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ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS (CoBE)

MANAGEMENT DEPARTMENT

Effect of Airline Service Quality on Passenger Confidence: The Mediating Role of Service Culture in the Case of Ethiopian Airlines

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF EXECUTIVE MASTER OF BUSINESS ADMINISTRATION

June 2025

Addis Ababa, Ethiopia.

Declaration

I certify that the thesis entitled *Effect of Airline Service Quality on Passenger Confidence in Air Travel: The Mediating Role of Service Culture in the Case of Ethiopian Airlines* is my own original work and has not been submitted for any other award degree in any University. It is offered for the award of the degree of Executive Master of Business Administration from Addis Ababa University. Whenever other authors' works are used, they have been properly acknowledged.

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Statement of Certification

This is to certify that the thesis prepared, by Tiya Gurmecha Mirikana, entitled: ***Effect of Airline Service Quality on Passenger Confidence in Air Travel: The Mediating Role of Service Culture in the Case of Ethiopian Airlines,*** and submitted in partial fulfillment of the requirements for the degree of Executive Master of Business Administration complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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Acknowledgements

First and foremost, I would like to thank the Almighty God for His grace, which gave me the strength to endure and succeed throughout this journey.

Second, I extend my heartfelt gratitude to my adviser, Dr. Zelalem G/Tsadik, for his constructive comments, valuable suggestions, and unwavering guidance. I deeply appreciate the tremendous support he provided throughout this study—without it, this thesis would not have taken its current form. I am truly grateful.

Finally, I am indebted to my family, friends, and all those who contributed to the success of this research in one way or another.

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List of Acronyms

ATAG: Air Transport Action Group

CR: Composite Reliability

CS: Customer Satisfaction

F: Facilities

GDPR: General Data Protection Regulation

HTMT : Heterotrait-Monotrait

IATA : International Air Transport Association

ICAO: International Civil Aviation Organization

ICT: Information Communication Technology

P: Pricing

PC: Passenger Confidence

PLS-SEM: Partial Least Squares Structural Equation Modeling

S-O-R: Stimulus-Organism-Response

SC: Service Culture

SEM: Structural Equation Modeling

SERVPERF: Service Performance

SERVQUAL: Service Quality

SP: Sales Promotions

SS: Safety and Security

SSQAI: Service Quality in the Airline Industry

T: Timeliness

UNCTAD: United Nations Conference on Trade and Development

UNWTO: United Nations World Tourism Organization

VIF: Variance Inflation Factor

Abstract

This study looks into how different parts of airline service quality affect passenger confidence, focusing on Ethiopian Airlines passengers. It uses ideas from well-known models like SERVQUAL, SERVPERF, and Expectation-Confirmation theory to help explain how passengers' perceptions of service influence their trust. The research focusses on six airline service quality dimensions: safety and security, timeliness, pricing, facilities, sales promotions, and information communication technology (ICT). It also explores how service culture — which means the shared values and behaviors that guide how employees interact with passengers — plays a role in connecting these service quality aspects to passenger confidence. Using an online survey, the study gathered data from travelers who had flown both domestic and international Ethiopian Airlines flights. After cleaning the data, 245 valid responses were analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM). This study used snowball sampling to expand the participant pool beyond typical reach, which helped increase the response rate; however, this method may introduce some bias and limits the generalizability of the results. The findings show that service culture strongly impacts passenger confidence. Among the direct effects of service quality on confidence, only safety and security stood out as significantly positive. Other factors like timeliness, pricing, facilities, ICT, and sales promotions did not have a clear direct impact. When it comes to influencing service culture itself, sales promotions, ICT, facilities, and safety and security all had meaningful positive effects, while timeliness and pricing did not. Looking deeper at indirect effects, the study found that sales promotions, ICT, safety and security, and facilities all increase passenger confidence by first enhancing service culture. Pricing and timeliness did not have significant indirect effects. In general, the study suggests that while safety and security directly help build trust, many other service quality factors work mainly by shaping a strong service culture, which then increases passenger confidence. Strengthening this culture within the airline can amplify the benefits of promotions, technology, facilities, and safety efforts. This research also adds valuable insight to the theoretical understanding of airline service quality within the African context, enhancing the academic literature on factors that influence passenger confidence across both domestic and international flights.

***Keywords**: Airline Service Quality, Passenger Confidence, Service Culture, Ethiopian Airlines, Safety & Security, Timeliness, Pricing, Information Communication Technology, Sales Promotion, and Facilities.*

Chapter One

1. Introduction

This study explores how airline service quality influences passenger confidence in air travel, with particular attention to the mediating role of service culture, using Ethiopian Airlines passengers as a case study. This chapter introduces the research by outlining its background, problem statement, objectives, and research questions. It also discusses the study's significance, scope, and limitations, while providing a clear structure for how the research is organized.

1.1 Background of the study

The airline industry is an essential part of today's global economy, helping people and goods move efficiently across countries (Doganis, 2010). But despite its importance, the sector faces ongoing challenges—from fluctuating fuel prices and economic uncertainty to changing passenger expectations (Peters, 2020; IATA, 2023). Ethiopian Airlines has been a major player in connecting the Africa to the rest of the world. However, it has not been immune to the pressures affecting the broader industry. On top of global challenges, the airline also contends with region-specific issues like limited infrastructure, growing competition, and rising demand for better customer service (2021–22 Ethiopian Airlines Annual Report). Since the COVID-19 pandemic, restoring and maintaining passenger confidence has become more important than ever. In this context, confidence means how much trust travelers place in an airline to deliver safe, timely, and satisfying service (Chen & Chang, 2005; Lee et al., 2021). When that trust decreases, it can hurt loyalty, reduce bookings, and damage the airline's reputation and profitability (Rahman et al., 2022). Research shows that service quality plays a big role in shaping passenger confidence. Factors like safety, punctuality, pricing, comfort, promotions, and even the use of technology all influence how customers feel about their flying experience (Parasuraman et al., 1988; Clemes et al., 2008). Still, there has not been much focus on how these factors work specifically in the case of Ethiopian Airlines, especially as the airline adapts to post-pandemic realities. An additional key factor is service culture—essentially, the shared values and attitudes among employees that shape how they serve customers (Grönroos, 2007; Schneider & Bowen, 1995). Studies from other industries and regions have shown that a strong

internal culture focused on service can really enhance customer experience and build trust (Smith & Walker, 2019). Yet, there is still a lack of research on how this plays out within Ethiopian Airlines. In particular, there's little evidence on whether service culture helps bridge the gap between service quality and passenger confidence. This study looks to fill that gap. It explores how different aspects of Ethiopian Airlines' service quality affect passenger confidence, and whether the airline's internal service culture plays a role in that relationship.

1.2 Background of the company

Ethiopian Airlines, founded in 1945, is Ethiopia's national carrier that has played a pivotal role in the continent's aviation landscape. Over the years, it has grown to become one of Africa's largest and most rapidly expanding airlines (Ethiopian Airlines, 2023; ICAO, 2020). With its central hub located at Bole International Airport in Addis Ababa, the airline connects numerous destinations both within Africa and across the globe, offering extensive passenger and cargo services (IATA, 2022). Committed to strengthening regional and international connectivity, Ethiopian Airlines aims to deliver reliable and efficient air transport. It also positions itself as a facilitator of trade, tourism, and cultural exchange across borders (Ethiopian Airlines, 2023; UNCTAD, 2019). Its operations span various services, including passenger and cargo transportation, technical maintenance, aviation training, and ground handling (ATAG, 2021). The airline's long-term vision is to become the leading aviation group in Africa, and it aligns its strategies with rigorous national and international standards (Ethiopian Airlines, 2023). Its mission prioritizes safe and dependable service delivery, profitability, customer satisfaction, and sustainable growth (AFRAA, 2021). At the heart of its operations are key values such as safety, integrity, customer orientation, teamwork, and continuous development. Through these principles, Ethiopian Airlines strives to provide forward-thinking, customer-driven air travel solutions, while maintaining its role as a socially responsible enterprise (Ethiopian Airlines, 2023; ICAO, 2020).

1.3 Statement of the problem

Recent industry reports and data from Ethiopian Airlines highlight ongoing challenges in maintaining passenger confidence. These concerns have been intensified not only by the COVID-19 pandemic and the tragic crash of Ethiopian Airlines Flight ET302 in 2019 (Aviation Safety Network, 2019; Ethiopian Airlines Annual Report, 2022; IATA, 2023), but also by a

series of other significant aviation accidents in recent years—including the crash of Lion Air Flight JT610 in 2018 and Ukraine International Airlines Flight PS752 in 2020. Such accidents have amplified global concerns about airline safety in general, making it increasingly important to understand the key drivers behind passenger trust and confidence. Yet, there is still a lack of focused research on what shapes confidence in African airlines specifically, and the role service culture might play in linking service quality to that passenger confidence. This study looks to fill that gap by focusing on Ethiopian Airlines. Here, passenger confidence refers to the trust travelers place in the airline's ability to deliver safe, dependable, and satisfying service—distinct from broader ideas like customer satisfaction or loyalty. By examining how service culture may mediate this relationship, the research highlights a key but often overlooked part of improving airline service quality in emerging markets.

As one of Africa's most prominent airlines and a source of national pride, Ethiopian Airlines operates within a challenging environment where trust is essential to maintaining its leadership in the market and upholding its global reputation (AFRAA, 2021). The industry itself is highly sensitive to external shocks—ranging from security threats and accidents to global health crises and financial instability. These factors have all contributed to growing concerns among travelers about the safety and dependability of air travel (ICAO, 2020; UNWTO, 2021). In such conditions, strengthening passenger confidence is not just important—it is a key marker of an airline's ability to survive and thrive. Existing literature has shown that service quality plays a major role in influencing how satisfied and loyal customers feel (Zeithaml, Berry, & Parasuraman, 1996; Cronin & Taylor, 1992). Yet, how that quality translates into genuine passenger confidence—understood as a sense of trust in the airline's ability to deliver on its promises—has not been fully examined (Deepa & Jayaraman, 2017). Adding to this complexity is the role of service culture—the internal values, behaviors, and attitudes that guide how employees engage with customers. This cultural dimension may be critical in linking service quality to confidence, but its impact has not received the focused attention it deserves (Grönroos, 1990; Ladhari, 2009).

This study, therefore, seeks to address this research gap by exploring the relationship between airline service quality, service culture, and passenger confidence, using Ethiopian Airlines as a contextual focus. The primary aim is to contribute to academic understanding by providing context-specific insights relevant to the African aviation industry. In doing so, the

research aspires to enrich the existing body of knowledge in airline service quality and aviation management, particularly in developing regions where empirical evidence remains limited.

1.4 Research Questions

This study aims to better understand how passengers build confidence in Ethiopian Airlines by exploring the role of service quality and internal service culture. To guide the investigation, the following research questions were developed:

1. How do service quality factors directly affect passenger confidence in Ethiopian Airlines?

    1.1. Safety and Security: How do safety and security measures influence passenger confidence in Ethiopian Airlines?
    1.2. Timeliness: How does on-time performance and reliability impact passenger confidence?
    1.3. Pricing: How does pricing fairness and transparency affect passenger confidence?
    1.4. Facilities: How do in-flight and on-ground facilities influence passenger confidence?
    1.5. Sales Promotions: How do sales promotions and loyalty programs affect passenger confidence?
    1.6. Information and Communication Technology (ICT): How does the use of ICT (online booking, mobile apps, digital support) impact passenger confidence?

2. In what ways do the service quality dimensions influence the airline's service culture?

    2.1. Safety and Security: How do safety and security measures influence Ethiopian Airlines' service culture?
    2.2. Timeliness: How does timeliness (on-time performance and reliability) impact the airline's service culture?
    2.3. Pricing: How do pricing strategies affect Ethiopian Airlines' service culture?
    2.4. Facilities: How do facilities (aircraft comfort, lounges, in-flight amenities) shape the airline's service culture?
    2.5. Sales Promotions: How do promotional strategies and loyalty programs influence service culture?

2.6. Information Communication Technology (ICT): How does the adoption of ICT (digital booking systems, mobile apps, self-service options) impact the service culture?

3. What is the relationship between service culture and passenger confidence?
4. Does service culture help explain how service quality affects passenger confidence?

These research questions were developed to explore both the direct and indirect connections between service quality and passenger confidence, with service culture considered as a possible link between the two. The service quality factors chosen— safety and security, timeliness, pricing, facilities, promotions, and ICT—are based on well-known airline service models and were selected because they reflect the real-world operations of Ethiopian Airlines.

1.5 Objectives of the study

1.5.1 General objectives

The primary objective of this study is to investigate the effect of airline service quality on passenger confidence in air travel, with a particular emphasis on the mediating role of service culture, using Ethiopian Airlines as the case study. 1.5.2 Specific objectives

1. **Safety and Security:** To assess the effect of safety and security measures on passenger confidence in Ethiopian Airlines, and to evaluate the influence of safety and security on internal service culture.
2. **Timeliness:** To examine how timeliness and reliability affect passenger confidence, and to determine the effect of timeliness on service culture.
3. **Pricing:** To analyze the impact of pricing fairness and transparency on passenger confidence, and to assess how pricing strategies influence service culture.
4. **Facilities:** To investigate the role of in-flight and on-ground facilities in building passenger confidence, and to examine the effect of facilities on internal service culture.

5. **Sales Promotions:** To determine the effect of sales promotions and loyalty programs on passenger confidence, and to evaluate how these promotions affect service culture.
6. **Information Communication Technology (ICT):** To assess how ICT adoption influences passenger confidence, and to analyze the impact of ICT on service culture.
7. **Service Culture and Mediation:** To examine the direct effect of service culture on passenger confidence, and to analyze the mediating role of service culture between service quality and passenger confidence.

1.6 Significance of the study

This study is significant both academically and practically. From an academic perspective, it adds to the growing literature on airline service quality, organizational culture, and passenger confidence—especially within the context of a developing economy. While many past studies have looked at how service quality affects customer satisfaction, fewer have examined the role that a company's internal culture plays in shaping that experience. This gap is even more noticeable when we look at African markets, where cultural, economic, and regulatory factors present unique challenges and opportunities. By focusing on Ethiopian Airlines, one of the most prominent carriers in Africa, this research offers insights into how service culture: employee attitudes, and trust-building mechanisms, can influence not only the quality-of-service delivery but also how passengers perceive and trust the airline. These areas—particularly the role of internal culture in shaping external outcomes—remain underexplored in existing aviation studies, especially when it comes to African customer behavior and expectations. Understanding these dynamics matters because they directly impact passenger loyalty and the overall perception of air travel safety and reliability in the region.

On a theoretical level, the study contributes to our understanding of consumer behavior in the airline industry by highlighting how service culture can act as a bridge between what happens inside the organization and how customers experience that service. This perspective can serve as a useful framework for researchers interested in comparing airlines across different regions or industries where customer trust and service quality are critical to success. Practically, the findings have implications for industry stakeholders. For Ethiopian Airlines and similar carriers,

the research can support improvements in service strategy, staff training, and customer engagement. For example, insights from the study could help design training programs that are better aligned with both employee values and customer expectations, or guide management in creating a more cohesive service culture that improves trust and loyalty among passengers.

The study may also be useful from a policy standpoint. Since the aviation sector in Africa is shaped by both local regulations and international bodies such as IATA and ICAO, this research can offer evidence-based insights that help inform policy discussions. It can contribute to broader efforts to raise service standards, strengthen regulatory compliance, and enhance the passenger experience in line with global aviation goals. This study aims to do more than just fill a gap in the literature. It offers a foundation for future research, provides practical recommendations for airlines and regulators, and deepens our understanding of how internal organizational culture can shape the customer experience—especially in the context of Africa's rapidly evolving airline industry.

1.7 Scope of the study

This study examines how various aspects of airline service quality impact passenger confidence in air travel, with particular attention to the mediating role of service culture. Ethiopian Airlines has been selected as the case study due to the accessibility of data and its prominent position in the African aviation industry, along with its extensive regional and international operations. To keep the research grounded in current experiences, it focuses on passengers who have flown with Ethiopian Airlines in the past 12 months. Their firsthand insights help assess how passengers perceive different service aspects and how those perceptions shape their level of trust and confidence in the airline. The research specifically examines several core areas of airline service quality—such as safety & security, timeliness, pricing, in-flight and airport facilities, promotional activities, as well as the airline's use of technology to enhance service. Beyond these, the study also considers the influence of the airline's internal service culture—essentially, the shared values and behaviors among staff that guide how services are delivered.

1.8 Limitation of the Study

This study has its limitations. One of the main ones is that it only captures the views of passengers and does not include perspectives from airline staff or management. While passengers' insights are crucial, getting input from employees and leaders within the airline could have added a richer understanding of how internal service culture actually plays out. Future research would benefit from including these groups to offer a more complete picture.

Another limitation is the focus on just one airline—Ethiopian Airlines, it means the findings may not reflect the experiences of passengers flying with other airlines, especially those operating in different cultural or regulatory environments. A broader, multi-airline study across various regions could help make the findings more widely applicable.

The study also relies on self-reported data from passengers, which can sometimes be affected by memory gaps or the desire to respond in socially acceptable ways. While this is common in survey research, future studies could combine survey data with interviews, observations, or even airline performance metrics to improve accuracy and reliability.

Finally, the research is cross-sectional, it captures opinions at one point in time. Because of this, it cannot establish how service quality, culture, and passenger confidence might change or influence one another over the long term. A longitudinal study could help track these relationships more clearly and offer stronger evidence about cause and effect.

Even with these limitations, the study still provides useful insights—and also points to several ways future research can build on it for a deeper and more well-rounded understanding.

1.9 Definition of Key Terms

To ensure clarity and consistency throughout this paper, the following key terms are defined as follows:

Airline Service Quality: refers to passengers' perceptions of how well an airline delivers its services relative to their expectations. It encompasses various dimensions including safety & security, timeliness, pricing, facilities, and customer support (Parasuraman, Zeithaml, & Berry, 1988; Pakdil & Aydın, 2007). In this study, airline service quality is measured using specific

dimensions: safety & security, timeliness, pricing, facilities, information communication technology, and sales promotion, relevant to passenger experience with Ethiopian Airlines.

Passenger Confidence: Passenger confidence refers to the level of trust and assurance that passengers have in an airline's ability to deliver safe, reliable, and satisfactory services, influencing their intention to choose the same airline in the future (Chen & Chang, 2005). It reflects a psychological state resulting from a positive evaluation of prior travel experiences.

Service Culture: Service culture is defined as the shared values, norms, and practices within an organization that promote and prioritize service excellence among employees (Gronroos, 2007). It acts as a mediating mechanism through which service quality is internalized and consistently delivered to customers.

Mediation: Mediation refers to a statistical relationship in which the effect of an independent variable on a dependent variable occurs through a third variable, known as the mediator (Baron & Kenny, 1986). In this study, service culture is conceptualized as a mediating variable between airline service quality and passenger confidence.

Safety & Security: Refers to the airline's ability to ensure passenger well-being during all phases of the travel experience (Suhartanto et al., 2019).

Timeliness: The airline's adherence to schedules and minimization of delays (Cronin & Taylor, 1992).

Pricing: refers to the process by which a company determines the value it will charge customers for its products or services. It involves setting a price that reflects the perceived value, competitiveness, and fairness from the customer's perspective, while also considering costs and market conditions (Kotler, 2021).

Facilities: Physical and technological infrastructure available to passengers such as seating, cleanliness, and inflight services (Park, Robertson, & Wu, 2004).

Sales Promotions: Marketing activities and incentives designed to attract and retain customers (Kotler & Keller, 2016).

Information Communication Technology (ICT): The digital tools and platforms used to communicate with customers and manage service delivery (Buhalis & Law, 2008).

1.10 Organization of the Study

This study is divided into five chapters, each playing a specific role in guiding the research. Chapter One sets the stage by introducing the background of the study, outlining the research problem, and clearly stating the objectives and research questions. It also covers the study's significance, scope, limitations, and provides definitions of key terms to ensure clarity. Chapter Two looks at existing literature related to airline service quality, service culture, and passenger confidence. It draws on relevant theories and past findings and points out where there are gaps that this research aims to explore. Chapter Three describes how the research was carried out, including the design, the population involved, how participants were selected, and the methods used to collect and analyze data. It also explains the steps taken to ensure the results are reliable and valid. Chapter Four focuses on presenting and analyzing the results, using SmartPLS to interpret the data in line with the research questions. Finally, Chapter Five wraps up the study by summarizing the main findings, discussing what they mean in both theory and practice, reflecting on the study's limitations, and offering suggestions for future research.

