The Mediating Role of Marketing Innovation in Linking Airline Service Factors and Purchase Intention among Elderly airline passengers in the Next Normal Era

Prachayapachara Wan-uta[1*]

Received 22 March 2026 Revised 25 May 2026 Accepted 31 May 2026

Abstract

This study examines how marketing innovation in the airline industry mediates the relationship between service factors in airline services and purchase intention in airline services among elderly airline passengers in the Next Normal era. Elderly passengers have become an important group in the aviation industry. However, there is still limited empirical evidence explaining how service attributes are linked to behavioral intention through innovation. A quantitative approach was employed using purposive sampling to collect data from 400 Thai passengers aged 60 years and above at Suvarnabhumi International Airport. Structural Equation Modeling (SEM) was applied to analyze the proposed relationships. The findings revealed that service factors significantly influenced marketing innovation ($\beta = 0.907$, $p < 0.001$), while marketing innovation significantly affected purchase intention ($\beta = 0.926$, $p < 0.001$). Bootstrapping analysis further confirmed that marketing innovation fully mediated the relationship between service factors and purchase intention. The results suggest that airlines should move beyond traditional service quality by transforming service attributes into innovation-driven experiences through user-friendly digital services, simplified procedures, and supportive service environments for elderly passenger.

Keywords: Marketing Innovation, Airline Services, Elderly Airline Passengers, Purchase Intention, Structural Equation Modeling

[1]Lecturer, College of Management Innovation, Valaya Alongkorn Rajabhat University under the Royal Patronage, Thailand,
*Corresponding author email: prachayapachara@vru.ac.th

Introduction

In the aftermath of the COVID-19 pandemic, the aviation industry has experienced considerable changes under what is commonly described as the “Next Normal” era. Within this evolving context, passengers have become increasingly attentive to issues related to safety, service reliability, and the accessibility of services through digital platforms and technologies (Graham et al., 2023). Concurrently, many countries worldwide are confronting a rapid demographic transition characterized by a growing elderly population. The World Health Organization (2022) projected that the global population aged 60 years and above will double by 2050. Elderly passengers have become an important segment in the aviation market because of the continuous growth of the ageing population. In Thailand, people aged 60 years and above now represent more than 20% of the population, meaning that the country has already entered an aging society (Department of Older Persons, 2024). This situation gives airlines an opportunity to develop services for elderly travelers, while also requiring them to improve service design, accessibility, and passenger support.

Compared with younger passengers, elderly passengers often have different concerns during travel. Some may experience physical limitations, while others may not feel confident using digital systems and self-service technologies. Safety and service reliability are also important concerns among elderly passengers (Chang & Chen, 2012). Previous studies reported that elderly passengers usually prefer convenience, clear communication, and supportive service environments throughout their journey (Graham et al., 2023; Jaktong et al., 2024). In addition, factors such as reliability, responsiveness, and physical surroundings influence passenger perceptions and travel decisions in airline services (Wan-uta et al., 2012; Tangsritanawong, 2015). These findings indicate that service- related factors continue to influence passenger behavior in the aviation industry.

At the same time, developments in digital technology and service design have increased the importance of marketing innovation in the airline industry. Marketing innovation in the airline industry refers to the use of new approaches in service delivery, communication, and customer engagement (Chen et al., 2015). Earlier studies suggested that innovation can improve perceived value and customer satisfaction, especially in airport environments where passengers interact with different services and technologies (Balcerzak & Nielek, 2017). Li and Jeon (2023) also reported that innovation-related perceptions may mediate the relationship between service factors and behavioral intention. This means that passengers may not respond directly to service features unless those services are viewed as innovative and valuable.

Although previous studies have extensively examined service quality and passenger behavior within the airline industry, limited attention has been given to the mediating role of

marketing innovation in the airline industry, particularly among elderly passengers in the post-pandemic context. Most previous studies have explained passenger behavior by focusing on the direct effect of service quality on behavioral outcomes. However, fewer studies have examined how service-related factors may influence passenger decisions through innovation mechanisms. This gap is important in the context of elderly passengers. When making travel decisions, they may depend more on innovation-oriented services that help make the travel process clearer, more accessible, and less uncertain. Such services can also strengthen their confidence throughout the journey.

To address this gap, the present study examines the mediating role of marketing innovation in the relationship between service factors and purchase intention among elderly passengers in the Next Normal era. The study focuses on passengers aged 60 years and above who have used airline services at Suvarnabhumi International Airport. Structural Equation Modeling or SEM was applied to analyze the relationships among service factors, marketing innovation in the airline industry, and purchase intention.

This study may provide contributions to both research and practical airline operations. The findings explain how marketing innovation helps connect service factors with purchase intention. For airlines, the results may be useful in designing innovative service strategies that better respond to the needs of elderly passengers in the Next Normal era.

Research Objectives

1) To examine the influence of service factors on marketing innovation among elderly passengers.

2) To investigate the effect of marketing innovation on purchase intention among elderly passengers.

3) To examine the mediating role of marketing innovation in the relationship between service factors and purchase intention among elderly passengers.

Literature review

Service Factors in Airline Services

Service factors refer to the operational, technological, and experiential elements that affect how passengers perceive airline service quality during their journeys. These factors include service procedures, communication systems, technological support, previous travel experience, and passenger attitudes and motivations (Chang & Chen, 2012; Graham et al., 2023). In the aviation

industry, these service factors are important because of the basis of service quality. Service factors cover practical aspects such as punctuality, efficiency, and reliability, as well as experiential aspects such as comfort, reassurance, and support from staff. These elements influence how passengers understand and evaluate their overall airline service experience.

