702
Flight (Airline) Safety (FS)	0.784	0.796	0.861	0.609
Flight Comfort (FC)	0.819	0.817	0.881	0.651
Reliability (REL)	0.924	0.926	0.939	0.688
Resource Allocation (RA)	0.712	0.716	0.822	0.537
Responsiveness (RES)	0.865	0.870	0.898	0.596
Societal Norms (SN)	0.768	0.786	0.849	0.585
Tangibles (T)	0.803	0.847	0.861	0.557

The study's validity was further assessed using the average variance extracted (AVE), while the study's reliability was evaluated using Cronbach's alpha (A) and composite reliability (CR). As seen in Table 4, all of the AVE values were above the threshold of 0.50, which indicates that most of the indicators' variance is attributed to their construct rather than to random error (Dash and Paul, 2021). Thus, this supports the validity of all the constructs used to represent the model and measure the factors affecting perceived airline preference among Filipinos.

On the other hand, Cronbach's alpha measures the internal consistency reliability of indicators that assume equal loading factors. Given that all the values in Cronbach's alpha (except for customer lifestyle) in Table 4 were above the general rule of thumb of 0.70, this suggests that the indicators are equally reliable. For customer lifestyle, despite being below 0.70, according to Hair (2019), it is still considered acceptable in exploratory research. Meanwhile, composite reliability was evaluated to provide a more precise estimation of indicators' reliability. Unlike Cronbach's alpha, composite reliability measures the internal consistency reliability, assuming that the indicators' loading factors are not equal. Rather, it uses the actual final loading factors presented in Table 2. Given that all the values were also greater than the threshold of 0.70, it suggests that the indicators were indeed reliable (Hair, 2021). Given that the

indicators and constructs used in the study were proven valid and reliable, such extensive analyses have become a cornerstone for ensuring the credibility of the research findings.

6. Conclusion

Philippine Airlines carried 11 million passengers by the end of September. This was more than the 6.4 million passengers in the same period last year and the 9.3 million passengers for the whole of 2022. Meanwhile, Cebu Pacific saw its passenger volume shoot up by 48.8 percent to 15.5 million (Piad 2023). With the gradual return of operations in airlines and given these increases in demand as well as the forecasted increase in revenue, airlines have incorporated several strategies to accommodate these. However, there is no assurance that these will become effective, given the fluctuation in the market. Using Structural Equation Modeling (SEM) in SmartPLS, results from 622 respondents revealed that Customer Satisfaction (ß = 0.718, p = 0.000) is the strongest determinant of airline preference, suggesting that Filipino airline passengers are more likely to choose an airline that guarantees safety and transparency. Assurance (ß = 0.276, p = 0.000) primarily drives satisfaction, indicating that courteous service influences Filipino travelers. Under Rational Choice Theory, Resource Allocation (ß = 0.160, p = 0.000) is the strongest factor in airline preference, mainly driven by Customer Lifestyle (ß = 0.472, p = 0.000). Insignificant relationships were found between Flight Comfort and Resource Allocation (p = 0.227) and Societal Norms and Airline Preference (p = 0.343).

This study provides further discussion and data specific to the Philippines since most available literature on this topic is outdated, requires updates in data and literature, and is mainly global in scope. The integration of the Rational Choice Theory and SERVQUAL presents a unique perspective on how individuals go about their approach regarding airline preference. The study emphasizes service quality using the SERVQUAL Model, highlighting Filipinos' preference for airlines prioritizing safety, transparency, and customer service. Philippine Airlines' drop in Skytrax rankings signals the need for improvements, while competitors like Singapore Airlines and Qatar Airways excel through service excellence and strategic partnerships. Under the Rational Choice Theory, Filipino passengers value loyalty programs and sustainability-driven services.

The liberalization of the Philippine air transport industry improved competition, reduced fares, and enhanced service, with technological advancements playing a key role. Philippine Airlines' mobile app demonstrates the impact of digital transformation on engagement and sales. It is recommended that airlines integrate digital solutions further to enhance customer experience and operational efficiency. Customer satisfaction, driven by assurance, is the strongest factor influencing airline preference. Airlines should enhance interactive safety briefings and cultural training while offering personalized services and lifestyle-based packages. Marketing should emphasize functional benefits rather than prioritizing societal norm factors. Future studies are recommended to explore demographic-specific insights, emotional influences, and qualitative perspectives. These strategies can strengthen airline competitiveness and align services with evolving passenger expectations for long-term industry success.

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Biographies

Gionas D. Camarillo, **Sophia Ann E. Lacson, Christoper S. Que, and Ven Yshee B. Velasquez** are currently fourth (4th) year undergraduate students taking up a Bachelor of Science in Industrial Engineering at the University of Santo Tomas, Manila.

Yoshiki B. Kurata is a Certified Industrial Engineering (CIE) awarded by the Philippine Institute of Industrial Engineers (PIIE) and an Associate ASEAN Engineer (AAE) awarded by the ASEAN Federation of Engineering Organizations. Currently, he is an instructor in the Department of Industrial Engineering at the University of Santo Tomas, Manila. He earned his B.S. in Industrial Engineering from the University of Santo Tomas, Manila, Philippines, Master of Science in Industrial Engineering from the University of the Philippines Diliman, Quezon City, Philippines, and Doctor of Philosophy in Industrial Engineering in Mapua University. He has published several journal and conference papers in human factors and ergonomics, production optimization, operations research, and service system operations. His research interests include ergonomics, production systems, technopreneurship, and service science.