Chapter Two

2. Review of Related Literature

2.1 Theoretical Framework

This section outlines the theoretical foundation for the study, centering on the Stimulus-Organism-Response (S-O-R) model to explore how airline service quality and service culture influence passenger confidence. Deepa, M. V., & Jayaraman, K. (2017) states while service quality and satisfaction have been widely studied, passenger confidence remains underexplored, especially in emerging markets, existing research suggests that service quality and a strong service culture are key to building trust and long-term loyalty, yet there is limited understanding of how these factors work together to shape confidence. Furthermore, conventional models like SERVQUAL may not fully capture the complexity of airline service expectations, prompting scholars to call for more industry-specific approaches. This study responds to these gaps by examining relevant dimensions of airline service quality, the mediating role of service culture, and their direct & combined effect on passenger confidence, using Ethiopian Airlines passengers as a contextual focus.

To operationalize the S-O-R model in this study, airline service quality was defined as the external stimulus and broken down into key dimensions such as Safety & Security, Timeliness, pricing, Information communication Technology, Facilities and Sales Promotion—drawing from existing frameworks but tailored to the airline setting. Service culture, representing the organism or internal process, was measured through aspects like shared values, employee behaviors, and service-oriented attitudes that influence how service is delivered. Passenger confidence, the response, was assessed through indicators such as trust in the airline, perceived safety, and confidence in consistent service delivery. By structuring the study this way, the model allowed for examining not only how service quality directly impacts passenger confidence but also how service culture mediates this relationship, providing a deeper understanding of the mechanisms behind passengers' trust in Ethiopian Airlines.

2.1.1 Overview of Services and Their Characteristics

What is a Service?

A service can be thought of as an activity or process that delivers value to a customer without transferring ownership of a physical product. Unlike goods, which can be seen and touched, services are mostly experiences. Lovelock and Wirtz (2016) describe services as actions or performances that one party offers to another. For airlines, this means everything from booking a ticket and checking in to the in-flight experience and customer support after the trip.

Key Characteristics of Services

Services have unique qualities that make them very different from physical goods, and these characteristics have a big impact on how they are marketed and delivered. Scholars like Zeithaml, Bitner, and Gremler (2018) highlight four main features:

Intangibility: Services are not physical entities; they cannot be touched, seen, or stored before purchase. For instance, an airline cannot demonstrate the "comfort" of a flight in advance; the experience is only realized during the actual journey.

Inseparability: Services are produced and consumed at the same time. In other words, the customer and the service provider usually have to interact during delivery. Think about air travel: the quality of your flight often depends on the interaction with cabin crew during the journey.

Variability (Heterogeneity): Unlike products, which can be manufactured to be identical, service quality can vary from one encounter to another. Two passengers on the same route might have very different experiences because of staff behavior, timing, or even weather conditions.

Perishability: Services cannot be stored or saved for later. Once the opportunity is gone, it is gone. In aviation, if a flight takes off with empty seats, that revenue is lost forever. This is why airlines put so much effort into pricing and demand forecasting.

These characteristics explain why managing service quality is more challenging than managing goods. For airlines, they shape everything from scheduling and pricing to customer service strategies.

2.1.2 Service Mix

Products and services rarely exist in isolation. In reality, most offerings blend both tangible and intangible elements in varying proportions. Kotler and Keller (2016) explain this through the concept of the service mix, which places all offerings on a continuum—from pure physical goods at one end to pure services at the other. Zeithaml, Bitner, and Gremler (2018) also point out that very few real-world offerings are entirely one or the other; most combine physical items with some level of service interaction. Within this framework, five broad categories can be identified:

Pure Tangible Goods – Physical products that come with no service element at all, such as soap or salt (Kotler & Keller, 2016).

Pure Services – Intangible offerings with no physical component, such as psychotherapy or legal consultation (Zeithaml et al., 2018).

Major Service Accompanied by Minor Goods and Services – Primarily service-based but supported by a few tangible elements. In air travel, for example, the central service is transportation, but passengers also receive physical items like boarding passes, meals, or amenity kits (Lovelock & Wirtz, 2016).

Major Goods Accompanied by Minor Services – A primarily goods-based product with small service additions, such as a car that comes with warranty coverage or installation support (Lovelock & Wirtz, 2016).

Hybrid Offerings – A near-even blend of goods and services, such as a restaurant meal that delivers both physical food and attentive table service (Kotler & Keller, 2016).

Airlines fit most naturally into the "major service accompanied by minor goods and services" category. The essential value they provide—moving passengers and cargo from one destination to another—is intangible and consumed at the moment of delivery. However, this core service is enhanced by tangible components. These might include boarding passes, in-flight meals and beverages, amenity kits, or printed reading materials (Gilbert & Wong, 2003). At the same time, a range of intangible services—such as booking assistance, baggage handling, cabin crew service, and loyalty program management—shapes the passenger experience (Chen &

Chang, 2005). Some premium carriers lean toward a hybrid model, blending the core service with high-quality tangible products, such as luxury amenity kits or branded merchandise, to differentiate themselves (Chen & Chang, 2005). Low-cost airlines, on the other hand, often strip away most tangible extras, focusing on the essential transportation service while offering additional items for purchase (O'Connell & Williams, 2005). Understanding airlines through the lens of the service mix provides a useful perspective for this study. It shows that passenger perceptions of service quality are influenced not only by operational performance but also by how well tangible and intangible elements work together to create a satisfying travel experience (Kotler & Keller, 2016; Lovelock & Wirtz, 2016).

2.1.3 Service Marketing Strategy

Marketing services requires more than the traditional 4Ps—Product, Price, Place, and Promotion—because services are inherently intangible, variable, and inseparable from their providers. Scholars have argued that the traditional marketing mix does not fully capture these unique characteristics (Booms & Bitner, 1981). To address this gap, Booms and Bitner introduced an extended marketing mix that incorporates three additional elements: People, Process, and Physical Evidence. This framework has been widely discussed in the literature, particularly in the context of the airline industry, where service quality, passenger perceptions, and trust are closely linked to these elements.

People: the "People" dimension highlights the central role of employees in service delivery. Scholars emphasize that interactions between staff and passengers shape the perceived quality of service (Berry & Parasuraman, 1991). In airlines, personnel such as cabin crew, ground staff, and customer service agents act as representatives of the brand. Literature suggests that employee competence, attitude, and motivation influence not only operational efficiency but also the emotional comfort and confidence of passengers (Ladhari, 2009; Heskett et al., 1994). Theoretical discussions highlight that organizations with strong service-oriented cultures are better positioned to foster positive customer experiences, supporting the idea that human factors are critical in-service marketing strategy.

Process: refers to the procedures and systems through which services are delivered. Literature emphasizes that well-structured, transparent processes reduce perceived risk and improve service

reliability (Fitzsimmons & Fitzsimmons, 2013). In the airline context, this encompasses check-in, boarding, baggage handling, and complaint management. The adoption of information communication technologies (ICT), including online booking systems and mobile check-in, has been highlighted in the literature as a means of streamlining processes, enhancing convenience, and reinforcing passenger trust (Buhalis, 2004; Oyewole et al., 2008). Scholars argue that process design is not only operational but also strategic, as it directly shapes customer perceptions of service quality.

Physical Evidence: comprises tangible cues that help passengers evaluate service quality in environments where the service itself is intangible. The literature identifies physical elements such as aircraft cleanliness, lounge design, signage, boarding passes, and digital platforms as significant in shaping passenger perceptions (Martínez Caro & Martínez García, 2007). Studies suggest that attention to physical evidence signals professionalism and reliability, strengthening the airline's brand image and enhancing passenger confidence (Zeithaml, Bitner, & Gremler, 2018). Theoretical frameworks in service marketing emphasize that physical evidence complements human and procedural elements to create a cohesive service experience.

2.1.4 Airline Service Quality

Service quality plays a vital role in shaping customer satisfaction and loyalty, especially in service-driven sectors like aviation. One of the most influential models in this area is SERVQUAL, developed by Parasuraman, Zeithaml, and Berry (1988), which evaluates service quality by comparing customer expectations with actual service experiences across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. However, some researchers argue that this model may not fully capture the complexities of specific industries, prompting the development of alternatives such as SERVPERF by Cronin and Taylor (1992), which focuses solely on perceived performance. The model developed by Deepa, M. V., & Jayaraman, K. (2017) have laid the groundwork for more industry-specific approaches. Particularly in the aviation sector, the service quality is shaped by unique factors like safety, punctuality, convenience, and the use of technology (Tiernan, Rhoades, & Waguespack, 2008; Wu & Cheng, 2013).

Expanding on these models, Grönroos (1984) emphasized the importance of both technical and functional quality—what is delivered versus how it is delivered. Brady and Cronin

(2001) added further distinction by organizing service quality into interaction quality, physical environment, and outcome quality. Several studies have applied these frameworks in airline contexts to assess their relationship with customer satisfaction, perceived value, and loyalty. For instance, Chen (2008) and Suki (2014) explored these dynamics among Asian passengers, while Curry and Gao (2012) focused on low-cost carriers in Europe. Other researchers like Namukasa (2013) and Abdullah et al. (2012) validated these models in African and Malaysian contexts, emphasizing the relevance of tangibility, reliability, and assurance in shaping customer perceptions. Moreover, studies underline the importance of safety & security—factors often overlooked in traditional service quality models—as essential components influencing passenger trust and airline selection (Afrazeh & Bartsch, 2007; Bala et al., 2013). Despite growing attention to satisfaction and loyalty, passenger confidence remains underexplored. As airline safety concerns, pricing, and operational efficiency continue to shape public perception, understanding how service quality impacts passenger confidence is more relevant than ever.

2.1.4.1 Safety & Security (SS) in Airline Service Quality

Passenger safety has always been one of the most important elements of airline service quality. It plays a vital role in how travelers judge the reliability of an airline and whether they choose to fly with it again. Cheng and Yeh (2004) were among the early researchers to point out that ensuring safety is not just about meeting regulations—it is a crucial part of an airline's long-term success. Supporting this view, Liou, Yen, and Tzeng (2008), as well as Chen and Chen (2012), argued that a strong track record in safety directly boosts an airline's reputation and gives it a competitive edge. In line with these findings, Gilbert, and Wong (2003) discovered that travelers from Hong Kong placed safety at the very top of their priorities when choosing an airline. Chang and Yeh (2004) added an interesting point: passengers often see the age of an airline's fleet as a sign of how safe the airline is. Similarly, Clemes et al. (2008) highlighted that in the context of international travel, safety and security are considered the most essential components of airline service quality.

Over time, more studies have reinforced the central role safety plays in shaping passenger perceptions. Hsu, Li, and Chen (2010) emphasized that well-developed safety policies and strong leadership are essential for keeping airline operations safe. Tsaur, Chang, and Yen (2002) used a fuzzy-set model to show that safety should be embedded not just in day-to-day operations, but

also in long-term strategy. Meanwhile, Chou et al. (2011), who surveyed international travelers in Taiwan, found that passengers consistently placed a high value on services that offered safety, reliability, and assurance. Wu and Cheng (2013) later introduced the SSQAI framework, which made safety a formal part of how service quality in airlines is measured.

More recent research has continued to highlight the importance of safety from various angles. For instance, Farooq et al. (2023) found that passengers who feel safe are more likely to become loyal to an airline, especially when their expectations are met throughout the journey. A 2024 meta-analysis covering nearly a hundred studies further confirmed that perceived safety remains one of the strongest predictors of passenger satisfaction today. Cao et al. (2023) also pointed out that airlines which focus on customer-centered services tend to perform better in both safety outcomes and overall service quality.

In studies focused on business travelers, safety continues to rank high. Lippitt et al. (2023) showed that travelers value safety just as much as comfort and reliability. Other recent analyses across different regions have reached similar conclusions. A 2024 study in Southeast Asia found that safety, along with brand reputation and service quality, plays a big role in how satisfied passengers feel. And research from the UAE in 2023 revealed that factors like safety, empathy, and service quality had the greatest impact on satisfaction—though loyalty was also influenced by how sensitive passengers were to price.

2.1.4.2 Timeliness (T) in Airline Service Quality

Timeliness, which often overlaps with the reliability component in service quality models such as SERVQUAL, plays a central role in shaping customer satisfaction within the airline industry. While SERVQUAL originally defines reliability as the ability to deliver promised services accurately and consistently, in the world of aviation, this concept is most commonly interpreted as punctuality—ensuring flights depart and arrive on time. Given how crucial this is to the passenger experience, this study uses the broader and more intuitive term “timeliness” to better capture what travelers expect in terms of speed, promptness, and sticking to published schedules.

Earlier research offers strong support for this perspective. For instance, Rhoades and Waguespack Jr. (2004) identified reliability as one of the most essential elements of airline

service quality. Likewise, Chen (2008) found that international passengers placed a high priority on on-time performance. Chou et al. (2011) observed a similar pattern among Taiwanese travelers, who gave timeliness the highest importance weight among all service dimensions. This trend has held true across a variety of national contexts. Studies by De Jager, Van Zyl, and Toriola (2012), for example, showed that both South African and Italian passengers consistently rated punctuality as a top priority. Later, De Jager and Van Zyl (2013) found the same results when studying Malaysian travelers. In Uganda, Namukasa (2013) emphasized that arriving on time significantly shaped passenger satisfaction, especially after the flight experience. Khuong and Dai (2014) reached a similar conclusion with Vietnamese flyers, where timely departures and arrivals strongly influenced satisfaction and the intention to use the same airline again. Complaints about delays were also widely reported in the Chinese market, with Vlachos and Lin (2014) noting that late arrivals negatively impacted brand loyalty and customer trust.

Recent studies have built on this foundation, expanding the discussion beyond operational punctuality to include how airlines handle delays and communicate with passengers. Park et al. (2019), for example, found that proactive communication during flight disruptions helped reduce dissatisfaction and maintained customer trust. Similarly, Zhu and Zhang (2020) highlighted how the use of real-time notifications and digital rebooking tools enabled airlines to better manage customer expectations during delays.

More up-to-date research continues to underline the importance of timeliness in the modern travel experience. Manchiraju et al. (2023) showed that U.S. airlines are adopting strategies like efficient boarding, schedule padding, and faster gate turnaround to improve on-time performance. According to a 2023 review in the Journal of Air Transport Research, digital tools and technologies—such as mobile apps and instant alerts—are increasingly seen as part of the service quality equation, particularly when it comes to managing delays. Additionally, real-world performance data confirms this focus: Forbes (2024) reported that several major North American airlines achieved on-time rates exceeding 80% in 2023, signaling a renewed industry emphasis on punctuality. A study at São Paulo's GRU Airport (2023) also reinforced how delays negatively influence traveler satisfaction, especially when airlines fail to communicate effectively through digital channels.

2.1.4.3 Pricing (P) in Airline Service Quality

Price and perceived value for money continue to be dominant factors influencing airline selection across various passenger demographics and markets. Mason (2001) observed that both low-cost and full-service airline passengers prioritize price, underscoring its universal importance in air travel decisions. While price plays a more obvious role in budget airline selection, even passengers of network carriers consider cost—though they may also factor in additional services, as noted by O'Connell and Williams (2005), who surveyed travelers in Europe and Asia. Their research suggested that passengers are generally willing to pay a premium when the perceived value—such as meals, baggage allowance, or loyalty benefits—justifies the fare. Martín-Consuegra, Molina, and Esteban (2006) also emphasized that price is one of the most consistent discriminators between airlines in the consumer decision-making process. This is particularly relevant in competitive markets where multiple carriers offer similar routes and flight times. Regular travelers, as highlighted by Martínez and Guillén (2006), often develop loyalty based on their sensitivity to pricing over time, especially if the pricing remains competitive and predictable. Furthermore, Santonen (2007) explained that highly price-sensitive customers are more inclined to prioritize cost above all else, often opting for the cheapest available alternative. For such travelers, even minor price differences can tip the balance. Supporting this, Hess, Adler, and Polak (2007), along with Suzuki (2007), found that both frequent flyer programs and pricing were leading attributes in passengers' airline selection criteria—an insight that connects monetary value with perceived loyalty rewards.

Interestingly, Dyes (2008) noted that approximately 30% of passengers cite pricing as the primary reason for choosing a specific airline. In some markets, price tolerance even affects service perception. For instance, Yeoh and Chan (2011) found that Malaysian travelers exhibited greater acceptance of Poor service when fares were low, demonstrating how expectations shift relative to price. Additionally, they pointed out that in the airline industry, pricing strategies and promotional offers are especially crucial during low-demand periods due to the perishable nature of service inventory. Dolnicar et al. (2011) examined the behavior of over 600 passengers and confirmed that price is a fundamental criterion in building customer loyalty. Meanwhile, Chang and Hung (2013), who focused on budget air travel between Taipei and Singapore, discovered that promotional fares and loyalty programs both played a pivotal role in retaining customers in low-cost segments. Namukasa (2013) added that price and discounts fall within the preflight

stage of the service quality spectrum, often setting the tone for overall satisfaction. Similarly, Jiang (2013), in a study of long-haul low-cost airlines, found that passengers evaluated airfare alongside ground services, schedule reliability, and in-flight experience when choosing a carrier. Vlachos and Lin (2014) explored loyalty among Chinese business travelers and confirmed that both competitive ticket pricing and frequent flyer incentives were essential factors for full-service airlines. The role of value perception was further elaborated by Akamavi et al. (2015), who suggested that consumers assess pricing in light of the overall value they receive. When customers receive good quality service, they perceive it as good value and are happy to pay a higher price because high quality leads to superior perceived value (Han and Hwang 2015) In essence, price is not merely a transactional element in airline choice—it serves as a psychological anchor around which consumers build their expectations and evaluations of service quality. As the airline industry continues to evolve, the balancing act between affordability and value-added services remains central to attracting and retaining passengers.

2.1.4.4 Facilities (F) in Airline Service Quality

In the context of airline service quality, the "facilities" dimension in this study closely mirrors the tangibles component in the SERVQUAL model, which refers to the physical representations of service such as cleanliness, and equipment. As one of the most visible and immediately perceivable aspects of service, facilities play a significant role in shaping first impressions and influencing passenger satisfaction (Parasuraman, Zeithaml, & Berry, 1988). Cleanliness, in particular, has consistently emerged as a critical determinant of passenger satisfaction. Aksoy, Atilgan, and Akinci (2003) noted that cleanliness is among the most influential factors that airlines can directly manage to enhance passenger experience. Similarly, Gilbert and Wong (2003) argued that although not all passengers may prioritize facilities equally, airlines should still tailor their physical service attributes to meet the expectations of specific market segments. Further studies have substantiated the role of tangible elements in the broader service experience. For example, Chen (2008), using a structural equation model (SEM) in a Taiwanese context, explored the links between perceived service quality and behavioral intentions, emphasizing the importance of physical cues in influencing customer perceptions. Kim and Lee (2011) employed multidimensional scaling techniques and also found that physical facilities, including seat comfort and cabin cleanliness, were central to shaping perceived service quality and subsequent satisfaction levels. Chou et al. (2011) applied a fuzzy-weighted

SERVQUAL framework to evaluate international airline service, reinforcing the relative weight of tangible elements in passengers' expectations. Similarly, Yeoh and Chan (2011), focusing on low-cost carrier passengers, observed that tangible factors such as cabin layout, comfort, and visible crew professionalism significantly affected repeat purchase intentions. In another comparative study, De Jager et al. (2012) found that passengers in South Africa and Italy placed increasing importance on physical attributes of service, especially in the post-pandemic era, where hygiene and space have become safety cues. Wu and Cheng (2013) offered a more structured view by introducing a hierarchical service quality model that includes physical environment quality as one of the primary pillars, alongside outcome and access quality. Suki (2014) explored tangibles among Malaysian airline passengers, identifying three key facets: airline tangibles, terminal tangibles, and empathetic service. In her findings, the appearance and demeanor of cabin crew, in-flight equipment, and the physical comfort of seats were found to significantly impact customer satisfaction. Tangibles, therefore, encompass a wide range of factors, including but not limited to seat ergonomics, aircraft cleanliness, ambient features like lighting and temperature control, and even the design and functionality of in-flight entertainment systems. Expanding this scope, Khuong (2014) categorized in-flight tangibles into multiple subfactors, such as seat pitch and width, food and beverage quality, entertainment options (e.g., personal screens, magazines, games), and even the condition of lavatories. These factors can substantially influence a passenger's overall evaluation of the journey, especially on long-haul flights where physical comfort becomes a critical need. Baggage handling also falls under the tangible domain. According to IATA (2014), over half of global travelers expressed a desire for a reusable digital luggage tag to reduce mishandling and loss. The frustration caused by delayed or mishandled baggage remains a common pain point, with roughly one in three passengers having experienced such issues. Airlines that offer modern tracking systems and transparent communication about baggage can alleviate this concern, thereby enhancing perceived service quality. Hussain, Al Nasser, and Hussain (2015) measured tangibility through eight detailed indicators, including cabin cleanliness, aircraft exterior appearance, seat comfort, crew attire, variety and quality of meals, diversity of in-flight entertainment, and technological upgrades onboard. Their study emphasized that even seemingly minor physical attributes, when combined, significantly affect customer satisfaction and long-term loyalty. Therefore, while facilities may seem secondary to operational elements like safety or timeliness, they form a critical part of the customer experience. Tangibles offer a direct, sensory encounter with the airline brand and are

often the deciding factor when service quality between competitors is otherwise comparable. With rising expectations around cleanliness, comfort, and technology—particularly in the post-COVID era—investing in high-quality facilities is now more crucial than ever for airlines seeking competitive differentiation.