Service factors can also be understood through the SERVQUAL model, which consists of five dimensions: reliability, responsiveness, assurance, empathy, and tangibility (Parasuraman et al., 1988). Even though SERVQUAL was first designed for general service industries, many airline studies have used the model to explain passenger evaluations of airline services (Park et al., 2006). In addition, service-dominant logic suggests that service value comes from interactions between organizations and customers, not only from the service itself (Vargo & Lusch, 2008). This perspective fits the airline industry because passengers interact with airline services at multiple stages of the journey.

Recent technological developments have increased the complexity of airline service factors. Airlines now apply technologies such as mobile applications, self-service kiosks, contactless systems, and integrated information technologies to improve service quality and passenger convenience (Chen et al., 2015; Graham et al., 2023). Therefore, airline service quality is no longer based only on face-to-face interaction but also on digital and innovation-oriented services. Oliveira et al. (2023) further explained that passengers evaluate service quality through both actual service performance and psychological factors, including stress, uncertainty, and previous travel experience. These conditions are common in airport environments, where passengers experience time pressure and interact with multiple service systems.

Service factors play an important role in airline services for elderly passengers. Many elderly travelers may have limited mobility, less experience with digital technology, and greater concern about uncertainty or risk (Chang & Chen, 2012). Previous studies showed that elderly passengers usually value safety, accessibility, clear communication, and personal assistance more than younger passengers (Graham et al., 2023; Jaktong et al., 2024). Chang and Chen (2012) found that elderly passengers respond positively to service systems that are simple and reassuring. In the same way, Graham et al. (2023) reported that convenient procedures and easy navigation help improve travel confidence, while complicated systems and unclear information may increase passenger anxiety.

Within the Thai context, empirical evidence also supports the importance of service factors in airline services in shaping airline-related behavior among elderly passengers. Jaktong et al. (2024) found that safety, comfort, punctuality, and staff attentiveness significantly influence elderly passengers' service decisions. Likewise, Raviyan and Somsuk (2018) and Wan-uta et al. (2012) showed that airline image, service quality, and personnel-related factors strongly affect

passenger behavior and airline selection. These findings suggest that service factors in airline services are not only operational attributes but also psychological mechanisms that shape trust, confidence, and perceived value among passengers. Recent studies further suggest that service factors in airline services may not directly influence behavioral intention. Instead, their effects may operate indirectly through mediating variables such as perceived value, customer satisfaction, or innovation (Li & Jeon, 2023; Chotpanich, 2018). This means that passengers respond not only to service attributes themselves but also to the meanings and experiences created from those attributes. For elderly passengers in particular, this interpretive process is important because they often rely on service- related cues to reduce uncertainty and strengthen confidence when making travel decisions.

In this study, service factors in airline services are conceptualized as a multidimensional construct consisting of five dimensions: Context, Technology, and Infrastructure (CTI); Service Process and Communication (SPC); Learning and Prior Experience (LPE); Attitude and Perception toward Airlines (APA); and Travel Needs and Motivation (TNM). These dimensions collectively represent both external service environments and internal passenger characteristics, thereby capturing the major service-related influences affecting elderly passengers' perceptions and decision- making processes.

Overall, service factors in airline services can be viewed as essential elements of airline services that shape how passengers perceive, interpret, and evaluate their travel experiences. However, in the Next Normal era, where safety concerns and technology adoption have become increasingly significant, service factors in airline services alone may no longer be sufficient to directly influence behavioral intention. Instead, these factors need to be transformed into innovation-oriented experiences that enhance perceived value and strengthen confidence among elderly passengers. Therefore, this study proposes that service factors in airline services significantly influence marketing innovation in the airline industry, which subsequently affects purchase intention in airline services among elderly airline passengers.

Marketing Innovation in the Airline Industry

Marketing innovation refers to the use of new marketing approaches to improve how airlines deliver services, communicate with passengers, design pricing strategies, engage customers, and develop service experiences. In the aviation context, marketing innovation is broader than advertising or promotional activities. It also covers the use of digital technologies, the redesign of service processes, and better interaction with passengers at different service touchpoints (Chen et al., 2015). This reflects a shift from transaction-based marketing toward an experience-oriented and value-driven approach. In this context, innovation plays an important role in shaping how passengers understand, experience, and respond to airline services.

From a theoretical perspective, marketing innovation in the airline industry can be explained through the extended marketing mix framework, or the 7Ps, which includes product, price, place, promotion, people, process, and physical evidence (Kotler & Keller, 2016). This framework helps explain how service organizations create and deliver value to customers. However, each dimension may not be equally important in every service context. This point is especially relevant for vulnerable groups such as elderly airline passengers (Balcerzak & Nielek, 2017). Therefore, empirical investigation is needed to identify which dimensions of marketing innovation in the airline industry are most relevant to this study.

In the airline industry, marketing innovation in the airline industry has become more important because technology and passenger expectations have changed rapidly, especially after the COVID-19 pandemic. Airlines have introduced several innovations, including digital reservation systems, mobile applications, contactless services, personalized communication systems, and improved service environments (Graham et al., 2023; Chen et al., 2015). These innovations are intended to make travel more convenient, reduce uncertainty, and improve overall passenger experience. Covid-19 pandemic also accelerated the use of safety-oriented and technology-driven innovations, such as touchless check-in systems, health verification platforms, and real-time passenger information services (Pephenee et al., 2023).