2.1.4.5 Information Communication Technology (ICT) in Airline Service Quality

The modern airline industry is deeply intertwined with technological innovation, not only for operational efficiency but also as a strategic tool to enhance the passenger experience. With evolving customer expectations, travelers increasingly demand faster, more flexible, and more autonomous services that give them greater control over their travel experience. Historically, airline technology systems were isolated. For instance, reservation systems once operated independently from check-in, flight status updates, and communication channels used by gate agents and air traffic control (Rhoades & Waguespack Jr., 2004). However, as digital transformation gained momentum, this fragmentation has given way to integrated platforms that streamline service delivery across the passenger journey. Buhalis (2004) emphasized that self-service technologies, such as kiosks, significantly improve customer convenience by allowing passengers to complete tasks like check-in, seat selection, and printing boarding passes without staff assistance. These kiosks not only reduce congestion at counters but also offer 24/7 accessibility, which is critical in managing peak travel periods and off-hour demand. Information itself is a crucial component of service quality in public transport systems (Grotenhuis, Wiegmans, & Rietveld, 2007). In the airline industry, information availability and clarity have been identified as key subdimensions of service quality (Martínez Caro & Martínez García, 2007). When airlines use technology effectively, they not only increase operational efficiency but also create value for passengers by offering real-time updates and seamless interactions (Cheng, Chen, & Chang, 2008). Oyewole, Sankaran, and Choudhury (2007) further argued that passengers' satisfaction is influenced by various ICT-related touchpoints such as reservation procedures, real-time flight information, the airline's online image, and how feedback is collected and processed. In highly competitive environments, where switching to a rival airline is just a click away (Santonen, 2007), delivering a reliable and engaging digital experience can serve as a major competitive differentiator. Tronvoll (2007) also observed that self-service technologies have become vital in enhancing service convenience. Travelers now expect services that are not only efficient but also empowering, giving them more control over their journeys.

The airline industry, in turn, has leveraged these technologies not only to cut costs but to maintain—if not improve—service quality (Oyewole et al., 2008). Lau, Kwek, and Tan (2011) identified several key ICT features passengers expect, including user-friendly interfaces for online booking and a reduction in technical glitches during use. Additionally, 24/7 availability of digital services even outside business hours is becoming a baseline expectation (Oyewole et al., 2008). Passengers also appreciate timely updates delivered through mobile apps or SMS, and the option to access inflight technologies such as internet, email, and entertainment services (Chen, 2008). The International Air Transport Association (IATA) has consistently tracked these evolving preferences. Its 2013 Global Passenger Survey reported that nearly two-thirds of travelers prefer automated or mobile check-in methods, while only 11% still favor traditional check-in counters. In addition, approximately 80% of passengers expressed a desire to track their luggage throughout their journey, mirroring expectations formed by courier services (IATA, 2013). Technological advancements like e-tickets, mobile boarding passes, biometric boarding, and widespread airport Wi-Fi have fundamentally redefined the air travel experience over the last decade. These innovations not only streamline airport processes but also empower passengers by offering transparency, efficiency, and autonomy. Through connected mobile devices, passengers can now rebook flights, receive real-time notifications, track baggage, and manage loyalty points—all in one place (IATA, 2014). In essence, ICT has evolved from being merely a support function to a core element of airline service quality. As airlines strive to differentiate themselves, investment in user-centric technologies—especially those that enhance communication, reliability, and convenience—has become essential for both customer satisfaction and brand loyalty. The literature supports the view that information communication technology is an important dimension of airline service quality.

2.1.4.6 Sales Promotions (SP) in Airline Service Quality

Sales promotions have become a key component in enhancing perceived value and attracting price-sensitive customers in the highly competitive airline industry. According to Aksoy, Atilgan, and Akinci (2003), travelers increasingly view promotional offers as valuable components of airline service quality, often influencing their brand perception and travel decisions. Clemes et al. (2008) proposed that airlines should consider leveraging promotional campaigns that highlight their rigorous safety procedures and maintenance protocols, as these can instill a deeper sense of trust and assurance among passengers. Beyond simple price

reductions, airlines are now using relationship-oriented promotions to foster long-term customer loyalty. These promotions include value-added services such as complimentary transportation to and from the airport, bundled services, or upgrades, which serve as meaningful incentives for frequent travelers (Pi & Huang, 2011). Park, Choi, and Moon (2013) pointed out that promotional tools like loyalty programs—where monetary spending is translated into redeemable miles or points—help enhance the perceived value of a purchase while building a sense of reward and exclusivity. Tung, Kuo, and Kuo (2011) emphasized that sales promotions have tangible effects on customer attitudes by increasing brand appeal, willingness to purchase, and the perceived worth of airline services. When executed effectively, these strategies can stimulate immediate sales and shape long-term purchasing behavior. In the context of online travel bookings, Bansal, Singh, and Gangotia (2014) found that promotional activities, alongside service quality and user experience, significantly influenced customer satisfaction and repeat purchases in the Indian market. Passengers often seek the best value for their money, especially when options are abundant and similar in-service features. Therefore, promotional strategies like limited time offers, early bird discounts, and bundled deals (e.g., baggage allowance or seat selection at no extra cost) have become central to consumer decision-making. Airlines that understand these motivations are better positioned to create campaigns that not only drive bookings but also build emotional engagement and brand loyalty. Moreover, digital transformation has allowed carriers to personalize promotional offers based on browsing behavior, travel history, and customer segmentation. This data-driven approach ensures that promotions are not only effective in reaching their audience but also resonate on a personal level—ultimately enhancing the traveler's overall experience (Liu & Mattila, 2019).

In conclusion, sales promotions serve as more than just tactical tools for price cuts; they are strategic levers that impact customer perception, increase the perceived value of travel offerings, and foster stronger relationships between airlines and their passengers. Understanding their role is vital to building passenger trust and confidence, especially in competitive and price-sensitive markets

2.1.5 The role of Airline Service Culture as a mediator

In this study, the conceptual model includes airline service culture as a mediating factor that helps explain how service quality influences passenger confidence. Rather than focusing solely on visible service elements like punctuality or cleanliness, this approach highlights the deeper,

internal culture that shapes how service is delivered across every stage of the customer experience.

Service culture is best understood as the collective values, behaviors, and expectations shared within an organization. These guide how employees interact with customers—and with each other. This idea draws from organizational culture theory (Schein, 1992), which suggests that the underlying beliefs and assumptions within a company heavily influence day-to-day actions. In the context of service delivery, Grönroos (2007) explains that a real service culture goes beyond training manuals; it is about having a deep-rooted commitment to adding value through service.

From a strategic standpoint, the resource-based view (RBV) of the firm (Barney, 1991) offers a useful perspective. RBV suggests that service culture is a valuable and hard-to-copy organizational asset. Because it is shaped over time by internal routines, social interactions, and team dynamics, it becomes a unique and inimitable strength—giving the airline a lasting competitive edge.

Another way to understand service culture's impact is through Social Exchange Theory (Blau, 1964), which focuses on the idea of reciprocal relationships. When airline employees work in a supportive environment and feel valued, they are more likely to go beyond basic expectations—providing care, empathy, and attentiveness to passengers. These extra efforts build trust and satisfaction, showing how internal culture directly affects the customer experience.

This concept also fits within Service-Dominant (S-D) Logic (Vargo & Lusch, 2004), which reframes value not as something produced and handed over, but as something co-created in the moment between employees and customers. A strong service culture sets the stage for these meaningful exchanges by fostering responsiveness, accountability, and human connection. In this way, service culture functions as a mediator. Service quality—no matter how well-designed—may not translate into passenger confidence unless it is delivered in a way that feels consistent, thoughtful, and emotionally engaging. Culture brings life to procedures, turning transactions into positive experiences that passengers can connect with and trust.

The Service-Profit Chain model (Heskett et al., 1994) supports this idea by linking internal service environments to external customer satisfaction. When employees feel aligned with a shared mission of service excellence, the result is stronger relationships and improved perceptions from passengers. This alignment plays a key role in shaping how customers feel about the airline—not just in the moment, but long after the flight.

2.1.6 Passenger Confidence

The dependent variable in this study is passenger confidence, which represents the extent to which airline passengers trust the reliability, safety, and service commitment of an airline throughout the travel experience. Confidence has been widely recognized as a key factor in customer decision-making in service industries, particularly those involving perceived risks, such as air travel (McKnight, Choudhury, and Kacmar 2002). Confidence in the airline context can reflect a passenger's belief in the carrier's ability to deliver safe, timely, and satisfactory service, thereby reducing travel-related anxiety and increasing repeat patronage.

Passenger confidence is largely influenced by perceived trust and assurance in the airline's capabilities and operational transparency (Morgan and Hunt 1994). According to Sirdeshmukh, Singh, and Sabol (2002), customer confidence arises from value-creating practices that are consistent, competent, and ethical, and these traits are especially critical in high-involvement services such as aviation. Trust-building behaviors from airline employees, timely information dissemination, and the reliability of both physical assets and customer interactions all contribute to fostering confidence among travelers (Berry and Parasuraman 1991). In the aviation context, passengers evaluate multiple cues such as safety records, customer service reliability, and problem-handling capacity when forming a confidence judgment (Chen and Chang 2005). Emotional assurance is particularly relevant when customers perceive high risk; air travel, being a high-contact and high-risk service, therefore necessitates a higher degree of passenger confidence for loyalty and satisfaction to develop (Kim, Ferrin, and Rao 2008). Frequent service disruptions, such as delays or mishandled baggage, erode passenger confidence, while consistency and responsiveness enhance it (Bitner, Booms, and Mohr 1994). Moreover, airline branding and digital transparency have become integral to the formation of passenger confidence. With the increased use of online bookings and digital self-service options, passengers assess the trustworthiness and credibility of the airline's digital platforms as proxies

for overall service quality (Liu and Mattila 2017). Airline reputation, crisis communication, and responsiveness on social media also significantly influence perceptions of reliability and emotional security (Kim and Ko 2012).

Despite its importance, passenger confidence has not been extensively conceptualized or measured as a standalone construct in aviation studies. Existing research often embeds it within broader dimensions such as trust, perceived risk, or satisfaction (Kassim and Asiah Abdullah 2010). Thus, this study attempts to empirically investigate passenger confidence as a distinct outcome of service quality dimensions, especially in a post-pandemic context where safety assurance, contactless service, and digital transparency have grown in importance. Given the evolving expectations of airline passengers, enhancing passenger confidence is essential to restoring travel demand and achieving long-term loyalty (IATA 2021).

2.2 Empirical Literature Review and Hypothesis Development

This section provides a comprehensive overview of both theoretical insights and empirical research that form the basis of the study's conceptual model. It explores how airline service quality influences passenger confidence, not only in a direct sense but also through the mediation effect of service culture. The connections between these variables are grounded in existing research findings, offering a strong foundation for developing the study's hypotheses.

2.2.1 Direct Effects of Airline Service Quality on Passenger Confidence

Airline service quality continues to be a central factor influencing passenger satisfaction, trust, and long-term loyalty within the aviation industry. Service quality is a multidimensional construct, commonly assessed through elements such as safety & security, timeliness, pricing strategies, onboard and ground facilities, digital service capabilities, and promotional offers. When any of these facets fall short of passenger expectations, it can erode confidence in the airline and discourage repeat patronage (Campbell & Vigar-Ellis, 2013; Gao & Koo, 2014). Among these dimensions, safety & security are non-negotiable for passengers and often serve as the baseline for evaluating an airline's credibility. Studies by Cheng, Chen, and Chang (2008) emphasize that safety practices that prioritize passenger well-being create a foundation of trust—one of the key ingredients for customer satisfaction in aviation. Likewise, timeliness, particularly on-time departures, and arrivals, is a strong predictor of service reliability and affects a traveler's

perception of professionalism and efficiency (Chou, Liu, Huang, Yih, & Han, 2011). Delays and cancellations have consistently been linked to lower satisfaction and reduced trust. Pricing, another critical element, plays a dual role. Not only does competitive pricing attract cost-sensitive customers, but strategies such as frequent flyer programs and bundled fares have been shown to enhance perceived value and build brand loyalty (Akamavi, Mohamed, Pellmann, & Xu, 2015; Park, Choi, & Moon, 2013). Meanwhile, comfort-related services—such as clean and spacious cabins, inflight entertainment, and courteous staff—significantly affect how passengers evaluate the overall value of their experience (Chen, Tseng, & Lin, 2011). In the digital age, passengers increasingly value seamless interactions through information communication technologies (ICT). Self-service kiosks, mobile apps for booking and real-time updates, and baggage tracking systems are all examples of digital touchpoints that shape perceptions of airline efficiency and responsiveness (Oyewole, Sankaran, & Choudhury, 2007; IATA, 2014). When executed effectively, these tools not only improve operational transparency but also increase customer autonomy and satisfaction. Furthermore, sales promotions—ranging from limited-time discounts and early bird fares to loyalty-based rewards—can influence consumers' decision-making by enhancing the perceived value of the offering. Forgas, Moliner, Sánchez, and Palau (2010) noted that promotional strategies act as key triggers for trust-building and purchase intention, particularly when aligned with customer expectations. Similarly, Dolnicar, Grabler, Grün, and Kulnig (2011) observed that value-added services, such as complimentary transport or upgrades, can improve overall brand perception and repeat usage.

Drawing on these cumulative insights, this study proposes that:

***H1a–H1f**: Airline service quality measurements (H1a: safety and security, H1b: timeliness, H1c: pricing, H1d: facilities, H1e: ICT, and H1f: sales promotions) positively influence passenger confidence.*

2.2.2 Direct Effects of Airline Service Quality on Service Culture

Service culture refers to the collective mindset, behaviors, and practices within an organization that emphasize and support the consistent delivery of high-quality service. In the airline industry, this cultural foundation plays a pivotal role in shaping the way employees interact with passengers and uphold the airline's service standards. Grönroos (2007) highlighted that a well-established service culture instills in employees a strong commitment to customer-

centric values, encouraging them to exceed expectations and enhance the passenger experience. In this context, the quality of service provided by airlines has a significant influence on shaping internal work environments. A culture that fosters clear communication, responsiveness, and customer empathy not only improves service delivery but also boosts employee morale and engagement. Park, Robertson, and Wu (2012) discovered that the internal service culture, comprising shared beliefs and behavioral norms, mediates the relationship between functional service quality and passenger trust—implying that internal alignment with service quality goals is essential to achieving external customer satisfaction. Operational factors such as safety procedures, punctual departures, competitive pricing, and standardized inflight experiences are all reflections of an airline's underlying service culture. These practices convey to both employees and passengers that the airline prioritizes reliability, security, and consistency in its service promise (Gill, 2004). In essence, service culture creates a framework through which service quality is implemented on the frontlines. Moreover, Hennig-Thurau and Thurau (2003) emphasized that employee behavior in service encounters is directly shaped by organizational values and expectations. A robust service culture aligns employee attitudes with the organization's strategic focus on customer satisfaction, fostering behaviors like attentiveness, courtesy, and accountability. This internal alignment translates into stronger trust-building experiences for customers. Given this conceptual understanding, the following hypothesis is proposed to explore the mediating role of service culture in the relationship between airline service quality and passenger confidence.

***H2a–H2f**: Airline service quality measurements (H2a: safety and security, H2b: timeliness, H2c: pricing, H2d: facilities, H2e: ICT, and H2f: sales promotions) positively influence service culture.*

2.2.3 Direct Effect of Service Culture on Passenger Confidence

Service culture significantly shapes how customers perceive an airline's reliability, professionalism, and overall quality. One of the most visible ways this culture is conveyed is through employee-passenger interactions, which directly influence passengers' confidence in the airline. According to Grönroos (2007), a genuine service-oriented culture empowers employees to act with empathy, responsiveness, and respect, creating positive and lasting impressions. These values are not just policies on paper—they become part of the behavior passengers witness

during check-in, boarding, in-flight service, and issue resolution. The quality of these interactions plays a pivotal role in building emotional connections between passengers and the airline. Guenzi and Pelloni (2004) found that customer satisfaction and long-term loyalty are closely linked to service employees' ability to engage meaningfully with customers. In the context of air travel—where stress, uncertainty, and time sensitivity are common—this interpersonal component becomes even more crucial. Cheng, Chen, and Chang (2008) emphasized that courteous and attentive flight attendants can significantly enhance passenger trust, especially when combined with timely, safe, and comfortable service experiences. Moreover, aspects such as professional conduct, helpfulness during disruptions, and personalized communication reflect an airline's commitment to service excellence. Vlachos and Lin (2014) further observed that the implementation of loyalty-enhancing programs (e.g., frequent flyer perks, seamless complaint resolution, and recognition of returning customers) strengthens the link between service culture and customer loyalty. These efforts showcase an internal culture that values passenger relationships beyond just one transaction. Additionally, Hopkins, Nie, and Hopkins (2011) underlined that in high-contact industries like aviation, service culture serves as a bridge between internal employee behavior and external customer confidence. A well-aligned culture helps employees project competence, reliability, and sincerity—attributes that significantly influence whether customers feel assured in their airline choice. Therefore, recognizing the central role of employee conduct and company culture in shaping customer experience, the following hypothesis is proposed:

H3: Service culture positively influences passenger confidence in air travel.

2.2.4 Mediation Effect of Service Culture between Airline Service Quality and Passenger Confidence

The mediating function of service culture plays a pivotal role in bridging the gap between service quality and the customer's overall confidence in the airline. While service quality provides the foundational elements—such as safety, punctuality, and professionalism—it is the internal cultural environment that determines how consistently and meaningfully these standards are delivered across touchpoints. According to Skinner, Beitelspacher, Richey, and Reynolds (2011), organizations with a strong service culture foster employee behaviors that align with customer expectations, leading to more uniform and satisfactory service experiences. Han and

Hwang (2015) demonstrated that passengers' perceptions of in-flight service are not merely based on service features alone but are also shaped by the manner in which service personnel embody the company's values. This includes their attitudes, tone of voice, non-verbal communication, and responsiveness during service interactions. The ability of staff to humanize the service encounter can often be the deciding factor between an average and an exceptional flight experience. Furthermore, emotional engagement plays a significant role in enhancing these perceptions. Seneviratne and Molesworth (2015) highlighted how seemingly simple emotional cues—such as humor, a warm smile, or empathic listening—can build rapport, boost comfort levels, and reinforce a sense of trust and satisfaction among passengers. These cues are especially important in high-stress environments such as air travel, where reassurance and positive human interaction significantly affect customer outcomes. When employees internalize and express the airline's service values, it results in service delivery that feels authentic and consistent. This builds not just transactional satisfaction but emotional loyalty—passengers feel valued, understood, and are more inclined to return. As a result, service culture acts as a psychological and behavioral conduit that amplifies the effects of service quality, turning operational excellence into customer confidence and loyalty.

In light of these insights, the following hypothesis is proposed:

***H4a–H4f**: Service culture mediates the relationship between airline service quality measurements and passenger confidence in air travel.*

2.3 Research gaps

Over the years, many studies have looked into how the quality of airline services affects important passenger outcomes like satisfaction, loyalty, and trust (Grönroos, 1982; Parasuraman et al., 1988; Brady & Cronin Jr., 2001; Cheng, Chen, & Chang, 2008; Chou et al., 2011; Kim & Lee, 2011). These works mostly focus on key areas such as safety, punctuality, pricing, the comfort of facilities, and the use of technology for communication. At the same time, researchers have also paid attention to service culture—the shared values and behaviors within an airline—and how it shapes employee attitudes and overall company performance (Gronroos, 2007; Gilbert & Wong, 2003; Skinner et al., 2011). However, one important aspect that has not been explored enough is passenger confidence. This goes beyond just satisfaction or trust; it is about how assured passengers feel that an airline can consistently deliver safe, reliable, and high-

quality service. This feeling of confidence is especially critical now, as travelers' expectations have shifted dramatically after the pandemic, with more focus on health safety and transparency (Gursoy & Chi, 2020; Lassoued & Hobbs, 2015). Additionally, while service culture is recognized for its positive impact on employee performance and customer satisfaction (Ooncharoen & Ussahawanitchakit, 2008; Shah & Jain, 2015), there is still a lack of understanding about how it acts as a bridge between service quality and passenger confidence. In airlines, where direct interaction between staff and passengers plays a huge role in shaping experiences, exploring this connection becomes even more important (Hopkins, Nie, & Hopkins, 2011). Another noticeable gap is that most research comes from developed regions like North America, Europe, and parts of Asia. African airlines, such as Ethiopian Airlines, operate under different circumstances with unique challenges related to infrastructure, culture, and regulations. These differences likely affect how passengers perceive service quality and confidence, but these contexts are often left out of the conversation (Akanbi & Salaudeen, 2022).

Given these observations, this study aims to fill these gaps by:

1. Focusing on **passenger confidence** as a distinct and important outcome.
2. Exploring the **mediating role of service culture** in shaping that confidence; and
3. Providing **context-specific insights from African aviation**, particularly through the lens of Ethiopian Airlines.

2.4 Conceptual framework

This study builds on a wide body of existing literature on airline service quality, organizational culture, and customer behavior to develop a conceptual model that captures the relationships among these constructs. The framework is formed using Stimulus–Organism–Response (S-O-R) model introduced by Mehrabian Mehrabian, A., & Russell, J. A. (1974) a psychological theory often used to understand how environmental factors influence internal cognitive and emotional states, which then shape behavioral outcomes. This approach is especially useful in service industries where intangible experiences shape customer decisions. In the context of air travel, this framework is adapted to better suit the dynamics of the airline industry. Here, the stimulus refers to the external service features provided by the airline—these include tangible and intangible service dimensions that influence the passenger's perception during their travel experience. The organism represents the internal process that passengers

undergo when interpreting these service encounters, and the response reflects the resulting behavioral or emotional outcome—specifically, passenger confidence. To deepen the applicability of the model, this study incorporates a seven-dimensional extension of the S-O-R framework, tailoring it specifically to the aviation context. Six key dimensions of airline service quality are identified as the independent variables (stimuli):

- **Facilities** – The physical condition of aircraft, seating, in-flight comfort, and entertainment systems (Chou et al., 2011).
- **Timeliness** – Adherence to schedules and efficient check-in and boarding processes (Namukasa, 2013).
- **Pricing** – Competitive fare structures and perceived value for money (Chen, 2008).
- **Information Communication Technology (ICT)** – Digital tools for ticketing, real-time updates, and customer engagement (Suki, 2014).
- **Sales Promotions** – Special offers, loyalty programs, and marketing campaigns (Gilbert & Wong, 2003).
- **Safety and Security** – Compliance with international aviation safety protocols and pandemic-related health practices (Bala, Sharma, & Kumar, 2013; Gursoy & Chi, 2020).

These elements represent the passengers' direct encounters with airline services, shaping their immediate impressions and expectations. At the core of this model, service culture is introduced as the mediating variable (the organism). It represents the internalized values, attitudes, and behavioral norms of airline staff and management that influence how service is delivered and experienced (Gronroos, 2007; Skinner et al., 2011). A positive service culture promotes consistent service delivery, enhances employee engagement, and plays a pivotal role in shaping how passengers interpret service quality.

The dependent variable in this study is passenger confidence (the response). Unlike constructs such as satisfaction or trust, confidence captures a more holistic and emotionally grounded belief that the airline is dependable, safe, and committed to delivering high-quality service across various touchpoints (Forgas et al., 2010). This is especially relevant in the post-pandemic era, where passengers have become more cautious and place greater emphasis on

health safety, transparency, and operational stability (Gursoy & Chi, 2020; Lassoued & Hobbs, 2015). Therefore, the proposed conceptual framework seeks to bridge existing theoretical gaps by applying a tailored S-O-R model that captures the complex interplay between service quality, organizational culture, and passenger psychology within the aviation sector—particularly in African market contexts, where such dynamics are underexplored. The mapping between the S-O-R framework and the variable in this study is summarized in Table 1.

Table 1: The relationship between original S-O-R model, the seven-sector S-O-R model and latent variables of the present study

Segment	S-O-R Factor	Sector of the psychological system	Example of Variable	Variables to be measured in the present study
1	Stimulus	Encountered Environment (External Stimulus)	Services rendered by an airline company after comparison with other industry players	Pricing, information communication technology, sales promotion (factors of airline service quality – IVs)
2	Stimulus + Organism	Automatic Processing (Internal Stimulus)	Services rendered within the purview of individual airline company	Timeliness, facilities, safety and security (factors of airline service quality – IV)
3	Organism	Experiential Storehouse	The practices adopted (subject to change) by individual airline company as perceived by airline passengers	Service culture (MV)
4	Stimulus + Organism + Response	Consciousness	—	—
5	Stimulus + Response	Non-trace stimulus response events	—	—
6	Organism + Response	Internal Responses	Perceived intention and behavior toward air travel based on previous experience	Passenger confidence in air travel (DV)
7	Response	External Responses	Behavior toward air travel based on previous experience	Passenger confidence in air travel (DV)

Abbreviations: *IV, Independent Variables; MV, Mediating Variable; DV, Dependent Variable.*
Source: *Reproduced from Deepa and Jayaraman (2017)*

The proposed conceptual framework suggests that each of the six identified dimensions of airline service quality—namely facilities, timeliness, pricing, information communication technology (ICT), sales promotions, and safety & security—acts as an external stimulus that influences the passenger's psychological response, which in this case is passenger confidence. These dimensions represent critical elements of the airline experience that shape passengers' perceptions, expectations, and eventual behavioral responses (Chou et al., 2011; Chen, 2008; Namukasa, 2013). Crucially, this model integrates service culture as a mediating construct that explains how service quality is translated into emotional and cognitive reassurance for the passenger. It recognizes that external service delivery alone does not guarantee customer confidence. Rather, it is the internal culture of the organization—reflected in staff attitudes, communication style, and service consistency—that allows passengers to interpret service cues as reliable, trustworthy, and emotionally reassuring (Gronroos, 2007; Skinner et al., 2011).

By applying the Stimulus–Organism–Response (S-O-R) theoretical lens (Mehrabian & Russell, 1974), this study goes beyond a simple cause-effect analysis and instead investigates the mechanism of influence. It examines how passengers cognitively and emotionally process the quality of services offered, with the internal service culture acting as the "organism" that filters and shapes these perceptions before resulting in an affective outcome such as confidence. This approach is particularly relevant in the post-COVID-19 travel landscape, where customers are more sensitive to factors such as health security, staff responsiveness, and transparent communication (Gursoy & Chi, 2020). Moreover, the model adds new insight by focusing on Ethiopian Airlines, a major African carrier that has received global recognition but is still underrepresented in academic research. Contextualizing the framework within this setting helps address the geographical and contextual gaps in airline service quality literature, which often centers around Western and Asian markets (Akanbi & Salaudeen, 2022).

The framework aims not only to test whether service quality impacts passenger confidence, but also to explore the underlying processes that mediate this relationship—offering a deeper and more actionable understanding for airline management. Such insights can guide service design, employee training, and cultural alignment efforts aimed at enhancing passenger trust, especially in Africa aviation markets. (See figure 1).

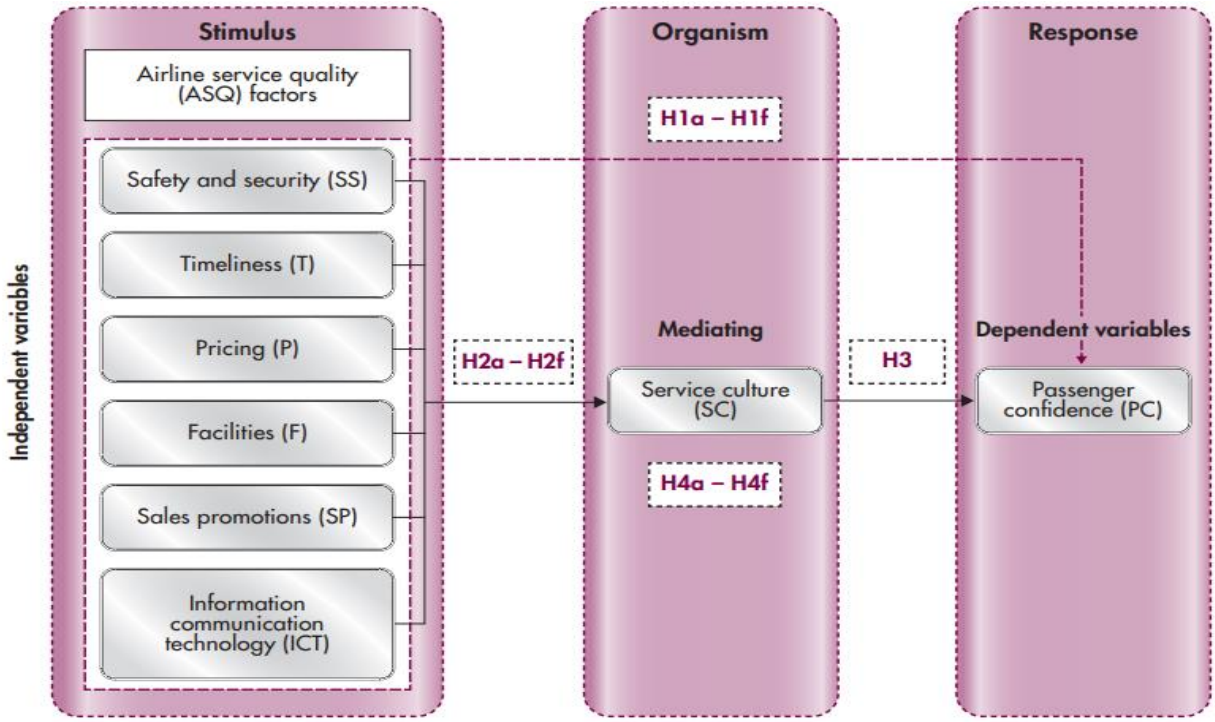


Figure 1**: **Conceptual Research Framework
***Source:** Reproduced from Deepa and Jayaraman (2017)*

Chapter Three

3. Research methodology

3.1 Introduction

This chapter explains how the research was carried out to explore what affects passengers' confidence in air travel, specifically in the case of Ethiopian Airlines passengers. The study builds on a model proposed by Deepa and Jayaraman (2017), which suggests that six dimensions of airline service quality can influence how confident passengers feel in air travel, especially when mediated by the airline's service culture.

3.2 Research design.

This study uses a quantitative, cross-sectional, and explanatory design to explore what shapes passengers' confidence in air travel. A quantitative approach was chosen because it allows the researcher to test specific hypotheses using measurable data. It provides a structured way to examine relationships between different factors like service quality, service culture, and passenger confidence. The cross-sectional design means that data was collected at a single point in time. This is a practical and time-efficient method, especially when studying recent travel experiences. It is well-suited for this research because it captures passengers' perceptions without needing a long-term follow-up, which would not be feasible for this study. The design is also explanatory, meaning it seeks to go beyond just describing patterns or opinions. The goal is to explain why and how certain aspects of airline service quality and organizational culture contribute to passengers feeling confident when they fly. This fits well with the conceptual model developed from previous literature, particularly the framework adapted from Deepa and Jayaraman (2017) and the S-O-R (Stimulus–Organism–Response) theory. To collect the data, a structured survey questionnaire was distributed to individuals who had flown with Ethiopian Airlines within the past 12 months. This method allowed the researcher to gather consistent, comparable information across a large number of respondents, making it easier to analyze trends and test the proposed hypotheses.

This study focuses on examining the following hypotheses, adapted from Deepa and Jayaraman (2017):

- **H1a-H1f:** Airline service quality measurements (safety and security, timeliness, pricing, facilities, information communication technology, and sales promotions) positively influence passenger confidence.
- **H2a-H2f:** Airline service quality measurements (safety and security, timeliness, pricing, facilities, information communication technology, and sales promotions) positively influence service culture.
- **H3:** Service culture positively influences passenger confidence.
- **H4a-H4f:** Service culture mediates the relationship between airline service quality measurements and passenger confidence.

3.3 Target Population

This study focused on passengers who had flown with Ethiopian Airlines within the past 12 months. Choosing this timeframe helped ensure that participants' experiences were recent enough to remember clearly, which is especially important in travel-related research. As noted by researchers like Dolnicar (2013) and Bradburn et al. (1987), people tend to forget key details if too much time passes, particularly when asked about events like air travel that do not happen regularly. A cross-sectional design was chosen for its practicality. It allows researchers to capture a snapshot of opinions and behaviors at a single point in time, which is useful when testing multiple variables without requiring long-term data collection. This approach is widely used in social sciences for its efficiency and cost-effectiveness, as highlighted by Creswell (2014) and Levin (2006). To reflect a wide range of passenger experiences, the survey aimed to include participants from different backgrounds. This included variation in age, gender, education level, travel frequency, reasons for flying (such as business or leisure), flight type (domestic or international), and travel class. Including a diverse group helps create a fuller picture of passenger perceptions, which researchers like Dolnicar (2008) and Moutinho (2011) have emphasized as crucial for understanding different types of travelers. The survey reached respondents through google form. While this method allowed for a broad and diverse sample, future research could benefit from direct access to the airline's customer database to enhance representativeness even further.

3.4 Study Population

The study population refers to the specific and accessible subset of the target population that meets defined eligibility criteria and is available for participation (Arias-Gómez, Villasís-Keever, & Miranda-Novales, 2016). For this research, the study population consists of passengers who have flown with Ethiopian Airlines in the last 12 months and can be accessed directly or indirectly by the researcher.

Due to constraints in obtaining a comprehensive list of airlines passengers' data, as well as legal considerations related to data privacy regulations such as the General Data Protection Regulation (GDPR), data collection is carried out using a referral-based, non-probability sampling approach. Specifically, eligible participants were identified through the researcher's personal and professional network. These initial participants were also invited to recommend other individuals who met the study's inclusion criteria. This snowball sampling approach is useful when other sampling frames are unavailable and helps improve the feasibility of data collection while adhering to ethical guidelines (Etikan, Musa, & Alkassim, 2016; Naderifar, Goli, & Ghaljaie, 2017). Additionally, compliance with GDPR ensures that participant privacy and data protection requirements are met throughout the research process (European Union, 2016). Non-probability sampling methods like this are commonly used in social research when access and ethical constraints limit other approaches (Babbie, 2020).

3.5 Sample Size

The sample size for this study was determined based on established SEM guidelines. The model includes eight main factors and 55 survey questions measuring various aspects of airline service quality, service culture, and passenger confidence. According to Cohen's (1988) recommendations, approximately 212 participants are sufficient to detect meaningful effects with adequate statistical power. (e.g., $f^2 = 0.15$) in multiple regression analyses with several predictors, assuming a significance level of 0.05 and a power of 0.80. To further strengthen the quality of the results and to account for any incomplete or unusable responses, the researcher collected data from 250 participants, and gathered 245 valid responses. This sample size is consistent with other SEM-based studies in the airline industry, where sample sizes typically range from 200 to over 400 to ensure stable model estimates and broader generalizability (e.g., Deepa & Jayaraman, 2017; Atilgan et al., 2008).

3.6 Measurement

The survey instrument is adapted from Deepa and Jayaraman (2017). The questionnaire consists of multi-item scales designed to measure the key constructs:

- Airline Service Quality: Is measured using 39 items across six dimensions:
    - Safety and Security (9 items)
    - Timeliness (6 items)
    - Pricing (5 items)
    - Facilities (7 items)
    - Information Communication Technology (5 items)
    - Sales Promotions (7 items)
- Service Culture: Is measured using 10 items, assessing passengers' perceptions of the airline's customer-oriented service culture.
- Passenger Confidence: Is measured using 6 items, assessing the extent to which passengers feel confident in Ethiopian Airlines.

All items are measured using 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree). The full questionnaire is included as an appendix under.

Validity and Reliability

To ensure the validity and reliability of the adapted measurement instrument, the following steps are taken:

- **Face and Content Validity:** The adapted questionnaire is reviewed by experts in aviation management, service quality, and marketing, including academics and industry professionals. This review assessed the clarity, relevance, and comprehensiveness of the items in measuring the intended constructs.
- **Pilot Study:** A pilot study is conducted with a small sample (n=30) of Ethiopian Airlines passengers to assess the clarity, readability, and comprehensibility of the questionnaire.
- **Construct Validity and Reliability:** Upon collecting the main data, the construct validity and reliability of the scales is assessed using statistical techniques.

3.7 Data gathering Tools

This study used a questionnaire, using google form, to collect data. According to Kombo et al. (2002), a questionnaire is a tool made up of a set of questions designed to gather information directly from respondents. It is widely used in research to collect data about people's opinions, behaviors, or characteristics because it is straightforward and easy to manage. The reasons questionnaires are preferred is because of their many advantages. As highlighted by R. Kumar (2014) in Research Methodology, questionnaires are cost-effective and allow for quick data collection. They use standardized questions, which help maintain consistency across all responses. Additionally, questionnaires offer anonymity to respondents, encouraging more honest answers. They are also versatile since they can cover a broad range of topics and be distributed in different ways—whether online, face-to-face, or by mail. Plus, the structured nature of questionnaires makes it easier to quantify the responses for statistical analysis. Closed-ended questions are used is this study because they tend to get higher response rates and make data easier to code and analyze. This is especially helpful when aiming to demonstrate the statistical significance of the survey results.

3.8 Data Analysis Method

The data analysis followed a systematic approach using Partial Least Squares Structural Equation Modeling (PLS-SEM) as the analytical method, implemented through the SmartPLS software. PLS-SEM was chosen due to its suitability for exploring complex relationships between latent constructs, especially with reflective measurement models as used in this study. The model consisted of eight constructs measured by multiple indicators, with a mix of reflective indicators. Key validation procedures included assessing internal consistency reliability (using Cronbach's Alpha and Composite Reliability), convergent validity (Average Variance Extracted, AVE), and discriminant validity to ensure the constructs were measured accurately. Prior to model estimation, the dataset was carefully screened for missing values and outliers. Multicollinearity among indicators was assessed using Variance Inflation Factor (VIF) values to ensure the predictors were not highly correlated. SmartPLS software facilitated the estimation of path coefficients, which quantify the strength and direction of relationships between constructs, including mediation effects involving service culture. Bootstrapping with 10,000 resamples was conducted to test the statistical significance of path coefficients and indirect effects, thus

supporting robust hypothesis testing. Descriptive statistics (means and standard deviations) were also computed to summarize key characteristics of the data. Throughout the analysis, visualizations such as path diagrams and tables were generated to clearly present the results. By following these steps, the study ensured a rigorous evaluation of the model's fit and the reliability of findings, providing a comprehensive understanding of the relationships within the data.

3.9 Ethical Consideration

Ethical considerations are a crucial part of any research, as they help ensure the study is conducted responsibly and respectfully. As Cooper and Schindler (2008) explain, research ethics involve a set of guidelines that direct how researchers should treat participants, manage data, and share their findings. In this study, key ethical principles such as informed consent, confidentiality, voluntary participation, and data protection are carefully followed. Before participating, everyone was fully informed about the study's purpose, goals, and importance. They were told that joining the study is completely their choice. Privacy was respected at every step. The questionnaire did not ask for names or any personal identifiers, so all answers will remain anonymous and will only be used for academic purposes. The data collected are securely stored, with access limited only to the researcher. Furthermore, strict data protection measures were in place to prevent any misuse or loss of information. The data will only be used for this study and will not be shared with anyone else. Lastly, the research is designed to avoid causing any harm or discomfort. Since it focuses on customer experiences with an airline and does not touch on sensitive personal topics.

Chapter Four

4. Results and Discussion

4.1. Respondents Demographic Characteristics

This section presents the demographic profile of the 257 respondents who participated in the study. Table 2 summarizes the data collected through an online Google Form survey.

Gender Distribution: Out of the 257 respondents, a majority were male, accounting for 66.9% (n = 172), while 33.1% (n = 85) were female. (See figure 2).

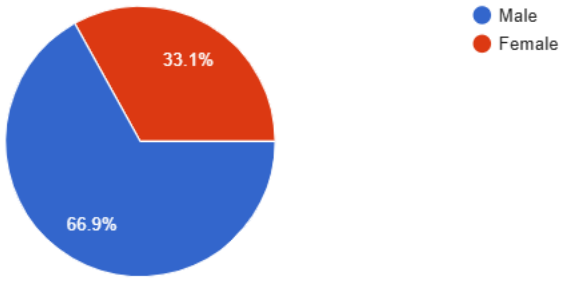


Figure 2: Gender Distribution
***Source**: Google Forms output*

Educational Background: In terms of educational background, 51.4% (n = 132) of respondents held a bachelor's degree, 32.3% (n = 83) had a master's degree or higher, and 16.3% (n = 42) had less than a bachelor's degree. This indicates that the sample was largely composed of well-educated individuals. (See figure 3).