For elderly airline passengers, marketing innovation is especially relevant. Those may have physical limitations, less experience with digital technologies, and greater concern about uncertainty or perceived risk (Chang & Chen, 2012). Therefore, innovations that make services easier to access, reduce complicated procedures, and provide clear communication can be useful for this passenger group. Balcerzak and Nielek (2017) found that elderly passengers are more likely to use digital technologies when the systems are simple, meaningful, and easy to understand. In a similar way, Oliveira et al. (2023) noted that passenger perceptions are affected by service environments that help reduce stress and build confidence, particularly in complex places such as airports.

Marketing innovation is important because its role goes beyond directly influencing behavioral outcomes. It can also mediate the relationship between service attributes and behavioral intention by shaping perceived value. Li and Jeon (2023) and Okan (2024) explained that innovation-related perceptions play an important mediating role between service-related attributes and customer behavioral intention in service settings. This means that passengers may not respond to service attributes alone. Instead, they are more likely to respond when those services are viewed as innovative, useful, and valuable. In this way, marketing innovation links service characteristics with passenger perceptions and behaviors.

This study applies the extended marketing mix framework to explain marketing innovation through three dimensions: product innovation (PD), physical evidence innovation (PH), and promotion innovation (PM). Product innovation includes new or improved service offerings, such as flexible ticketing systems and personalized travel services (Kotler & Keller, 2016). Physical evidence innovation focuses on improvements in the service environment, including facilities, cleanliness, signage, and atmosphere, which are important for elderly passengers during travel (Chang & Chen, 2012). Promotion innovation involves communication approaches such as digital marketing, personalized messages, and safety communication that help improve passenger confidence and awareness (Chen et al., 2015).

The selection of these 3 dimensions is supported by empirical evidence from this study, as they were found to be the most reliable and relevant indicators of marketing innovation in the airline industry. Although the broader 7Ps framework provides a strong theoretical basis, not all dimensions showed sufficient empirical validity and reliability in the statistical analysis. For this reason, only dimensions with strong factor loadings and clear theoretical relevance were retained to support construct validity and model stability. This approach is consistent with SEM, where constructs may be refined by considering both theory and empirical results (Hair et al., 2019). Overall, marketing innovation in the airline industry can be understood as a strategic mechanism that turns service attributes into perceived value and behavioral intention. In the context of elderly airline passengers in the Next Normal era, marketing innovation in the airline industry helps reduce uncertainty, improve accessibility, and strengthen passenger confidence in airline services. Accordingly, this study proposes that marketing innovation in the airline industry serves as an important mediating variable linking service factors in airline services to purchase intention, and provides a clearer explanation of elderly airline passengers' decision-making behavior in the aviation industry.

Purchase Intention in Airline Services

Purchase intention in airline services refers to passengers' willingness or possibility to use, repurchase, or recommend airline services in the future. It is generally considered an important indicator of actual consumer behavior (Ajzen, 1991). In the aviation context, purchase intention in airline services is influenced by how passengers judge service quality, perceived value, and their overall travel experience (Chiu et al., 2016). It may also be understood as the final stage of decision-making, where passengers' thoughts and feelings are turned into readiness for future action.

From a theoretical perspective, purchase intention in airline services can be explained through the Theory of Planned Behavior (TPB). According to this theory, behavioral intention is affected by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In airline

services, these factors are closely connected with passengers' views of service quality, reliability, and travel experience (Park et al., 2006). However, in a complex service context such as air travel, purchase intention is not formed only from direct evaluation of service attributes. Passengers also interpret these attributes and link them to perceived value and meaningful travel experiences.

In the airline industry, previous studies have shown that service-related factors can influence purchase intention. For example, Chiu et al. (2016) found that service quality affects passenger intention through perceived value and airline reputation. Wan-uta et al. (2012) and Tangsritanawong (2015) also reported that reliability, staff behavior, and the physical service environment play a role in airline selection decisions. These findings suggest that service factors in airline services provide an important basis for understanding passengers' future behavioral outcomes. However, recent evidence suggests that this relationship is not always direct. In many situations, service attributes need to be interpreted through perceptual and value-related factors before they become meaningful travel experiences (Li & Jeon, 2023). In this context, marketing innovation becomes an important mediating factor because it helps explain how service factors in airline services influence behavioral intention. Li and Jeon (2023) found that perceived innovativeness significantly mediates the relationship between service-related benefits and adoption intention. This means that passengers may not respond only to service performance, but also to whether the service is seen as innovative, useful, and value-enhancing.

This mediating role is particularly important for elderly airline passengers. Compared with younger travelers, elderly airline passengers often pay more attention to confidence, convenience, clarity, and ease of use when making travel decisions (Chang & Chen, 2012). They are also more sensitive to uncertainty and perceived risk. Therefore, accessible, supportive, and reassuring service environments are important for this group. Marketing innovation in the airline industry can help transform service factors in airline services into perceived value by simplifying service procedures, improving communication, and providing user-friendly service systems and interfaces (Balcerzak & Nielek, 2017; Oliveira et al., 2023). This can also be explained through Perceived Risk Theory proposed by Bauer (1960), which suggests that consumers try to reduce uncertainty and avoid possible negative outcomes when making purchase decisions. In airline services, perceived risk is important because services are intangible and involve uncertainty related to safety, technology use, and service procedures. Elderly airline passengers may therefore depend more on innovation-oriented services that improve accessibility, reassurance, clarity, and ease of use. These services can help reduce perceived risk and strengthen purchase intention. Therefore, although service factors in airline services provide the foundation for service delivery, they may not directly influence purchase intention in airline services unless passengers interpret them through innovation-driven experiences. For instance, a reliable service process may not

strongly affect passenger intention if it is not also seen as convenient, accessible, and responsive to passengers' expectations in the Next Normal era. From this perspective, marketing innovation in the airline industry acts as a value-conversion mechanism that links operational service attributes to behavioral outcomes.

Based on this reasoning, the relationships among the constructs in this study can be understood as a sequential process. Service factors in airline services influence marketing innovation in the airline industry by shaping how airline services are designed, delivered, and perceived by passengers. Marketing innovation in the airline industry then enhances perceived value, reduces uncertainty, and strengthens passenger confidence. These effects ultimately lead to higher purchase intention. Therefore, purchase intention in airline services is not only the result of service evaluation. It is also the outcome of how service factors in airline services are transformed into innovation-oriented service experiences.

In summary, purchase intention in airline services can be understood as the final behavioral outcome of a multi-stage process involving service evaluation, innovation perception, and psychological interpretation. In the context of elderly airline passengers in the Next Normal era, this process highlights the important role of marketing innovation as a mediating mechanism that translates service factors in airline services into behavioral intention and decision-making readiness.

Hypotheses Development

Based on the reviewed literature, this study proposes a conceptual framework to explain the relationships among in airline services, marketing innovation in the airline industry, and purchase intention in airline services among elderly airline passengers in the Next Normal era. This study does not assume that service attributes directly lead to behavioral outcomes. Instead, it applies a process-oriented view. In this view, service factors in airline services are transformed into perceived value and behavioral intention through innovation-driven mechanisms. Previous studies have shown that service-related attributes play an important role in shaping passengers' perceptions and travel experiences in the airline industry (Chang & Chen, 2012; Graham et al., 2023). Service factors, such as communication systems, service processes, infrastructure, and passenger support, are important foundations for creating value in airline services. However, in contemporary service environments, particularly during the post-pandemic and Next Normal era, service attributes alone may no longer be sufficient to directly influence behavioral intention. Passengers increasingly expect airline services to be innovative, meaningful, and responsive to changing travel conditions in order to enhance perceived value and customer engagement (Chen et al., 2015).

In this context, marketing innovation in the airline industry has emerged as an important mechanism that transforms service attributes into perceived value. Previous studies by Chen et al. (2015) and Balcerzak and Nielek (2017) reported that innovation in service design, communication, and customer interaction significantly enhances customer engagement and satisfaction. Furthermore, Li and Jeon (2023) found that perceived innovativeness plays a significant role in linking service-related benefits with adoption intention. These findings imply that improvements in communication systems, operational processes, and service environments contribute to passengers' perceptions of innovation. Therefore, service factors in airline services are expected to positively influence marketing innovation in the airline industry.

Accordingly, the following hypothesis is proposed:

H_1: Service factors have a significant positive effect on Marketing innovation in the airline industry.

In addition, marketing innovation in the airline industry has been widely recognized as an important determinant of behavioral outcomes within service industries. Innovation contributes to increased perceived value by reducing uncertainty, improving usability, and strengthening customer confidence, particularly in complex service environments such as airports (Oliveira et al., 2023). For elderly airline passengers, who are generally more sensitive to complexity, uncertainty, and perceived risk, innovation-oriented services play an especially important role in facilitating decision-making and enhancing behavioral intention (Chang & Chen, 2012). Therefore, marketing innovation is expected to positively influence purchase intention. Accordingly, the following hypothesis is proposed:

H_2: Marketing innovation has a significant positive effect on Purchase Intention in airline services.

Previous studies indicate that the relationship between service factors and behavioral intention may not occur in a direct way. In many cases, service-related attributes influence behavioral intention through passengers' perceptions of value, innovation, and service experiences (Li & Jeon, 2023; Okan, 2024). This process is especially relevant for elderly airline passengers. Service attributes are more likely to influence their travel-related decisions when they are perceived as accessible, supportive, convenient, and innovation-driven. Based on this reasoning, marketing innovation is expected to act as a mediating variable between service factors and purchase intention. In this role, it helps convert service attributes into behavioral outcomes by increasing perceived value and confidence. Accordingly, the following hypothesis is proposed:

H_3: Marketing innovation mediates the relationship between service factors and Purchase Intention.