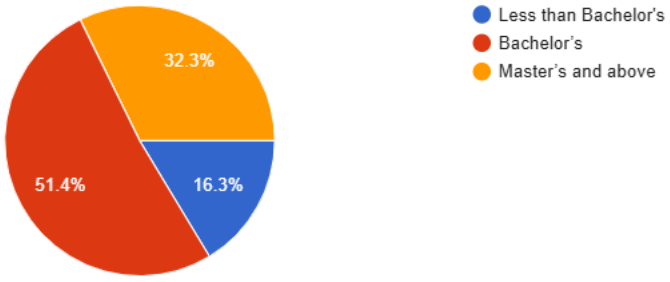


Figure 3: Educational Background Distribution
***Source**: Google Forms output*

Age: The largest age group was 31–40 years, comprising 45.9% (n = 118) of the respondents. It was followed by those aged 40 and above at 25.3% (n = 65), and those aged 23–30 years at 23.7% (n = 61). A smaller portion, 5.1% (n = 13), were 22 years old or younger. (See figure 4).

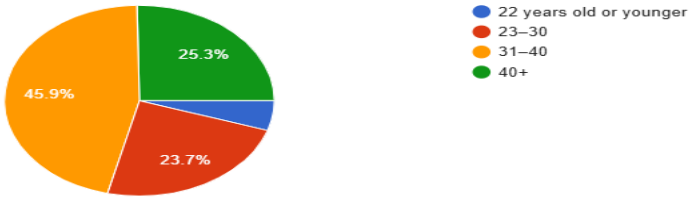


Figure 4: Age Distribution
***Source**: Google Forms output*

Frequency of Air Travel: The majority of respondents, 59.9% (n = 154), reported traveling by air 1–5 times per year, 19.8% (n = 51) flying 6–10 times annually, 16% (n = 41) travel less than once per year, and 4.3% (n = 11) fly more than 10 times a year. This demonstrates the data is collected from individuals that have a good flight experience. (See figure 5).

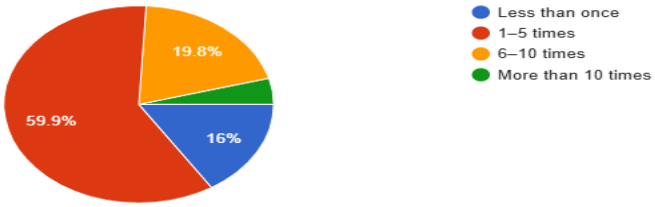


Figure 5: Frequency of Air Travel Distribution
***Source**: Google Forms output*

Purpose of Travel: 37% (n = 95) respondents indicate that they flew for family or personal reasons, followed by 31.5% (n = 81) for leisure or tourism, and 26.8% (n = 69) for business purposes. A small number, 4.7% (n = 12), selected other reasons. (See figure 6).

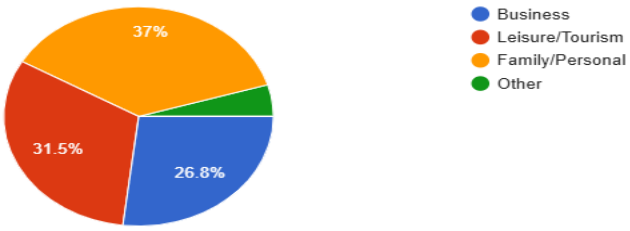


Figure 6: Purpose of Travel Distribution
***Source**: Google Forms output*

Type of Flights: When asked about the nature of their flights that they mostly take, 36.6% (n = 94) reported flying both domestic and international sectors, 35.4% (n = 91) flying internationally, and 28% (n = 72) flying domestically. (See figure 7).

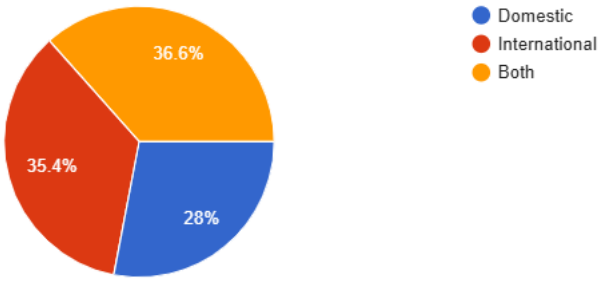


Figure 7: Type of Flights Distribution
***Source**: Google Forms output*

Frequent Flyer Membership: A substantial majority of respondents, 73.9% (n = 190), reported being members of Ethiopian Airlines' Frequent Flyers Program, while 26.1% (n = 67) were not. (See figure 8).

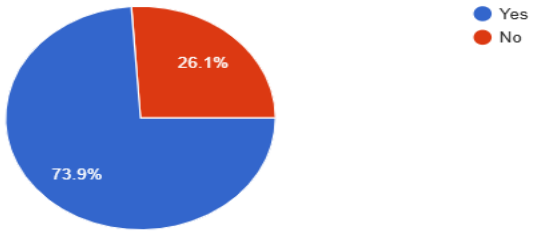


Figure 8: Frequent Flyer Membership Distribution
***Source:** Google Forms output*

Flight Class: Most respondents, 89.5% (n = 230), indicated that they predominantly fly in economy class, while 10.5% (n = 27) fly in business class. (See figure 9).

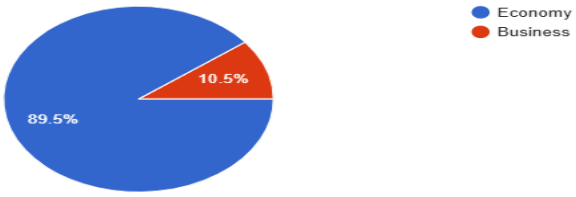


Figure 9: Flight Class Distribution
***Source**: Google Forms output*

Recency of Travel with Ethiopian Airlines: With regard to their most recent travel with Ethiopian Airlines, 65.8% (n = 169) had flown within the last 6 months, 29.6% (n = 76) had flown within the past 12 months, and 3.9% (n = 10) had traveled more than a year ago. Ten participants who had not flown in over a year, as well as two who had never traveled with Ethiopian Airlines, were removed from the analysis to ensure the results reflect the experiences and opinions of current or recent passengers. (See figure 10).

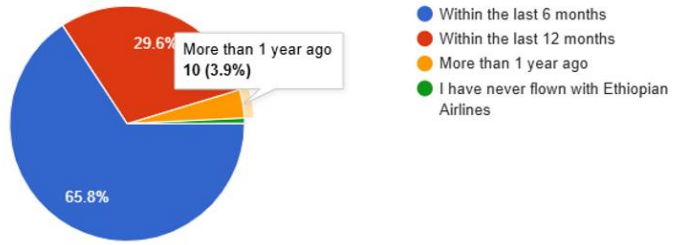


Figure 10: Recency of Travel with Ethiopian Airlines Distribution
Source: *Google Forms output*

Table 2: Summary of Respondents' Demographic Characteristics (N = 257)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	172	66.90
	Female	85	33.10
Educational Background	Less than Bachelor's	42	16.30
	Bachelor's	132	51.40
	Master's and above	83	32.30
Age	22 years or younger	13	5.10
	23–30	61	23.70
	31–40	118	45.90
	40+	65	25.30
Air Travel Frequency (Per Year)	Less than once	41	16.00
	1–5 times	154	59.90
	6–10 times	51	19.80
	More than 10 times	11	4.30
Purpose of Travel	Business	69	26.80
	Leisure/Tourism	81	31.50
	Family/Personal	95	37.00
	Other	12	4.70
Type of Flights	Domestic	72	28.00
	International	91	35.40
	Both	94	36.60
Frequent Flyer Program Membership	Yes	190	73.90
	No	67	26.10
Flight Class	Economy	230	89.50
	Business	27	10.50
Recency of Last Travel with Ethiopian Airlines	Within the last 6 months	169	65.80
	Within the last 12 months	76	29.60
	More than 1 year ago	10	3.90
	Never flown with Ethiopian Airlines	2	0.80

4.2. Descriptive Statistics

Table 3 below presents the results of the descriptive statistics. Respondents generally showed a high level of agreement with the questioner items, as reflected in the mean values, most of which are above 6, and supported by median values consistently at 6 or 7. This indicates a favorable perception toward the constructs measured in the study. The standard deviation values suggest that responses were relatively consistent across participants, with limited variation. Furthermore, the negative skewness observed across all items indicates that responses tend to cluster toward the higher end of the scale. High excess kurtosis values for several items suggest that the distribution of responses is more peaked than normal, indicating that participants frequently selected similar high scores. Additionally, the Cramér–von Mises p-values of 0 across all items confirm that the data do not follow a normal distribution.

Table 3: Descriptive Statistics

No.	Name	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness	N	Cramér-von Mises p value
1	SS1	6.502	7	3	7	0.662	2.421	-1.326	245	0
2	SS2	6.416	7	1	7	0.744	12.005	-2.345	245	0
3	SS3	6.461	7	1	7	0.731	12.180	-2.357	245	0
4	SS4	6.445	7	1	7	0.701	13.894	-2.374	245	0
5	SS5	6.469	7	4	7	0.636	0.793	-0.987	245	0
6	SS6	6.449	7	4	7	0.690	-0.056	-0.941	245	0
7	SS7	6.424	7	3	7	0.705	1.304	-1.100	245	0
8	SS8	6.412	7	1	7	0.791	11.706	-2.470	245	0
9	SS9	6.314	6	1	7	0.825	12.612	-2.485	245	0
10	T1	6.229	6	2	7	0.759	5.107	-1.481	245	0
11	T2	6.069	6	1	7	0.969	9.021	-2.255	245	0
12	T3	6.114	6	1	7	1.047	8.569	-2.396	245	0
13	T4	6.110	6	1	7	0.894	6.155	-1.768	245	0
14	T5	6.118	6	1	7	0.942	4.835	-1.652	245	0
15	T6	6.163	6	2	7	0.856	3.384	-1.303	245	0
16	P1	5.865	6	1	7	1.047	3.006	-1.359	245	0
17	P2	5.951	6	2	7	0.870	1.902	-1.028	245	0
18	P3	6.078	6	2	7	0.893	3.655	-1.432	245	0
19	P4	6.049	6	2	7	0.879	3.603	-1.401	245	0
20	P5	6.147	6	1	7	0.914	8.872	-2.199	245	0
21	F1	6.249	6	2	7	0.792	3.494	-1.318	245	0
22	F2	6.257	6	1	7	0.820	6.383	-1.625	245	0
23	F3	6.310	6	4	7	0.689	-0.111	-0.648	245	0
24	F4	6.306	6	4	7	0.751	0.243	-0.862	245	0
25	F5	6.257	6	1	7	0.854	10.448	-2.260	245	0
26	F6	6.269	6	2	7	0.767	3.696	-1.267	245	0
27	F7	6.302	6	3	7	0.739	0.688	-0.855	245	0
28	ICT1	6.347	6	2	7	0.744	3.760	-1.321	245	0
29	ICT2	6.216	6	1	7	0.902	7.465	-2.051	245	0
30	ICT3	6.343	6	4	7	0.721	-0.550	-0.688	245	0
31	ICT4	6.286	6	2	7	0.734	3.964	-1.255	245	0
32	ICT5	6.241	6	2	7	0.820	3.460	-1.366	245	0
33	SP1	6.229	6	3	7	0.816	1.608	-1.079	245	0
34	SP2	6.208	6	1	7	0.844	6.939	-1.724	245	0
35	SP3	5.490	6	1	7	1.572	0.819	-1.212	245	0
36	SP4	6.127	6	3	7	0.806	1.660	-0.988	245	0
37	SP5	6.208	6	2	7	0.848	3.133	-1.381	245	0
38	SP6	6.188	6	2	7	0.846	2.013	-1.142	245	0
39	SP7	6.208	6	4	7	0.814	-0.096	-0.766	245	0
40	SC1	6.241	6	3	7	0.758	0.948	-0.887	245	0
41	SC2	6.294	6	3	7	0.747	1.894	-1.071	245	0
42	SC3	6.302	6	5	7	0.657	-0.740	-0.413	245	0
43	SC4	6.257	6	3	7	0.758	0.320	-0.752	245	0
44	SC5	6.241	6	3	7	0.708	0.914	-0.731	245	0
45	SC6	6.302	6	3	7	0.733	2.215	-1.106	245	0
46	SC7	6.220	6	2	7	0.798	5.227	-1.533	245	0
47	SC8	6.298	6	4	7	0.698	-0.195	-0.630	245	0
48	SC9	6.282	6	3	7	0.704	1.401	-0.883	245	0
49	SC10	6.322	6	2	7	0.765	4.543	-1.503	245	0
50	PC1	6.306	6	5	7	0.652	-0.724	-0.409	245	0
51	PC2	6.253	6	3	7	0.762	0.487	-0.798	245	0
52	PC3	6.261	6	4	7	0.698	-0.262	-0.554	245	0
53	PC4	6.261	6	3	7	0.721	0.509	-0.703	245	0
54	PC5	6.233	6	4	7	0.705	-0.061	-0.575	245	0
55	PC6	6.327	6	4	7	0.728	-0.624	-0.657	245	0

Abbreviations*: F, Facility; ICT, Information Communication Technology; P, Pricing; PC, Passenger Confidence; SC, Service Culture; SP, Sales Promotion; SS, Safety & Security; T, Timeliness.*

4.3. The PLS-SEM Algorithm and Bootstrapping.

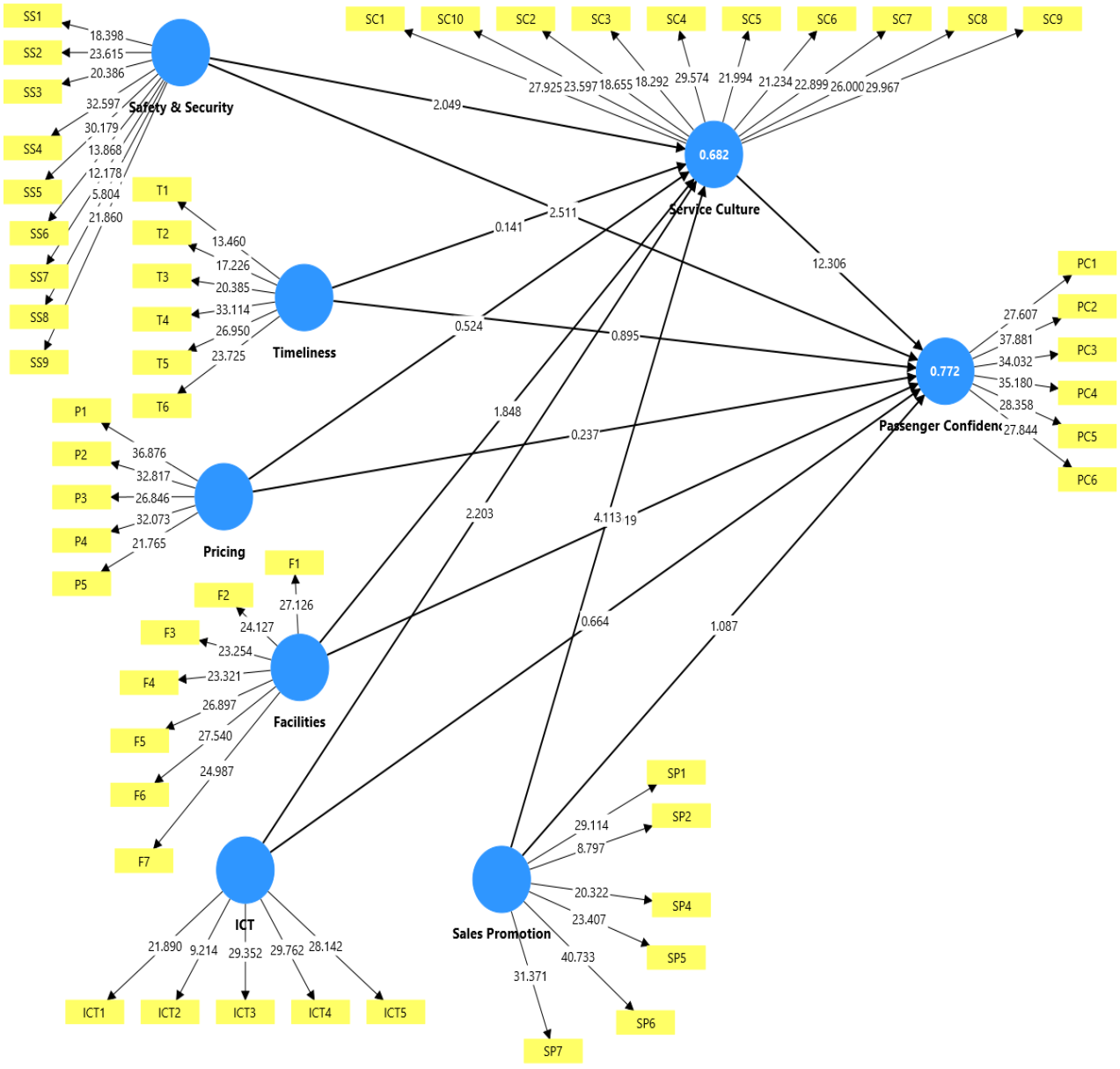
In this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the dataset and test the proposed hypotheses. PLS-SEM is particularly well-suited for exploring complex relationships among latent constructs, making it an ideal method when dealing with models that incorporate multiple variables and paths. One of the main advantages of PLS-SEM lies in its flexibility and minimal reliance on rigorous statistical assumptions. Unlike covariance-based SEM (CB-SEM), PLS-SEM is non-parametric, which means it does not require normally distributed data and can yield robust results even with relatively small sample sizes (Hair et al., 2011).

The PLS-SEM approach facilitates simultaneous assessment of both the measurement model (outer model) and the structural model (inner model), allowing researchers to validate constructs while examining the relationships among them (Hair et al., 2020). In this study, the structural model was assessed using a bootstrapping procedure with 10,000 resamples, which provides confidence intervals and significance levels for the estimated path coefficients. This method enhances the reliability of the results by minimizing sampling bias and estimation error.

The structural model in PLS-SEM illustrates the hypothesized relationships between latent variables, which are either endogenous (explained by other constructs) or exogenous (unexplained within the model). A key feature of PLS-SEM is its recursive nature—causal loops are not permitted, meaning that relationships between constructs are unidirectional. This simplifies the interpretation of the model and aligns with theoretical assumptions in many social science studies.

The measurement model, or outer model, specifies how each latent construct is measured by its observed indicators. PLS-SEM supports both reflective and formative measurement models. In reflective models, the observed indicators are considered manifestations of the underlying latent variable. Changes in the latent construct are expected to lead to changes in all its indicators, and the strength of these relationships is captured through outer loadings. These are typically represented as arrows pointing from the construct to the indicators. Formative models assume that the indicators actually form or define the latent construct. In this case, causality flows from the indicators to the construct, and the weights of these relationships are referred to

as outer weights. Formative indicators are depicted with arrows directed toward the latent variable. This distinction between reflective and formative measurement is crucial, as it influences both model specification and the interpretation of results. (See figure 11).



Abbreviations: *F, Facility; ICT, Information & Communication Technology; P, Pricing; PC, Passenger Confidence; SC, Service Culture; SP, Sales Promotion; SS, Safety & Security; T, Timeliness.*

Figure 11: PLS-SEM Results and bootstrapping

4.4. Measurement Model Assessment

The assessment of the measurement model is a critical step in Partial Least Squares Structural Equation Modeling (PLS-SEM), ensuring that the constructs used in the model are both valid and reliable. Essentially, it helps us confirm that we are accurately measuring what we intend to, and that the measurements are consistent across items and constructs. Several key components are evaluated during measurement model assessment: content validity, construct reliability, convergent validity, and discriminant validity (Hair et al., 2020). One of the first steps involves assessing individual item reliability, which is done by examining outer loadings. High outer loadings suggest that indicators strongly reflect their underlying constructs. Loadings above 0.70 are considered satisfactory, though in exploratory research, loadings above 0.60 may also be acceptable (Hair et al., 2019b).

It is also important to differentiate between reflective and formative measurement models, as they require different approaches for evaluation (Karnadi, 2023b). Reflective models assume that the latent construct causes the observed indicators, meaning that any changes in the latent variable will reflect proportionately in all its indicators. In contrast, formative models treat indicators as defining characteristics of the construct, where the direction of causality flows from the indicators to the construct itself. When evaluating reflective measurement models, two critical aspects are internal consistency reliability and validity. Composite reliability (CR) is commonly used to assess the internal consistency of constructs. Unlike Cronbach's alpha, CR does not assume equal indicator loadings and is more appropriate for PLS-SEM, where indicator reliability can vary. CR values between 0.60 and 0.70 are acceptable for exploratory research, while values between 0.70 and 0.90 are ideal in more advanced stages of theory testing (Hair et al., 2019b). If composite reliability falls below 0.60, it suggests that the construct lacks sufficient reliability. Item-level reliability also matters. Indicators with loadings below 0.40 are generally considered for removal. For those in the 0.40 to 0.70 range, the decision to retain or remove should consider their effect on composite reliability and the overall theoretical meaning of the construct.