Conceptual Framework

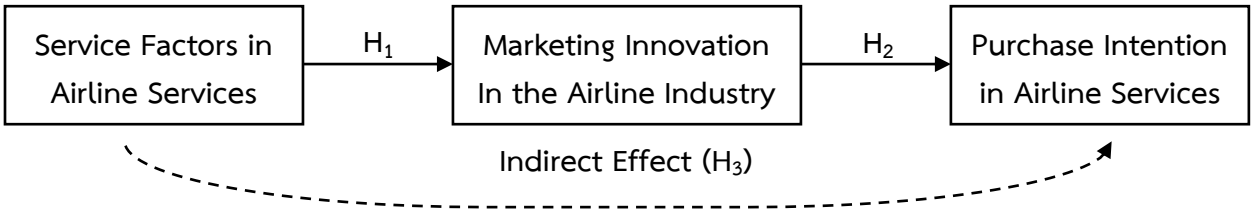

Figure 1: Conceptual Framework and Research Hypotheses

Figure 1 shows the conceptual framework used in this study. Service factors (SF) are defined through five dimensions: 1) Context, Technology, and Infrastructure (CTI), 2) Service Process and Communication (SPC), 3) Learning and Prior Experience (LPE), 4) Attitude and Perception toward Airlines (APA), and 5) Travel Needs and Motivation (TNM). These dimensions include service-related conditions and passenger-related characteristics. Combined, they help explain how elderly passengers evaluate airline services and make travel-related decisions.

Marketing innovation (MI) is evaluated through three primary dimensions: 1) Product Innovation (PD), 2) Physical Evidence Innovation (PH), and 3) Promotion Innovation (PM). These core elements isolate creative advancements within service offerings, physical terminal spaces, and communication channels respectively. These dimensions shows the mechanisms through which air carriers can enrich the passenger journey and unlock superior levels of consumer-perceived value. Positioned as the primary behavioral outcome, purchase intention (PI) captures the definitive willingness or likelihood of older individuals to patronize airline services in the future.

In the proposed framework, service factors in airline services are expected to influence marketing innovation in the airline industry. Marketing innovation is then expected to influence purchase intention in airline services. Therefore, marketing innovation in the airline industry is used as a mediating variable in this study. It helps explain how service-related attributes are transformed into perceived value and behavioral intention among elderly airline passengers in the Next Normal era.

Methodology

Research Design

This study used a quantitative research design. The purpose was to examine the relationships among service factors, marketing innovation, and purchase intention among elderly airline passengers in the Next Normal era. SEM was used to test the proposed framework and hypotheses. SEM was suitable for this study because it allows several relationships among latent variables to be analyzed in one model (Hair et al., 2019).

Population and Sample

The population of this study was Thai elderly airline passengers aged 60 years and above who had used airline services at Suvarnabhumi International Airport.

Purposive sampling was applied to select respondents who matched the study criteria. The sample consisted of 400 respondents. This number was considered appropriate for SEM analysis based on the recommendation of Hair et al. (2019). The researcher collected the data at Suvarnabhumi International Airport between January and February 2026.

Research Instrument

A structured questionnaire was used as the research instrument. It was developed from related literature and previous studies and covered three main constructs.

1) Service Factors (SF), adapted from Chang and Chen (2012), Graham et al. (2023), and Wan-uta et al. (2012)

2) Marketing Innovation (MI), adapted from Chen et al. (2015) and Kotler and Keller (2016)

3) Purchase Intention (PI), adapted from Ajzen (1991) and Chiu et al. (2016)

All questionnaire items were measured on a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree.

Instrument Validation

Content Validity (IOC)

The questionnaire was reviewed by three experts in aviation management, marketing, and elderly studies. The Index of Item-Objective Congruence (IOC) was used to assess the relevance of each item. IOC values ranged from 0.67 to 1.00, which indicated that the items had acceptable to excellent content validity (Rovinelli & Hambleton, 1977).

Pilot Test and Reliability

A pilot test was conducted with 30 elderly airline passengers who had previous experience using airline services. The reliability results showed that Cronbach's Alpha values for all constructs were higher than 0.70. This indicated that the questionnaire had satisfactory internal consistency (Tavakol & Dennick, 2011).

Data Collection

Formal permission to collect data was received from Airports of Thailand Public Company Limited or AOT, reference number AOT 2491/2569. Data collection was conducted at Suvarnabhumi International Airport, in the landside areas on Levels 3 and 4 where respondents could be conveniently approached.

Before completing the questionnaire, respondents were screened according to the study criteria. They had to be 60 years old or above and have prior experience using airline services. The respondents were elderly passengers, support was provided when needed, such as large-font questionnaires and assistance during completion. A total of 400 completed questionnaires were collected and checked for completeness before data analyzing.

Ethical Considerations

Ethical approval for this study was granted by the Research Ethics Committee of Valaya Alongkorn Rajabhat University under the Royal Patronage (COA No. 0123/2568; REC No. 0085/2568).

This study followed international ethical principles, including the Declaration of Helsinki, the Belmont Report, and ICH-GCP guidelines. All respondents were informed about the purpose of the study before participation. Participation was voluntary. Confidentiality and anonymity were maintained throughout the study.

Data Analysis

The data were analyzed using SPSS and AMOS software.

Exploratory Factor Analysis (EFA)

In the first stage, Exploratory Factor Analysis or EFA was conducted to examine the underlying structure of the observed variables. The Kaiser–Meyer–Olkin (KMO) value was expected to be higher than 0.70, and factor loadings above 0.50 were considered acceptable, following Hair et al. (2019).

Confirmatory Factor Analysis (CFA)

After that, Confirmatory Factor Analysis or CFA was used to validate the measurement model. The main criteria included factor loading of at least 0.50, Composite Reliability (CR) of at least 0.70, and Average Variance Extracted (AVE) of at least 0.50. Convergent validity and discriminant validity were considered based on the criteria proposed by Fornell and Larcker (1981).

Structural Equation Modeling (SEM)

SEM was then applied to test the hypothesized relationships among service factors, marketing innovation, and purchase intention. The model fit was examined using several indices, including chi-square/degrees of freedom (χ^2/df), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). Following Hair et al. (2019) and Marsh et al. (2004), the model was evaluated by considering several fit indices together with theoretical support and the overall interpretability of the model. The interpretation was not based only on fixed cut-off values.

Item Parceling

Item parceling was used because the model included many observed variables and had a relatively complex structure. This technique helped improve model stability and estimation efficiency. The parceling process was based on theoretical grouping and was supported by empirical evidence from the CFA results.

Mediation Analysis

Bootstrapping with 5,000 resamples was used to examine the mediating effect of marketing innovation. Mediation was supported when the indirect effect was statistically significant (Preacher & Hayes, 2008).

Results

Respondent Profile

The study involved 400 elderly airline passengers aged 60 years and above. Most respondents were female (63.25%). In terms of age, the largest group was between 60 and 64 years old (42.0%), followed by respondents aged 65 to 69 years old (30.25%). Most respondents held a bachelor's degree (63.25%) and were retired (69.0%). For income, a considerable

proportion of respondents had relatively high purchasing power, with 33.5% reporting a monthly income of more than 50,000 THB.

For air travel patterns, the largest group traveled by air 3–5 times per year (37.25%), followed by those who traveled more than six times per year (34.75%). The main purpose of travel was tourism (46.0%), and most respondents usually traveled on domestic routes (74.5%). Overall, the sample can be considered an active group of elderly airline passengers. They had regular air travel experience and relatively strong purchasing power, which made them relevant to the study of purchase intention in airline services.

Measurement Model Results (CFA)

CFA was conducted to assess the validity and reliability of the measurement model.

Table 1: Measurement Model Summary

Construct	Loading Range	CR	AVE	Interpretation
Service Factors (SF)	0.596–0.755	>0.70	0.48–0.50	Acceptable
Marketing Innovation (MI)	0.655–0.828	>0.70	>0.50	Good
Purchase Intention (PI)	0.767–0.850	0.903	0.651	Excellent

The factor loadings for all observed variables were above 0.50, meeting the recommended criterion of Hair et al. (2019). This result shows that the indicators had an acceptable level of reliability. The Composite Reliability (CR) values were also higher than 0.70 for all constructs, indicating that the constructs had satisfactory internal consistency.

For the service factors dimensions, some AVE values were slightly below 0.50. However, convergent validity was still considered acceptable because the CR values met the recommended level. This interpretation is consistent with Fornell and Larcker (1981), who suggested that convergent validity can still be accepted when composite reliability is satisfactory.

Table 2: Model Fit Indices

Index	Value	Suggested Guideline	Result
χ^2/df	4.798	< 5.00	Acceptable
GFI	0.944	≥ 0.90	Good
AGFI	0.896	≥ 0.80	Acceptable
IFI	0.802	≥ 0.70	Acceptable
CFI	0.797	≥ 0.90	Marginally Acceptable
RMSEA	0.098	≤ 0.10	Marginally Acceptable

The measurement model showed an acceptable fit with the empirical data. Some incremental fit indices were lower than the commonly used cut-off value of 0.90; however, the overall model fit was still considered acceptable. This was because the main goodness-of-fit values were satisfactory, the model was supported by theory, and the structural relationships were statistically significant. Since this study involved behavioral constructs and had some exploratory characteristics, the fit indices were considered adequate for theory testing and interpretation.

Structural Model Results (SEM)

SEM was used to test the hypothesized relationships among the constructs. The final structural model focused on the mediating role of Marketing Innovation in the relationship between Service Factors and Purchase Intention among elderly airline passengers.

Figure 2: Structural model results with standardized path coefficients

Table 3: Hypothesis Testing Results

Hypothesis	Path	β	p-value	Result
H_1	SF ⟶ MI	0.907	<0.001	Supported
H_2	MI ⟶ PI	0.926	<0.001	Supported

The results showed that Service Factors had a significant positive effect on Marketing Innovation (β = 0.907, $p < 0.001$). Therefore, H_1 was supported. In addition, Marketing Innovation had a significant positive effect on Purchase Intention (β = 0.926, $p < 0.001$). This result supported H_2.

Mediation Analysis (Bootstrapping)

Bootstrapping with 5,000 resamples was conducted to test the mediating effect of Marketing Innovation, as proposed in H_3.

Table 4: Mediation Results (Indirect Effect)

Hypothesis	Path	β	Lower Bound	Upper Bound	p-value
H_3	SF ⟶ MI ⟶ PI	0.840	0.381	2.111	<0.001

The bootstrapping result confirmed that the indirect effect of Service Factors on Purchase Intention through Marketing Innovation was statistically significant (β = 0.840, 95% BCCI [0.381, 2.111], $p < 0.001$). Since the indirect effect was significant, H_3 was supported. The result confirms that Marketing Innovation fully mediates the relationship between Service Factors and Purchase Intention.

Summary of Findings

This study examined the structural relationships among service factors, marketing innovation, and purchase intention among elderly airline passengers. The results showed 3 main findings. First, service factors had a significant positive effect on marketing innovation. Second, marketing innovation showed a significant positive effect on purchase intention. Third, the results confirmed that marketing innovation fully mediated the relationship between service factors and purchase intention.