Validity must be assessed through convergent and discriminant validity. Convergent validity evaluates whether a set of indicators truly represent the intended construct. This is assessed using the Average Variance Extracted (AVE), where values of 0.50 or higher suggest

that the construct explains more than half of the variance in its indicators (Hair et al., 2020). Discriminant validity, on the other hand, ensures that constructs are distinct from each other. Two methods to assess this are Heterotrait-monotraint (HTMT) and cross-loadings. HTMT checks if constructs are clearly different from each other. Values below 0.85 or 0.90 mean the concepts are distinct, showing that each is measuring something unique. Cross-loadings, each indicator should load higher on its associated construct than on others, confirming that the indicator is not mistakenly measuring a different concept.

4.4.1. Internal Consistency Reliability

Reflective measurement methods are used to assess both validity and reliability. For construct reliability, composite reliability (CR) is frequently employed to gauge the internal consistency of a construct. While Cronbach's alpha has been a traditional measure for internal consistency in social science, it tends to be conservative when used with PLS-SEM. Consequently, prior research, including Hair et al. (2020), suggests using Composite Reliability as a more appropriate alternative. According to Karnadi (2023b), a Composite Reliability (CR) value above 0.7 is considered satisfactory, indicating strong internal consistency among the items within a construct, meaning each construct effectively measures distinct concepts. Similarly, Cronbach's alpha values exceeding 0.7 also support the reliability of the structures. As demonstrated in Table 4, all reflective latent variables exhibit Composite Reliability scores greater than 0.7, thereby confirming a high level of internal consistency reliability.

4.4.2. Convergent validity

Convergent validity refers to how well the indicators of a particular construct relate to one another and capture the intended underlying concept. One widely used measure for evaluating this is the Average Variance Extracted (AVE). According to Fornell and Larcker (1981), an AVE value of 0.50 or higher is considered acceptable, as it indicates that the construct explains at least half of the variance in its indicators. In this study, all constructs met this requirement, with AVE values exceeding the 0.50 threshold, which suggests that the measurement model demonstrates solid convergent validity (Hair et al., 2020). Outer loadings were also examined to evaluate the reliability of individual indicators. Ideally, loadings should be above 0.70, though values between 0.60 and 0.70 can be acceptable, particularly in exploratory research. One item—SP3 from the Sales Promotion construct—showed a

particularly low loading of 0.280. Based on recommendations by Hair et al. (2020) and Henseler et al. (2009), indicators with loadings below 0.40 should be removed, as they contribute little to the construct and can weaken the model. As such, SP3 was excluded from further analysis to maintain the integrity and reliability of the measurement model. After this adjustment, the remaining loadings ranged from 0.668 to 0.877, indicating that the items generally performed well in measuring their respective constructs. In addition to convergent validity, the reliability of the constructs was assessed using both Cronbach's Alpha (α) and Composite Reliability (CR). Although both are measures of internal consistency, CR is generally considered more suitable for PLS-SEM because it accounts for different indicator loadings, whereas Cronbach's Alpha assumes equal contribution from each item. In this study, all constructs had CR values well above the 0.70 benchmark, confirming strong reliability. Similarly, Cronbach's Alpha values also exceeded 0.70, reinforcing the conclusion that the model demonstrates consistent and reliable measurement of the intended constructs.

Table 4: Constructs Reliability and convergent Validity

Construct	Indicators	Loadings	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
Facility	F1	0.770	0.887	0.888	0.912	0.597
	F2	0.748				
	F3	0.740				
	F4	0.792				
	F5	0.775				
	F6	0.792				
	F7	0.789				
Information Communication Technology	ICT1	0.762	0.831	0.844	0.881	0.597
	ICT2	0.668				
	ICT3	0.800				
	ICT4	0.789				
	ICT5	0.835				
Pricing	P1	0.877	0.903	0.907	0.928	0.721
	P2	0.848				
	P3	0.849				
	P4	0.863				
	P5	0.805				
Passenger Confidence	PC1	0.785	0.885	0.885	0.912	0.634
	PC2	0.812				
	PC3	0.800				
	PC4	0.806				
	PC5	0.798				
	PC6	0.776				
Service Culture	SC1	0.810	0.921	0.924	0.934	0.586
	SC2	0.706				
	SC3	0.715				
	SC4	0.795				
	SC5	0.743				
	SC6	0.767				
	SC7	0.790				
	SC8	0.753				
	SC9	0.815				
	SC10	0.754				
Sales Promotion	SP1	0.792	0.852	0.888	0.889	0.548
	SP2	0.707				
	SP3	0.280				
	SP4	0.771				
	SP5	0.810				
	SP6	0.841				
	SP7	0.822				
Safety & Security	SS1	0.736	0.886	0.894	0.909	0.531
	SS2	0.802				
	SS3	0.748				
	SS4	0.805				
	SS5	0.825				
	SS6	0.697				
	SS7	0.643				
	SS8	0.509				
	SS9	0.738				
Timeliness	T1	0.717	0.892	0.894	0.918	0.651
	T2	0.802				
	T3	0.812				
	T4	0.870				
	T5	0.835				
	T6	0.796				

***Abbreviations**: F, Facility; ICT, Information & Communication Technology; P, Pricing; PC, Passenger Confidence; SC, Service Culture; SP, Sales Promotion; SS, Safety & Security; T, Timeliness.*

4.4.3. Discriminant validity

A measure of how different notions differ from one another is called discriminant validity (Cable & DeRue, 2002). Cross-loading, and Heterotrait-Monotrait (HTMT) ratio were used in this work to evaluate discriminant validity.

4.4.3.1. Bootstrapping Heterotrait-monotraint (HTMT) ratio matrix

In Partial Least Squares Structural Equation Modeling (PLS-SEM), the Heterotrait-Monotrait (HTMT) ratio is a modern and strong method for evaluating discriminant validity. It measures the degree of similarity between constructs by comparing the average correlations of indicators across constructs (heterotrait-hetero method correlations) to the average correlations within the same construct (monotrait-hetero method correlations). According to Henseler et al. (2015), discriminant validity is established when the confidence intervals of HTMT estimates fall entirely between 0 and 1, excluding the value of 0 and 1. This indicates that the constructs are empirically distinct from one another. As presented in table 5, all HTMT confidence intervals in this study meet this criterion. Each pairwise comparison yields a lower bound well above zero and an upper bound below one—for example, Pricing and Passenger Confidence (0.428–0.649), Sales Promotion and Safety & Security (0.564–0.741), and Timeliness and ICT (0.685–0.842). These values confirm the presence of discriminant validity among these constructs.

Table 5: Bootstrapping HTMT

Path	5%	95%
	LL	UL
Information Communication Technology <-> Facilities	0.906	0.995
Passenger Confidence <-> Facilities	0.701	0.843
Passenger Confidence <-> Information Communication Technology	0.689	0.857
Pricing <-> Facilities	0.624	0.793
Pricing <-> Information Communication Technology	0.554	0.741
Pricing <-> Passenger Confidence	0.428	0.649
Safety & Security <-> Facilities	0.719	0.850
Safety & Security <-> Information Communication Technology	0.680	0.844
Safety & Security <-> Passenger Confidence	0.616	0.776
Safety & Security <-> Pricing	0.430	0.643
Sales Promotion <-> Facilities	0.787	0.903
Sales Promotion <-> Information Communication Technology	0.847	0.956
Sales Promotion <-> Passenger Confidence	0.686	0.832
Sales Promotion <-> Pricing	0.626	0.819
Sales Promotion <-> Safety & Security	0.564	0.741
Service Culture <-> Facilities	0.754	0.891
Service Culture <-> Information Communication Technology	0.783	0.925
Service Culture <-> Passenger Confidence	0.931	0.990
Service Culture <-> Pricing	0.505	0.715
Service Culture <-> Safety & Security	0.606	0.788
Service Culture <-> Sales Promotion	0.764	0.892
Timeliness <-> Facilities	0.755	0.857
Timeliness <-> Information Communication Technology	0.685	0.842
Timeliness <-> Passenger Confidence	0.526	0.703
Timeliness <-> Pricing	0.724	0.922
Timeliness <-> Safety & Security	0.578	0.782
Timeliness <-> Sales Promotion	0.751	0.883
Timeliness <-> Service Culture	0.603	0.787

Abbreviations: LL, Lower limit; UL, Upper limit.

4.4.3.2.Cross-loading

Cross-loadings show how each survey item (or indicator) relates not just to the construct it is supposed to measure but also to the other constructs in the model. As Hair and colleagues (2017) explain, for good discriminant validity, each indicator should have its highest loading on its own construct, basically, it should “fit” best where it belongs and less so elsewhere. Looking at the results in Table 6, every indicator loads more strongly on its intended construct than on any other, which means the constructs are distinct and the measurement is reliable.

Table 6: Cross-Loading

Construct	F	ICT	P	PC	SC	SP	SS	T
F1	**0.770**	0.635	0.497	0.507	0.587	0.579	0.520	0.575
F2	**0.748**	0.583	0.574	0.514	0.550	0.598	0.596	0.604
F3	**0.740**	0.652	0.426	0.507	0.560	0.594	0.503	0.566
F4	**0.792**	0.614	0.422	0.524	0.542	0.533	0.523	0.484
F5	**0.775**	0.612	0.561	0.533	0.586	0.627	0.613	0.580
F6	**0.792**	0.651	0.558	0.562	0.616	0.642	0.519	0.584
F7	**0.789**	0.700	0.474	0.570	0.611	0.584	0.500	0.479
ICT1	0.566	**0.762**	0.330	0.489	0.536	0.546	0.481	0.419
ICT2	0.540	**0.668**	0.454	0.356	0.446	0.515	0.356	0.515
ICT3	0.613	**0.800**	0.392	0.559	0.632	0.570	0.559	0.488
ICT4	0.678	**0.789**	0.456	0.612	0.641	0.690	0.551	0.486
ICT5	0.762	**0.835**	0.579	0.562	0.649	0.715	0.580	0.653
P1	0.533	0.462	**0.877**	0.380	0.461	0.524	0.400	0.661
P2	0.493	0.460	**0.848**	0.384	0.425	0.522	0.373	0.601
P3	0.505	0.450	**0.849**	0.397	0.487	0.529	0.362	0.659
P4	0.522	0.494	**0.863**	0.398	0.498	0.547	0.375	0.636
P5	0.672	0.543	**0.805**	0.501	0.550	0.611	0.572	0.637
PC1	0.504	0.506	0.320	**0.785**	0.673	0.484	0.439	0.365
PC2	0.542	0.569	0.367	**0.812**	0.707	0.524	0.512	0.390
PC3	0.551	0.566	0.434	**0.800**	0.700	0.564	0.514	0.417
PC4	0.530	0.559	0.435	**0.806**	0.737	0.593	0.514	0.465
PC5	0.591	0.517	0.436	**0.798**	0.692	0.580	0.499	0.523
PC6	0.574	0.523	0.350	**0.776**	0.648	0.544	0.485	0.460
SC1	0.619	0.656	0.520	0.671	**0.810**	0.726	0.537	0.596
SC2	0.500	0.500	0.314	0.584	**0.706**	0.554	0.345	0.384
SC3	0.531	0.513	0.262	0.596	**0.715**	0.473	0.460	0.331
SC4	0.595	0.612	0.453	0.706	**0.795**	0.591	0.493	0.475
SC5	0.584	0.585	0.313	0.607	**0.743**	0.529	0.443	0.412
SC6	0.577	0.609	0.537	0.672	**0.767**	0.593	0.526	0.576
SC7	0.628	0.634	0.574	0.674	**0.790**	0.664	0.537	0.588
SC8	0.562	0.603	0.408	0.727	**0.753**	0.517	0.558	0.451
SC9	0.599	0.574	0.509	0.755	**0.815**	0.610	0.531	0.580
SC10	0.536	0.522	0.461	0.653	**0.754**	0.598	0.407	0.507
SP1	0.659	0.641	0.498	0.568	0.619	**0.792**	0.520	0.543
SP2	0.484	0.511	0.389	0.463	0.521	**0.707**	0.350	0.441
SP4	0.580	0.623	0.478	0.518	0.564	**0.771**	0.499	0.592
SP5	0.644	0.679	0.555	0.564	0.626	**0.810**	0.467	0.640
SP6	0.657	0.644	0.602	0.587	0.675	**0.841**	0.469	0.627
SP7	0.628	0.664	0.530	0.580	0.644	**0.822**	0.517	0.607
SS1	0.485	0.448	0.278	0.422	0.416	0.371	**0.736**	0.394
SS2	0.547	0.450	0.362	0.486	0.460	0.455	**0.802**	0.520
SS4	0.518	0.451	0.424	0.471	0.465	0.466	**0.805**	0.498
SS5	0.560	0.540	0.411	0.522	0.546	0.473	**0.825**	0.501
SS6	0.524	0.552	0.366	0.466	0.484	0.491	**0.697**	0.416
SS7	0.459	0.475	0.220	0.398	0.436	0.364	**0.643**	0.324
SS8	0.411	0.413	0.265	0.323	0.354	0.236	**0.509**	0.232
SS9	0.540	0.580	0.518	0.483	0.565	0.554	**0.738**	0.590
T1	0.476	0.450	0.529	0.456	0.517	0.488	0.496	**0.717**
T2	0.532	0.502	0.627	0.394	0.494	0.556	0.487	**0.802**
T3	0.571	0.496	0.636	0.408	0.452	0.569	0.490	**0.812**
T4	0.615	0.577	0.649	0.468	0.552	0.633	0.497	**0.870**
T5	0.648	0.599	0.615	0.483	0.565	0.651	0.549	**0.835**
T6	0.607	0.562	0.598	0.431	0.534	0.621	0.457	**0.796**

Abbreviations*: F, Facility; ICT, Information Communication Technology; P, Pricing; PC, Passenger Confidence; SC, Service Culture; SP, Sales Promotion; SS, Safety & Security; T, Timeliness; LL, Lower limit; UL, Upper limit.*

4.5. Structural model Analysis

Evaluating the structural model in Partial Least Squares Structural Equation Modeling (PLS-SEM) primarily involves examining path coefficients, coefficient of determination (R^2), and predictive relevance (Q^2). The R^2 value represents the proportion of variance in an endogenous (dependent) latent variable that is explained by its predictors. In prediction-oriented models, particularly in PLS-SEM, a higher R^2 for the main endogenous constructs indicates stronger explanatory power, which is a desirable outcome. However, the interpretation of what constitutes a "high" R^2 can vary depending on the research context. For example, in consumer behavior studies, an R^2 of 0.20 may be considered substantial, whereas in success factor or performance studies, an R^2 of 0.75 or higher is often expected (Hair et al., 2020). According to established benchmarks in marketing and social science research: R^2 values of 0.75, 0.50, and 0.25 can be interpreted as substantial, moderate, and weak, respectively (Hair et al., 2019). Therefore, assessing R^2 gives insight into the explanatory capacity of the structural model but should be interpreted within the study's domain.

The path coefficients in the structural model are standardized beta values derived from ordinary least squares (OLS) regressions. These coefficients reflect the strength and direction of the hypothesized relationships between latent variables. To assess their statistical significance, PLS-SEM uses a bootstrapping technique, with 10,000 resamples. This method generates standard errors, confidence intervals, and t-values, allowing researchers to determine whether each hypothesized relationship is supported by the data. If a path coefficient is statistically significant (e.g., $p < 0.05$) and aligns with the hypothesized direction, it provides empirical support for the theoretical relationship. On the other hand, non-significant or oppositely directed paths suggest that the initial hypothesis may not be valid or requires refinement.

Beyond explanatory power, the predictive relevance of the structural model is assessed using the Stone-Geisser's Q^2 value. This metric test whether the model can predict the observed data for endogenous constructs. Q^2 values are calculated via a blindfolding procedure, which systematically omits and predicts parts of the data. A Q^2 greater than zero for a specific construct indicates that the model has predictive relevance for that construct (Hair et al., 2020). Choosing an appropriate omission distance (commonly between 5 and 10) is essential to ensure valid Q^2 estimates.

4.5.1. Hypothesized direct relationship.

Direct Effects of Airline Service Quality on Passenger Confidence (H1a–H1f)

This section examined the influence of six key airline service quality dimensions: Safety and Security (SS), Timeliness (T), Pricing (P), Facilities (F), Information Communication Technology (ICT), and Sales Promotion (SP), on Passenger Confidence (PC). Among these, only *Safety and Security (H1a)* demonstrated a *significant positive effect (β = 0.126, p = 0.006, t = 2.511)*, indicating that passengers are more confident when safety and security procedures are perceived to be strong and reliable. In contrast, *Timeliness (H1b: β = -0.102, p = 0.185)*, *Pricing (H1c: β = -0.020, p = 0.406), Facilities (H1d: β = 0.077, p = 0.179), ICT (H1e: β = -0.053, p = 0.253), and Sales Promotion (H1f: β = 0.078, p = 0.139)* did not exhibit statistically significant relationships with passenger confidence, as all p-values exceeded the 0.05 threshold. This suggests that while these factors may affect overall perceptions, they do not directly determine passenger confidence in air travel. (See Table 7)

Direct Effects of Airline Service Quality on Service Culture (H2a–H2f)

This part of the analysis assessed the effect of the same six airline service quality components on Service Culture (SC): the internal values, norms, and behaviors that guide how services are delivered. Four dimensions showed significant positive effects: Safety and Security (H2a*: β = 0.134, p = 0.020, t = 2.049), Facilities (H2d: β = 0.168, p = 0.032, t = 1.848), and ICT (H2e: β = 0.230, p = 0.014, t = 2.203)*, *Sales Promotion (H2f)* had the *strongest and most statistically robust influence on service culture (β = 0.347, p < 0.001, t = 4.113).* However, Timeliness (H2b: β = 0.012, p = 0.444), and Pricing (H2c: β = 0.034, p = 0.300) did not show significant effects.

Direct Effect of Service Culture on Passenger Confidence (H3)

The model also tested the direct relationship between the mediator, Service Culture, and Passenger Confidence (H3). The findings show that *service culture had the strongest impact of all variables in the model*, with a substantial and highly significant path coefficient *(β = 0.791, p < 0.001, t = 12.306).* This underscores the fundamental role that a well-developed service culture plays in building and sustaining passenger trust and confidence in airline services.

Table 7: Hypothesized Direct relationship.

Hypothesis	Path	Path Coeff (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Confidence Interval		Result
							LL	UP	
							5%	95%	
H1a	**SS -> PC**	0.126	0.123	0.050	2.511	0.006	0.042	0.205	**Supported**
H1b	**T -> PC**	-0.102	-0.115	0.114	0.895	0.185	-0.298	0.073	Not Supported
H1c	**P -> PC**	-0.020	-0.004	0.083	0.237	0.406	-0.160	0.113	Not Supported
H1d	**F-> PC**	0.077	0.066	0.083	0.919	0.179	-0.048	0.227	Not Supported
H1e	**ICT -> PC**	-0.053	-0.046	0.08	0.664	0.253	-0.188	0.073	Not Supported
H1f	**SP -> PC**	0.078	0.085	0.072	1.087	0.139	-0.040	0.196	Not Supported
H2a	**SS -> SC**	0.134	0.144	0.066	2.049	0.020	0.024	0.237	**Supported**
H2b	**T -> SC**	0.012	0.014	0.087	0.141	0.444	-0.126	0.160	Not Supported
H2c	**P -> SC**	0.034	0.031	0.066	0.524	0.300	-0.069	0.145	Not Supported
H2d	**F -> SC**	0.168	0.175	0.091	1.848	0.032	0.017	0.315	**Supported**
H2e	**ICT -> SC**	0.230	0.223	0.104	2.203	0.014	0.055	0.398	**Supported**
H2f	**SP -> SC**	0.347	0.342	0.084	4.113	0.000	0.213	0.490	**Supported**
H3	**SC -> PC**	0.791	0.792	0.064	12.306	0.000	0.674	0.889	**Supported**

Abbreviations*: F, Facility; ICT, Information Communication Technology; P, Pricing; PC, Passenger Confidence; SC, Service Culture; SP, Sales Promotion; SS, Safety & Security; T, Timeliness; LL, Lower limit; UL, Upper limit.*

4.5.2. Checking Structural Path Significance in Bootstrapping

To test the significance of the relationships in the structural model, this study used the bootstrapping technique in SmartPLS. A total of 10,000 bootstrap subsamples were generated based on data from 245 valid respondents. Bootstrapping allows for the estimation of standard errors, T-statistics, and P-values by repeatedly resampling the dataset with replacement. This approach is especially useful in PLS-SEM since it does not assume that the data is normally distributed. To determine whether the structural paths were statistically significant, the study followed the standard rule: a T-value greater than ±1.96 and a P-value less than 0.05 indicate a significant relationship at the 5% level (one-tailed test). The results showed that several paths in the model were significant. Notably, *Service Culture had a very strong and significant positive effect on Passenger Confidence ($\beta = 0.793$, $t = 12.264$, $p < 0.001$),* making it the most impactful relationship in the model. This suggests that passengers are more confident in air travel when they perceive a positive service culture shaped by internal values and behaviors. Additionally, *Safety and Security* had a significant positive effect on Passenger Confidence *($\beta = 0.231$, $t = 3.453$, $p = 0.001$),* highlighting the importance of perceived safety in influencing traveler trust.