These results suggest that marketing innovation has an important role in turning service attributes into behavioral intention. Service factors may not directly encourage purchase intention among elderly passengers. Airlines need to improve these factors through innovation that passengers can view as useful, accessible, and supportive. Service improvements that reduce uncertainty and make travel easier may help strengthen passenger confidence and encourage airline use.

Discussion and Conclusion

This study examined how service factors and marketing innovation relate to purchase intention among elderly airline passengers in the Next Normal era. The findings help explain how purchase intention is formed in the ageing travel market.

The findings revealed that service factors have a strong positive relationship with marketing innovation. Elderly passengers may not define innovation only as advanced technology or digital systems. They may also understand innovation through service-related experiences, such as clear service procedures, effective communication, suitable infrastructure, and passenger assistance. When these service elements are well delivered, airline services are more likely to appear innovative, accessible, and supportive for elderly travelers. These factors may also help improve passenger confidence and convenience during travel. This finding is in line with previous studies that identified safety, convenience, accessibility, and communication as key concerns for elderly passengers (Chang & Chen, 2012; Graham et al., 2023; Jaktong et al., 2024).

The findings further showed that marketing innovation significantly influences purchase intention. This suggests that innovation helps transform service experiences into behavioral

intention. For elderly passengers, marketing innovation may improve perceived value by making services easier to use, reducing uncertainty, and building confidence in airline services. Innovation in this context includes not only digital technologies and promotion but also service improvements that make travel more convenient and reassuring. This result supports Chen et al. (2015), Balcerzak and Nielek (2017), and Li and Jeon (2023), who found that innovation-related perceptions influence customer behavior in service industries.

Another key finding is that marketing innovation fully mediated the relationship between service factors and purchase intention. This indicates that service attributes alone may not directly lead to purchase intention among elderly passengers. Instead, elderly passengers may first need to perceive these service attributes as innovative before they affect their intention to use airline services. Therefore, marketing innovation acts as an important connection between service quality, perceived value, passenger confidence, and travel experiences.

This finding is in line with previous studies suggesting that innovation-related perceptions can serve as a mediating factor between service quality and behavioral intention in service industries (Li & Jeon, 2023; Okan, 2024). The present study extends this understanding by demonstrating that marketing innovation plays a central mediating role in the airline context, particularly among elderly passengers in the Next Normal era.

From a theoretical perspective, this study contributes to aviation marketing and consumer behavior research by showing that elderly passengers' behavioral intention is not formed solely through direct evaluations of service quality. Rather, it is also influenced by the extent to which passengers perceive airline services as innovative, useful, and responsive to their needs. Therefore, service quality and marketing innovation should be considered together when examining the decision-making behavior of ageing passenger markets.

Practical Implications

The findings of this study provide useful implications for airline operators who need to serve the growing elderly passenger segment more effectively.

Airlines should improve service processes and digital systems so that they are easier to access and use. Elderly passengers often need clear communication, simple procedures, and technologies that are easy to understand because they may have different levels of experience with digital services.

At the same time, airlines should not depend only on technology. Human support remains necessary for helping elderly passengers during travel. While digital services may improve operational efficiency, trained staff still play an important role in providing assistance, reducing uncertainty, and increasing passenger trust. Airlines should therefore combine technology-based

services with personal assistance. Examples include easy-to-use mobile check-in systems, self-service kiosks with larger fonts, voice-assisted systems, priority support counters, and assisted boarding services.

Airlines should also place greater attention on safety, accessibility, convenience, and reliable service instead of focusing mainly on price competition. Clear communication about how innovation improves the passenger experience may help elderly passengers feel more confident and comfortable when using airline services.

Overall, airlines should integrate service quality with marketing innovation to better support elderly passengers in the Next Normal era.

Research Implications

This study suggests that future research should continue to study mediating variables in complex service environments such as the airline industry. Future research models may include additional factors like perceived value, trust, satisfaction, or digital literacy to improve understanding of passenger behavior. Future studies may also examine differences between passenger groups, including younger passengers and elderly passengers. These comparisons may help explain whether marketing innovation affects behavioral intention differently across age groups, service expectations, and technology readiness levels.

Limitations

Although this study provides useful findings, some limitations should be acknowledged.

First, this study collected data only from elderly passengers at a single airport. As a result, the findings may not fully reflect the experiences of elderly passengers in different airport or country contexts. Future studies should include more airports or international samples to improve the generalizability of the findings.

Second, purposive sampling was used because respondents had to meet specific conditions. However, this sampling method may still create some selection bias. Future studies may use probability sampling or mixed methods to obtain a more representative group of elderly airline passengers.

Third, the study relied on a cross-sectional research design. As a result, it could not fully capture how relationships among the variables may develop over time. Future longitudinal studies are recommended to examine changes in passenger experience, technology use, and service perceptions during different stages of travel and service adaptation.

Overall, this study demonstrates that marketing innovation plays an important role in linking service factors with purchase intention among elderly airline passengers. The findings also show the importance of innovation in shaping behavioral intention in the aviation industry.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Balcerzak, B., & Nielek, R. (2017). *Golden years, golden shores: A study of elders in online travel communities*. arXiv. https://doi.org/10.48550/arXiv.1708.06550

Bauer, R. A. (1960). Consumer behavior as risk taking. In R. S. Hancock (Ed.), *Dynamic marketing for a changing world: Proceedings of the 43rd National Conference of the American Marketing Association* (pp. 389–398). American Marketing Association. https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1409819

Chang, Y. C., & Chen, C. F. (2012). Service needs of elderly air passengers. *Journal of Air Transport Management, 18*(1), 26–29. https://doi.org/10.1016/j.jairtraman.2011.07.002

Chen, J. K. C., Batchuluun, A., & Batnasan, J. (2015). Services innovation impact to customer satisfaction and customer value enhancement in airport. *Technology in Society, 43*, 219–230. https://doi.org/10.1016/j.techsoc.2015.05.010

Chiu, S. C., Liu, C. H., & Tu, J. H. (2016). The influence of tourists' expectations on purchase intention: Linking marketing strategy for low-cost airlines. *Journal of Air Transport Management, 53*, 226–234. https://doi.org/10.1016/j.jairtraman.2016.03.010

Chotpanich, W. (2018). *Impact of service quality, perceived value and brand image on re-service intention in context of full-service airlines* [Independent study, Bangkok University]. DSpace BU Research. http://dspace.bu.ac.th/jspui/handle/123456789/3449

Department of Older Persons. (2024). *Situation of the Thai older persons 2024*. Ministry of Social Development and Human Security. https://www.dop.go.th/download/statistics/en1768287262-2583_0.pdf

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.2307/3151312

Graham, A., Kruse, W., Budd, L., Kremarik, F., & Ison, S. (2023). Ageing passenger perceptions of ground access journeys to airports: A survey of UK residents. *Journal of Air Transport Management, 107*, Article 102338. https://doi.org/10.1016/j.jairtraman.2022.102338

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

Jaktong, C., Prachathai, R., Dechtongkam, K., & Seetthaporn, C. (2024). The factors affecting the decision to choose airline services for travel among the elderly in Bangkok and vicinity. *Journal of International and Thai Tourism, 20*(2), 1–19. https://so02.tci-thaijo.org/index.php/jitt/article/view/268927

Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson. https://dspace.vnbrims.org/items/0c7f6bb2-d512-42bb-ba5a-784329214f18

Li, S., & Jeon, S. M. (2023). Airport Passenger's Perceived Innovativeness Explaining the Effect of Pursuit Benefits on Intention of Adoption: The Moderating Role of Personal Need for Structure. *Journal of the Korean Society for Aviation and Aeronautics, 31*(1), 107–117. https://doi.org/10.12985/ksaa.2023.31.1.107

Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In Search of Golden Rules: Comment on Hypothesis-Testing Approaches to Setting Cutoff Values for Fit Indexes and Dangers in Overgeneralizing Hu and Bentler's (1999) Findings. *Structural Equation Modeling: A Multidisciplinary Journal, 11*(3), 320–341. https://doi.org/10.1207/s15328007sem1103_2

Okan, S. (2024). The Mediating Role of Customer Relationship Managment (CRM) in the Effect of Innovation on Perceived Service Quality: The Case of Airlines System. *Journal of Aviation, 8*(1), 32–42. https://doi.org/10.30518/jav.1413635

Oliveira, B. F., Oliveira, A. V. M., & Vassallo, M. D. (2023). Airport service quality perception and flight delays: Examining the influence of psychosituational latent traits of respondents in passenger satisfaction surveys. *Research in Transportation Economics, 101*, Article 101371. https://doi.org/10.1016/j.retrec.2023.101371

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.

Park, J. W., Robertson, R., & Wu, C. L. (2006). Modelling the Impact of Airline Service Quality and Marketing Variables on Passengers' Future Behavioural Intentions. *Transportation Planning and Technology, 29*(5), 359–381. https://doi.org/10.1080/03081060600917686

Pephenee, P., Srisaard, S., Kajontraidech, K., & Aussawariyathipat, S. (2023). COVID-19 crisis with the adaptive behavior of passengers in Chonburi province. *Journal of Aviation, Travel, and Service, 2*(1), 31–48. https://so07.tci-thaijo.org/index.php/tft/article/view/2858

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing mediation in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Raviyan, N., & Somsuk, N. (2018). Effects of Thai Airasia airline image and service quality on passengers' service usage behavior. *EAU Heritage Journal Social Sciences and Humanities, 8*(3), 87–99. *https://heritage.eau.ac.th/soc_journal/PDF/HeritageJournal/Heritage-12-03-61-Social-new.pdf*

Rovinelli, R. J., & Hambleton, R. K. (1976, April). *On the use of content specialists in the assessment of criterion-referenced test item validity* [Paper presentation]. Annual Meeting of the American Educational Research Association, San Francisco, CA, United States. https://eric.ed.gov/?id=ED121845

Tangsritanawong, A. (2015). *Service quality perceptions of Donmuang International Airport affecting international tourists' satisfactions* [Master's thesis, Chulalongkorn University]. DigiVerse Chula. http://doi.org/10.58837/CHULA.THE.2015.1101

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science, 36*(1), 1–10. https://doi.org/10.1007/s11747-007-0069-6

Wan-uta, P., Pholperm, P., & Channoi, P. (2012). Passengers' decision making on selecting international carriers. *Nakhon Phanom University Journal, 2*(2), 83–90. https://so03.tci-thaijo.org/index.php/npuj/article/view/55376

World Health Organization. (2022). *Ageing and health*. https://www.who.int/news-room/fact-sheets/detail/ageing-and-health