Sales Promotions also significantly impacted Passenger Confidence *($\beta = 0.345$, $t = 3.712$, $p < 0.001$)*, suggesting that well-executed promotions play a key role in building customer assurance. However, not all relationships were statistically significant. For example, *Timeliness* did not have a significant effect on Passenger Confidence *($\beta = -0.089$, $t = 0.893$, $p = 0.372$)*, indicating that punctuality, while important, may not directly drive confidence on its own. Similarly, *Pricing* showed no meaningful influence on *Service Culture ($\beta = 0.034$, $t = 0.512$, $p = 0.609$),* suggesting that fare-related perceptions may not shape organizational culture from the passenger's viewpoint.

4.5.3. Regression analysis and R-squared value (R^2)

R^2 values indicate the proportion of variance in a dependent variable that is explained by its predictors in the model. Adjusted R^2 further describes the number of predictors, offering a more conservative estimate. In this study, Service Culture (SC) was modeled as a mediating variable, influenced by airline service quality factors and, in turn, influencing Passenger Confidence (PC). The results showed that the model explains a substantial portion of the variance in both SC and PC. Specifically**,** the R^2 value for Service Culture was 0.681, indicating that 68.1% of the variance in SC is explained by the included service quality variables. Similarly, the R^2 value for Passenger Confidence was 0.772, meaning that 77.2% of the variance in passenger confidence is accounted for by SC and other predictors. These values reflect a substantial level of explanatory power, consistent with guidelines suggested by Hair et al. (2020). (See Table 8)

Table 8: Regression analysis or R-squared values

Dependent Variable	R-square	R-square adjusted	Q Square
Passenger Confidence (PC)	0.772	0.765	0.558
Service Culture (SC)	0.681	0.675	0.675

4.5.4. F-squared (f^2) Effect Size Analysis

To better understand how much each factor influences *Passenger Confidence (PC)* and *Service Culture (SC)***,** f-squared (f^2) effect sizes is examined. This measure indicates the strength of each variable's impact on the model's outcomes. According to Cohen (1988), an f^2 value of around 0.02 indicates a small effect, 0.15 a medium effect, and 0.35 or higher a large effect.

From the results in Table 9, it is evident that *Service Culture (SC) has a very strong effect on Passenger Confidence (PC)* with an f^2 value of *0.879*, indicating a large effect size. *Sales Promotions (SP)* showed a noticeable effect on Service Culture ($f^2 = 0.101$) and a small effect on Passenger Confidence ($f^2 = 0.006$). *Service Quality (SS)* had a small effect on Passenger Confidence ($f^2 = 0.031$) and Service Culture ($f^2 = 0.026$). *Facilities (F)*, *Information Communication Technology (ICT)*, *Pricing (P)*, and *Timeliness (T)* showed small to negligible effects on both PC and SC, with the highest being ICT's small effect on SC ($f^2 = 0.043$). While no factors other than SC → PC showed medium or large effect sizes, Sales Promotions and Service Quality stood out as important drivers, particularly in shaping Service Culture.

Table 9: F-squared (f^2) Effect Sizes

Relationship	f-square
Facility (F) -> Passenger Confidence (PC)	0.006
Facility (F) -> Service Culture (SC)	0.022
Information Communication Technology (ICT) -> Passenger Confidence (PC)	0.003
Information Communication Technology (ICT) -> SC	0.043
Pricing (P) -> Passenger Confidence (PC)	0.001
Pricing (P) -> Service Culture (SC)	0.001
Service Culture (SC)-> Passenger Confidence (PC)	0.879
Sales Promotion (SP) -> Passenger Confidence (PC)	0.006
Sales Promotion (SP) -> Service Culture (SC)	0.101
Safety and Security (SS) -> Passenger Confidence (PC)	0.031
Safety and Security (SS) -> Service Culture (SC)	0.026

4.5.5. Multicollinearity analysis (VIF)

To ensure the reliability of the structural model, a multicollinearity assessment was conducted using Variance Inflation Factor (VIF) values. VIF helps identify whether predictor variables in the inner model are highly correlated, which can affect the stability and interpretation of regression coefficients. In this study, both the outer model (indicator-level) and inner model (latent variable-level) VIF values were examined. At the indicator level, the VIF values ranged from 1.089 to 2.93, well below the commonly accepted threshold of 5. This confirms that the measurement model does not suffer from multicollinearity issues among indicators (Hair et al., 2020). At the structural (inner) model level, the VIF values for the relationships between latent constructs ranged from 2.143 to 4.349. The highest VIF was

observed for *Facilities (F) → Passenger Confidence (PC) at 4.349*, followed by *ICT → PC at 4.168, and Sales Promotions (SP) → PC at 3.923.* The *Service Culture (SC) → Passenger Confidence (PC) path had a VIF of 3.134.* All values remained below the critical threshold of 5, indicating that multicollinearity is not a concern among the constructs in this model. These findings confirm that the predictor constructs do not exhibit problematic multicollinearity, supporting the validity and interpretability of the path coefficients in the structural model. (See Table 10).

Table 10: Variance Inflation Factor (VIF) Values for Inner Model Paths

Construct	VIF
Facility (F) -> Passenger Confidence (PC)	4.349
Facility (F) -> Service Culture (SC)	4.256
Information Communication Technology (ICT) -> Passenger Confidence (PC)	4.168
Information Communication Technology (ICT) -> Service Culture (SC)	3.997
Pricing (P) -> Passenger Confidence (PC)	2.521
Pricing (P) -> Service Culture (SC)	2.517
ervice Culture (SC) -> Passenger Confidence (PC)	3.134
Sales Promotion (SP) -> Passenger Confidence (PC)	3.923
Sales Promotion (SP) -> Service Culture (SC)	3.562
Safety and Security (SS) -> Passenger Confidence (PC)	2.200
Safety and Security (SS) -> Service Culture (SC)	2.143
Timeliness (T) -> Passenger Confidence (PC)	3.336
Timeliness (T) -> Service Culture (SC)	3.335

4.6. Mediation Effect of Service Culture between Service Quality and Passenger Confidence

Service culture mediates the relationship between airline service quality measurements and passenger confidence in air travel (H4a–H4f:)

This study also looked at whether Service Culture (SC) helps explain how different parts of airline service affect passenger confidence. The mediation analysis was done using SmartPLS with 10,000 bootstrap samples, based on methods by Hayes (2009) and Kock (2014), which are known for being both modern and reliable.

The demonstrated in Table 11, the results showed that *sales promotions* had the biggest indirect effect. The shows that promotions do not just boost confidence on their own, they work best when they make the airline feel more caring and service-oriented ($\beta = 0.275$, $t = 3.976$, $p < 0.001$). *Technology*, like user-friendly apps or digital check-ins, also helped ($\beta = 0.182$, $t = 2.265$, $p = 0.012$), but again, mainly because they improved how passengers saw the airline's culture. *Safety and security* also played a key role ($\beta = 0.106$, $t = 2.022$, $p = 0.022$). When passengers feel the airline is serious about their safety, it builds trust through a strong safety-focused culture. *Facilities*, like clean terminals or comfortable seating areas, had a similar effect ($\beta = 0.133$, $t = 1.776$, $p = 0.038$), suggesting that even the physical environment shapes how confident people feel. However, *pricing* and *timeliness* did not show strong indirect effects. This means that while things like fair ticket prices or on-time flights are still important, they do not seem to build confidence through service culture the same way other factors do.

Table 11: Mediation Analysis - Indirect Effects via Service Culture

Hypothesis	Path	Path Coeff (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Confidence Interval		Result
							LL	UP	
							5%	95%	
H4a	**Pricing → SC → PC**	0.027	0.024	0.052	0.518	0.302	-0.060	0.120	Not Supported
H4b	**Facilities → SC → PC**	0.133	0.139	0.075	1.776	0.038	0.015	0.260	**Supported**
H4d	**Timeliness → SC → PC**	0.010	0.012	0.070	0.139	0.445	-0.100	0.140	Not Supported
H4c	**Sales Promotions → SC → PC**	0.275	0.270	0.069	3.976	0.000	0.169	0.400	**Supported**
H4e	**Safety & Security → SC → PC**	0.106	0.114	0.053	2.022	0.022	0.020	0.190	**Supported**
H4f	**ICT → SC → PC**	0.182	0.174	0.080	2.265	0.012	0.046	0.310	**Supported**

Abbreviations*: ICT, Information Communication Technology; PC, Passenger Confidence; SC, Service Culture; LL, Lower limit; UL, Upper limit.*

Total indirect effects – with Confidence Interval

As shown in Table 12 Sales promotions, ICT, and safety & security have significant positive indirect effects on passenger confidence, showing their strong influence through service culture. Facilities show a modest positive effect. In contrast, pricing and timeliness have weak, non-significant indirect impacts, suggesting they do not meaningfully boost confidence via service culture. General, factors closely linked to service culture play the biggest role in enhancing passenger confidence.

Table 12: Total indirect effects – with Confidence Interval

Path	Path Coeff (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Confidence Interval		Result
						LL	UP	
						5%	95%	
Facilities -> PC	0.133	0.139	0.075	1.776	0.038	0.015	0.260	**Supported**
ICT -> PC	0.182	0.174	0.080	2.265	0.012	0.046	0.310	**Supported**
Pricing -> PC	0.027	0.024	0.052	0.518	0.302	-0.060	0.120	Not Supported
Safety & Security -> PC	0.106	0.114	0.053	2.022	0.022	0.020	0.190	**Supported**
Sales Promotion -> PC	0.275	0.270	0.069	3.976	0.000	0.169	0.400	**Supported**
Timeliness -> PC	0.010	0.012	0.070	0.139	0.445	-0.100	0.140	Not Supported

***Abbreviations**: ICT, Information Communication Technology; LL, Lower limit; UL, Upper limit; PC, Passenger confidence.*

4.7. Discussion

This study examined the influence of various airline service quality dimensions on passenger confidence in air travel, with a focus on the mediating role of service culture. Using structural equation modeling (SEM) and bootstrapping techniques, the results provide strong evidence supporting the significant impact of certain airline service quality factors, such as *safety and security***,** and *sales promotions***,** impact on *passenger confidence*. The findings also highlight the key role of service culture as a mediator in transforming the effects of service quality into passenger confidence in air travel.

One of the most outstanding findings is that ***Service Culture*** had the strongest direct effect on *passenger confidence* (β = 0.793, t = 12.306, p = 0.000). This result underscores the importance of cultivating a positive service culture within airlines. Passengers who perceive a strong, consistent, and positive organizational culture are likely to feel more confident in the airline's overall service. These findings align with previous studies that highlight the critical role of organizational culture in shaping customer perceptions and satisfaction (Heskett et al., 1994; Schneider et al., 2005). Airlines looking to enhance passenger confidence should therefore prioritize internal cultural factors, such as employee behaviors, values, and attitudes toward customer service.

Direct Effects on Passenger Confidence *(H1a to H1f)*

H1a: Safety & Security → Passenger Confidence (Supported): The results confirmed that safety and security significantly and positively influence passenger confidence ($\beta = 0.126$, $p = 0.006$). This finding aligns with long-standing research suggesting that safety is often the top priority for airline passengers. When individuals perceive an airline as secure and reliable, they are more likely to feel confident in its services (Li, Wang, & Zhang, 2021). This makes intuitive sense, passengers will not feel confident if they don't feel safe. Safety procedures, visible security measures, and a good track record help reinforce passengers' trust.

H1b: Timeliness → Passenger Confidence (Not Supported): Surprisingly, timeliness did not have a significant effect on passenger confidence ($\beta = -0.102$, $p = 0.185$). While delays can certainly frustrate travelers, this result suggests that punctuality may not directly affect their confidence in the air travel. One explanation could be that passengers have grown to accept minor delays as part of the air travel experience, often attributing them to external causes like weather or air traffic control (Jiang & Zhang, 2016). Moreover, research has shown that timeliness tends to influence satisfaction more than confidence or trust (Saha & Theingi, 2009). This distinction might explain why timeliness did not significantly impact confidence in this study.

H1c: Pricing → Passenger Confidence (Not Supported): Pricing was also found to be a non-significant predictor of passenger confidence ($\beta = -0.020$, $p = 0.406$). This suggests that while passengers care about ticket prices, low prices alone do not build passenger confidence in air travel. In fact, some studies have indicated that overly low prices may even raise concerns about service quality (Zeithaml, 1988; Chen & Dubinsky, 2003). Price-sensitive consumers may initially be attracted, but if the service fails to meet expectations, their confidence can quickly diminish. Thus, pricing influences purchase behavior, but not necessarily the confidence passengers place in the airline and air travel.

H1d: Facilities → Passenger Confidence (Not Supported): Similarly, facilities such as comfortable seating, clean terminals, and modern amenities did not show a significant effect on passenger confidence ($\beta = 0.077$, $p = 0.179$). While passengers certainly appreciate high-quality facilities, these are generally perceived as baseline expectations rather than trust-builders (Herzberg, 1966). As supported by Chang and Chen (2007), physical amenities improve the

customer experience, but do not directly translate into increased confidence unless they reflect broader operational excellence.

H1e: ICT → Passenger Confidence (Not Supported): The availability and use of information and communication technology (ICT), such as mobile apps and websites, digital check-in systems, and real-time flight updates, also failed to significantly affect passenger confidence (β = -0.053, p = 0.253). This may be because passengers view ICT as a tool for convenience, not necessarily a factor that influences their confidence in the airline (Venkatesh et al., 2012). Hence, while ICT is essential for modern service delivery, it appears insufficient on its own to build confidence or assurance.

H1f: Sales Promotions → Passenger Confidence (Not Supported): Sales promotions showed a marginal positive but statistically insignificant relationship with passenger confidence (β = 0.078, p = 0.139). This may reflect a gap between the short-term appeal of promotional offers and the long-term trust passengers place in an airline. Prior research has highlighted those promotions can increase trial behavior but do not necessarily build customer loyalty or confidence unless backed by consistent service quality (Ailawadi et al., 2001; Blattberg & Neslin, 1990). If promotions are seen as tricks rather than value-driven offers, they may not foster the kind of deep confidence airlines are aiming for.

Direct Effects on Service Culture (H2a–H2f):

Understanding what shapes an airline's service culture is crucial because service culture not only influences employee behavior but also directly impacts passenger perceptions and satisfaction. In this study, six operational factors were tested for their influence on service culture. The findings indicate that Safety & Security, Facilities, ICT, and Sales Promotion significantly contribute to shaping service culture, while Timeliness and Pricing do not.

H2a: Safety & Security → Service Culture (Supported): The results showed that safety and security significantly impact service culture (β = 0.134, p = 0.020). This finding reflects how a strong safety culture translates into a broader organizational culture of responsibility and diligence. In highly regulated environments like aviation, employees who perceive safety as a priority are more likely to internalize those values and embody them in their service delivery (Gordon et al., 2007). Moreover, a strong safety culture often fosters trust within

the workforce, which in turn supports a cooperative and service-oriented environment (Flin, Mearns, O'Connor, & Bryden, 2000).

H2b: Timeliness → Service Culture (Not Supported): timeliness did not show a significant effect on service culture ($\beta = 0.012$, $p = 0.444$). This could be due to the nature of timeliness being viewed primarily as a performance metric, rather than a cultural value. Many employees might see punctuality as an operational outcome influenced by factors beyond their control, such as flight schedules, air traffic, and weather disruptions (Saha & Theingi, 2009). Additionally, timeliness may not be emphasized in internal service training or reward systems, weakening its connection to cultural reinforcement (Wu & Cheng, 2013). Employees may also perceive that their ability to provide timely service is limited by resource constraints or management policies, making it less influential in shaping their shared beliefs and behaviors.

H2c: Pricing → Service Culture (Not Supported): pricing had no significant effect on service culture ($\beta = 0.034$, $p = 0.300$). This could be attributed to the top-down nature of pricing strategies in airline companies, where frontline employees have little influence or interaction with pricing decisions. Consequently, pricing does not filter into their perceptions of service values or norms. Furthermore, pricing is often treated as a strategic business concern aimed at competitiveness and revenue, rather than a cultural one focused on customer experience (Zeithaml, 1988). Past research also supports this idea, showing that unless pricing policies are directly linked to staff performance (e.g., commission, incentive programs), they tend not to influence service orientation (Chen & Dubinsky, 2003). Additionally, from a psychological standpoint, pricing can sometimes create internal tension, such as guilt from upselling, rather than reinforcing shared service ideals (Sirdeshmukh, Singh, & Sabol, 2002).

H2d: Facilities → Service Culture (Supported): The findings also showed that facilities significantly influence service culture ($\beta = 0.168$, $p = 0.032$). When employees operate in clean, well-organized, and modern environments, they are more likely to feel valued and motivated. According to Bitner (1992), physical surroundings play a pivotal role in influencing both employee morale and customer perceptions. For airlines, high-quality facilities such as user-friendly check-in kiosks, ergonomic workspaces, and well-equipped lounges can signal a commitment to excellence, which staff may internalize and mirror in their service approach.

H2e: ICT → Service Culture (Supported): Information Communication Technology (ICT) was also a significant predictor of service culture ($\beta = 0.230$, $p = 0.014$). Technology not only streamlines processes but also empowers employees to deliver better, faster, and more personalized service. ICT tools such as real-time communication platforms, automated check-ins, and centralized dashboards enhance both efficiency and job satisfaction (Venkatesh et al., 2012). Employees tend to feel more competent and supported when equipped with the right tools, which in turn fosters a proactive, solution-oriented service culture.

H2f: Sales Promotion → Service Culture (Supported): Among all factors tested, sales promotions had the strongest effect on service culture ($\beta = 0.347$, $p < 0.001$). This might seem surprising at first glance, but it makes sense when considering that effective promotional campaigns often include internal communication, staff training, and frontline engagement. When promotions are well-integrated into internal processes, they can motivate staff, clarify goals, and create a sense of shared purpose (Ailawadi et al., 2001). For example, limited-time offers, or value-added packages can energize teams and focus their attention on delivering consistent, high-value experiences, thus reinforcing a performance-driven service culture.

H3: Service Culture → Passenger Confidence (Supported): The results clearly show that service culture has a powerful influence on passenger confidence, with a very strong path coefficient ($\beta = 0.791$, $t = 12.306$, $p < 0.001$). When an airline fosters a positive and consistent internal service environment, passengers are much more likely to feel secure, valued, and assured in their decision to travel with that airline. A strong service culture means that staff, from ground personnel to cabin crew, are trained, motivated, and encouraged to put the customer first. That kind of culture does not just happen behind the scenes, it shines through in every interaction. When passengers are greeted warmly, assisted promptly, and treated with care, it naturally boosts their sense of trust and satisfaction. They feel they are in good hands. This finding is strongly supported by previous research. Scholars like Grönroos (1990) and Zeithaml et al. (1996) have emphasized that service culture is more than just a management slogan, it is a key driver of how customers judge the overall quality and reliability of a service. Bitner et al. (1994) also highlighted how positive employee behavior, rooted in strong service values, can make, or break the customer experience. In the context of air travel, where safety concerns, time sensitivity, and stress are often part of the journey, the emotional comfort that comes from a supportive and consistent service environment cannot be overstated. Passengers do not just want efficiency; they

want to feel seen and supported. That is exactly what a strong service culture delivers. What is especially important about this result is that it suggests airlines can actively shape passenger confidence from the inside out. It is not only about marketing or adding new features; it is about building a workplace culture where employees genuinely care, and that care is felt by customers. Schneider, White, and Paul (1998) showed that when employees feel supported and aligned with service values, customers pick up on it almost instantly.

H4: Mediation Effect of Service Culture on the Relationship Between Service Factors and Passenger Confidence

H4a: Pricing → Service Culture → Passenger Confidence (Not Supported): The analysis did not support the mediating effect of service culture between pricing and passenger confidence ($\beta = 0.027$, $t = 0.518$, $p = 0.302$). This suggests that even when pricing strategies are perceived as fair or competitive, they do not significantly influence the broader service culture or, in turn, passengers' confidence in the airline. One reason may be that pricing is typically viewed as a transactional attribute, important during the purchase decision but disconnected from deeper service values (Kimes & Wirtz, 2003). Moreover, airlines often use dynamic or dense pricing models, which can reduce passengers' trust in the fairness of pricing (Anderson & Srinivasan, 2003), thereby weakening any potential link to a consistent service culture.

H4b: Facilities → Service Culture → Passenger Confidence (Supported): Facilities, on the other hand, had a significant and positive indirect effect on passenger confidence through service culture ($\beta = 0.133$, $t = 1.776$, $p = 0.038$). This means well-maintained and thoughtfully designed physical environments—clean terminals, clear signage, accessible services, can help foster a professional and welcoming service culture. According to Bitner (1992), the concept of "servicescapes" highlights how physical surroundings can shape employee behavior and customer perceptions alike. When frontline staff work in environments that are comfortable and efficient, it positively influences their image, which passengers interpret as part of a caring and service-driven culture, ultimately strengthening their confidence in the airline.

H4d: Timeliness → Service Culture → Passenger Confidence (Not Supported): The mediation effect from timeliness through service culture to passenger confidence was also not supported ($\beta = 0.010$, $t = 0.139$, $p = 0.445$). While timeliness is undeniably a vital operational factor, it appears that passengers do not associate it with an airline's underlying service culture.

This may be because delays or punctuality are often seen as outcomes of logistical systems or external events (e.g., weather, air traffic), rather than reflections of employee values or attitudes (McColl-Kennedy & Sparks, 2003). As such, even if an airline consistently meets schedules, it may not translate into stronger service culture perceptions unless it is paired with high-quality interpersonal service or effective communication during disruptions (Hess et al., 2003).

H4c: Sales Promotion → Service Culture → Passenger Confidence (Supported): Sales promotions were found to significantly enhance passenger confidence through their positive impact on service culture ($\beta = 0.275$, $t = 3.976$, $p = 0.000$). This finding reflects the idea that promotional efforts—if integrated within a broader culture of service, can be more than just sales tactics; they become expressions of customer appreciation and brand values. For example, exclusive loyalty offers or festive discounts that are communicated clearly and delivered with consistency can reinforce a perception that the airline is both generous and professionally run (Kotler & Keller, 2016). When employees uphold these promotions with enthusiasm and clarity, passengers view the airline as more trustworthy and confident in its offerings.

H4e: Safety & Security → Service Culture → Passenger Confidence (Supported): The indirect effect of safety and security on passenger confidence through service culture was statistically significant ($\beta = 0.106$, $t = 2.022$, $p = 0.022$). This reinforces the importance of safety not just as a regulatory requirement but as a key part of how service culture is perceived and delivered. Passengers feel more confident when they observe consistent safety practices, clear communication, and calm, competent staff behavior, all traits of a mature service culture grounded in safety (Liou et al., 2010; Wensveen, 2011). In aviation, where perceived risk can strongly influence consumer confidence, a visible culture of safety can serve as a powerful driver of reassurance.

H4f: ICT → Service Culture → Passenger Confidence (Supported): Finally, Information Communication Technology (ICT) demonstrated a strong and significant mediated relationship through service culture ($\beta = 0.182$, $t = 2.265$, $p = 0.012$). Technologies such as mobile check-ins, real-time updates, automated services, and user-friendly websites are not just tools, they are channels through which passengers interact with the airline's culture. When these systems are efficient and integrated into the service experience, they empower staff, streamline service delivery, and enhance perceptions of competence and customer orientation (Parasuraman et al., 2005). Thus, passengers interpret these positive tech-enabled experiences as part of a broader, tech-savvy service culture, one that increases their confidence in the brand.

Chapter Five

5. Summary, Conclusion, and Future Scope

5.1. Summary

This study aimed to examine how different elements of airline service quality effect passengers' confidence, with a central focus on the mediating role of service culture. Rather than being just an internal value system, service culture emerged as a crucial mechanism that connects operational practices to passenger perceptions. The results revealed that while many service aspects did not directly influence confidence, they significantly shaped service culture, which in turn had a strong and statistically supported effect on passenger confidence.

For example, **pricing** showed no direct or indirect effect on passenger confidence. Even when fares were fair or competitive, they appeared transactional and failed to establish passenger confidence in air travel. Also, **timeliness**, despite its operational importance, had no significant effect on either service culture or passenger confidence. Passengers may view punctuality as a baseline expectation, thus not deeply affecting their confidence in air travel.

Facilities such as clean terminals, clear signage, and comfortable waiting areas, demonstrated a *significant indirect effect* on passenger confidence, operating through service culture. This suggests that well-maintained environments subtly influence how passengers perceive an airline's professionalism and care, which feeds into a more trustworthy overall image.

Sales promotions though not directly impactful, they had a *strong and statistically significant indirect effect* on passenger confidence via service culture. When done thoughtfully, promotions signal customer appreciation and can energize both staff and travelers, reinforcing a culture of engagement and value.

Safety and security played a vital role. Both *their direct influence and indirect effect* through service culture was substantial, highlighting the importance of visible, consistent safety practices embedded into daily operations. Passengers responded not just to rules, but to the calm assurance shown by staff in maintaining them.

ICT (information and communication technologies) from user-friendly apps to digital check-ins, also significantly contributed to confidence *indirectly through service culture.* These technologies were effective when they supported and enhanced the passenger experience, rather than replacing human interaction.

5.2. Conclusion

This study underscores the vital role that service culture plays in shaping passenger confidence in the airline industry. While elements safety and security have measurable impact, it is the underlying organizational culture—reflected in employee attitudes, behaviors, and values—that most strongly influences how passengers perceive and trust an airline. These findings suggest that airlines should prioritize cultivating a positive and consistent service culture alongside operational improvements. By doing so, they not only enhance passenger confidence but also foster long-term customer loyalty. Ultimately, this research highlights that the foundation of passenger trust is built from within the organization, through the people who deliver the service every day.

5.3. Recommendations

Based on the results of this study, here are some practical suggestions for airline managers who want to boost passenger confidence and build lasting loyalty. The main takeaway is a strong service culture is at the heart of passenger confidence, and safety, promotions, technology, facilities works best when they support the service culture of the airline.

Focus on Creating a Positive Service Culture: the research shows that service culture has the biggest impact on how confident passengers feel. Airlines should work on creating a workplace where employees share common values, feel committed, and truly care about customer service. This means investing in training that goes beyond basics, teaching empathy, good communication, and problem-solving skills. When employees feel valued and live these principles, it comes through in every interaction and helps passengers feel safe and respected.

Make Safety a Priority and Talk About it: safety is a top concern for travelers and strongly affects their confidence in the air travel. Airlines should not only meet all safety standards but also be proactive in communicating their safety measures. Visible signs of safety,

clear information, and calm, confident staff can reassure passengers that they are in good hands. Highlighting safety achievements in marketing can help passengers trust the brand even before they board.

Use Promotions to Support, Not Just Sell: Sales promotions can attract attention, but they will not build real confidence unless they are part of a bigger picture. Airlines should focus on offers that add real value like loyalty rewards or special services that reinforce a commitment to quality and safety. Personalizing promotions based on passenger preferences can help make customers feel appreciated and more loyal over time.

Invest in Technology That Enhances Service: technology alone does not guarantee passenger trust, but it plays a big role when it supports a strong service culture. Airlines should invest in user-friendly apps and websites, easy booking and check-in systems, and reliable in-flight Wi-Fi. When these tools work smoothly and help employees provide better service, passengers notice and feel more confident in the airline's professionalism.

Keep Facilities Comfortable and Well-Maintained: facilities like terminals and seating areas alone do not directly create passenger confidence, they help set the stage for a positive service culture. When employees work in clean, well-designed environments, they feel more motivated to provide great service. That positive energy then shows up in how passengers experience the airline.

Do not rely too much on timeliness or pricing Alone: Interestingly, things like punctuality and ticket prices do not have a strong effect on passenger confidence by themselves. That does not mean they are unimportant, but airlines should not expect these factors alone to build passenger confidence. Instead, these operational elements should support a consistent, high-quality service culture that passengers can rely on. The best way to build passenger confidence is to start from the inside: create a service culture where employees are motivated and care about the customer experience. When that foundation is strong, everything else, safety, promotions, technology, and facilities, works together to make passengers feel safe, valued, and confident in choosing that airline again.

5.4. Implications

Theoretical Implications: This study contributes to the existing body of literature on service quality and passenger confidence by highlighting the role of Service Culture as a mediator in the airline industry. There has not been much research looking at how service culture connects the way airlines work with how much passenger's confidence in air travel, this study bridges that gap by demonstrating how a strong service culture can enhance passenger confidence.

Practical Implications: For airline managers, these findings highlight some important takeaways about what really builds passenger confidence. First, pricing alone does not seem to have much impact when it comes to creating a trusting atmosphere. Sure, competitive fares can get customers through the door, but they do not necessarily make passengers feel more confident about the airline. So, managers should not rely on price cuts or deals alone to build long-term trust. Facilities play a bigger role, when airports and planes are clean, comfortable, and well-maintained, it sends a message not only to passengers but also to employees that the airline cares. This helps create a positive work culture, and that good vibe translates to passengers feeling more confident and valued. However, timeliness did not show a strong connection to passenger confidence through the company culture. It seems passengers do not always link punctuality to confidence in air travel. Sales promotions actually make a meaningful difference when they are part of the bigger picture. When employees are genuinely on board with special offers and promotions, it creates energy and a sense of shared purpose that passengers can sense. This kind of enthusiasm makes passengers feel like the airline is trustworthy and cares about giving them value. Safety and security remain a top priority. When airlines build a culture where safety is not just a rule but a core value everyone lives by, passengers feel more at ease. This visible commitment to safety reassures travelers, making them more confident about flying. Finally, technology matters more than just convenience. When airlines use digital tools effectively like smooth mobile check-ins or real-time flight updates it does not just make things easier; it also shows that the airline is modern, organized, and focused on customers. This helps passengers feel like they are in good hands.

5.5. Limitations and Future Scope of this Study

5.5.1. Limitations of the Study

This study has provided important insights into how airlines service quality impacts passenger confidence in air travel, and the mediating role of service culture however there are a few limitations to keep in mind.

Sample Size and Composition: this study relied on a sample of 245 respondents, all of whom were familiar with air travel. While this is a decent sample size, it might not fully represent all types of passengers—especially those with less experience flying or those from different backgrounds. It would be beneficial for future research to include a wider variety of passengers from diverse demographics and travel habits. This could help make the findings more applicable to a broader audience.

Cross-Sectional Design: Since the study was cross-sectional, it only provides a snapshot of passenger confidence and service culture at one moment in time. This means it cannot make any definitive conclusions about cause and effect over a longer period. Passenger confidence and service culture might change over time, especially as airlines face new challenges or adapt to evolving customer expectations. It would be interesting to see how these relationships develop over time through a longitudinal study.

Geographic and Contextual Limitations: This research was based on a specific sample of Ethiopian Airlines passengers, which means it may not fully reflect the experiences of passengers in different airline, regions, or countries. Cultural differences and local market conditions could influence how passengers perceive service culture and what factors are most important to them. It would be valuable for future research to examine how airline service quality and service culture affect passenger confidence across different culture and regions.

Self-Reported Data: This study relied on self-reported data from respondents. While efforts were made to ensure reliability, self-reporting can sometimes lead to biases, such as social desirability or memory recall issues. Future studies could add surveys with other data sources, such as feedback data, to get a completer and more accurate picture of passenger perceptions.

5.5.2. Future Research Directions

There are plenty of exciting opportunities for future research to build on this study's findings and deepen the understanding of service quality, service culture, and passenger confidence in the airline industry. Since service culture may be perceived differently depending on cultural context, future studies could explore how cultural differences influence the relationship between airline service quality and passenger confidence. For example, how do passengers from different countries view safety, punctuality, or service culture? Gaining insight into these cultural distinctions would help airlines better tailor their strategies to meet diverse passenger expectations around the world. Additionally, as technology continues to evolve, it would be valuable to investigate how innovations such as AI-driven customer service or mobile apps impact service culture and passenger confidence. For instance, how do passengers respond to airlines that integrate cutting-edge technology into their operations, and how does this affect their trust in the airline? The survey for this study used snowball sampling technique, which allowed for a broad and diverse sample. However, future research could benefit from direct access to airlines' customer databases to enhance sample representativeness even further. Moreover, this study relied on self-reported data, which can sometimes be affected by memory gaps or the desire to respond in socially acceptable ways. While common in survey research, future studies might combine survey data with interviews, observations, or airline performance metrics to improve accuracy and reliability. Finally, while service culture was selected as the key mediator due to its critical role in shaping service delivery, we acknowledge that other factors—such as passenger demographics or travel purpose—might also influence these relationships and merit further exploration.

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List of Appendices

Appendix A: Tables of Scale Measurements for Airline Service Quality

Table 13: Scale Measurements for safety and security

Variable	Question Items	Dimensions	Adapted from Source
Safety and Security	**SS1**	Adequate airline safety procedures	Gill and Shergill (2004)
	SS2	Security checks that are conducted	Hasisi and Weisburd (2011)
	SS3	Management is committed toward passenger safety and security as evidenced by their practices	Chang and Yeh (2004) Hsu, Li, and Chen (2010) Liou, Tzeng, and Chang (2007)
	SS4	Management is committed toward passenger safety and security as communicated to passengers	Chang and Yeh (2004) Hsu, Li, and Chen (2010) Liou, Tzeng, and Chang (2007)
	SS5	In-flight safety and security features practiced by the staff	Hsu, Li, and Chen (2010)
	SS6	Young fleet/new models of airplane	Chang and Yeh (2004)
	SS7	The dissemination of safety information like live demonstration, videos, written material	Hsu, Li, and Chen (2010) Gill and Shergill (2004)
	SS8	Previous incident and accident details of the airline	Chang and Yeh (2004)
	SS9	Number of flights delays due to maintenance issues/failures	Chang and Yeh (2004)

***Abbreviations**: SS, Safety & Security.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 14: Scale measurements for timeliness

Variable	Question Items	Dimensions	Adapted from Source
Timeliness	**T1**	Convenient flight schedule	Saha (2009); Clemes et al. (2008)
	T2	On-time departure and arrival	Chen (2008) Chou et al. (2011)
	T3	Punctual baggage service	Forgas et al. (2010) Wong and Chung (2007
	T4	Minimum waiting time	Wu and Cheng (2013)
	T5	Quick and effective complaint handling	Keating, Rugimbana, and Quazi (2003)
	T6	Prompt and correct service	Erdil and Yıldız (2011)

***Abbreviations**: T, Timeliness.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 15: Scale Measurements for pricing

Variable	Question Items	Dimensions	Adapted from Source
Pricing	**P1**	Economic price offers by the airline	Santonen (2007)
	P2	Competitive price offers comparable with other airlines	Santonen (2007)
	P3	The value for money I get from airline services	Namukasa (2013)
	P4	Services delivered that were worth the price I paid for the ticket	Varki and Colgate (2001)
	P5	Surcharges and processing fees that are charged	Namukasa (2013)

Abbreviations: *P, Pricing.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 16: Scale Measurements for facilities

Variable	Question Items	Dimensions	Adapted from Source
Facilities	**F1**	Comfortable and sufficient number of seats in the boarding gate	Chou et al. (2011)
	F2	Suffcient check-in and baggage handling counters	Chen (2008)
	F4	Provision of preferred seat option	Chen (2008)
	F5	Clean and pleasant cabin interior	Chen, Tseng, and Lin (2011)
	F6	In-flight facilities and programs	Chen, Tseng, and Lin (2011)
	F7	Comfort of in-flight seat and other provisions	Chen (2008)
	F8	Good quality of food and beverage service	Chen (2008)

Abbreviations*: F, Facility.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 17: Scale measurements for information communication technology

Variable	Question Items	Dimensions	Adapted from Source
Information communication technology	ICT1	Quick and easy online air ticketing that is user friendly	Lau, Kwek, and Tan (2011)
	ICT2	The airline site that has fewer technical issues	Lau, Kwek, and Tan (2011)
	ICT3	Airline ICT facilities that are available even at odd hours when counters are closed	Oyewole, Sankaran, and Choudhury (2008)
	ICT4	Prompt information of status update through ICT facilities like website, mobile phones	Oyewole, Sankaran, and Choudhury (2008)
	ICT5	To use internet, email, fax, and telecom service on flight	Chen (2008)

Abbreviations: *ICT, Information Communication Technology.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 18: Scale measurements for sales promotion

Variable	Question Items	Dimensions	Adapted from Source
Sales promotion	SP1	Money saved through air travel	Chandon, Wansink, and Laurent (2000)
	SP2	Getting a good deal	Chandon, Wansink, and Laurent (2000)
	SP3	To travel only when there are sales promotions	Deepa, M. V., & Jayaraman, K. (2017)
	SP4	Flexible rates offered on different dates	Deepa, M. V., & Jayaraman, K. (2017)
	SP5	Discounts on add-on services	Varki and Colgate (2001)
	SP6	Packages that are competitive to other airlines	Varki and Colgate (2001)
	SP7	Sufficient time given for sales period	Chandon, Wansink, and Laurent (2000)

Abbreviations: *SP, Sales Promotion.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 19: Scale measurements for service culture

Variable	Question Items	Dimensions	Adapted from Source
Service culture	**SC1**	Staff understand my specific needs.	Varki and Colgate (2001)
	SC2	Cabin crews are able to inform and handle well any changes in weather conditions during the flights.	Chen, Tseng, and Lin (2011) Kim and Lee (2011)
	SC3	Crew members appear neat.	Chou et al. (2011)
	SC4	Staff have the required communication skills.	Chen, Tseng, and Lin (2011)
	SC5	Staff make clear and precise cabin announcements.	Chen, Tseng, and Lin (2011)
	SC6	Staff are courteous, polite, and respectful.	Chen (2008)
	SC7	Management and staff undertake genuine effort to improve their services based on previous feedback provided.	Erdil and Yıldız (2011) Keating, Rugimbana, and Quazi (2003)
	SC8	Staff provide adequate assistance to elderly and infants.	Erdil and Yıldız (2011) Keating, Rugimbana, and Quazi (2003)
	SC9	Staff always have a warm smile and practice hospitality culture.	Chen (2008)
	SC10	Staff disseminate information about changes in the departure gate in a timely manner.	Chen, Tseng, and Lin (2011)

Abbreviations: *SC, Service Culture.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Table 20: Scale measurements for passenger confidence

Table 7 Scale measurements for passenger confidence (Likert scale 1-7)			
Variable	**Question Items**	**Dimensions**	**Adapted from Source**
Passenger confidence	PC1	Is trustable	Wen, Lan, and Cheng (2005)
	PC2	Is dependable	Sirdeshmukh, Singh, and Sabol (2002)
	PC3	Is transparent	Forgas et al. (2010)
	PC4	Staff behavior instills confidence	Kim and Lee (2011)
	PC5	Offers better quality services	Wen, Lan, and Cheng (2005)
	PC6	Prioritizes cleanliness and maintenance inside the aircraft	Akbaba (2006)

Abbreviations: *PC, Passenger Confidence.*

Source: *Reproduced from Deepa and Jayaraman (2017)*

Appendix B: Survey Invitation Letter

Effect of Airline Service Quality on Passenger Confidence in Air Travel: The Mediating Role of Service Culture in the Case of Ethiopian Airlines Group

Dear Respondent,

My name is Tiya Gurmecha, a graduate student in the Executive MBA program at Addis Ababa University. I am conducting a research study titled:

"Effect of Airline Service Quality on Passenger Confidence in Air Travel: The Mediating Role of Service Culture in the Case of Ethiopian Airlines Group."

Your participation is voluntary, and all responses will be kept strictly confidential and used only for academic purposes. The survey will take about 5–10 minutes to complete.

If you have any questions, feel free to contact me at +251-911-71-10-39 or tgurmecha@gmail.com.

By continuing, you consent to participate in this study.

Thank you for your cooperation!

Appendix C: Survey Questionnaire

Part One: General Information

Direction: Please answer this part of the questionnaire by ticking (✓) the appropriate box.

1. Gender:

☐Male ☐ Female

2. Educational background:

☐Less than Bachelor's ☐ Bachelor's ☐Master's and above

3. Age:

☐22 years old or younger ☐23-30 ☐31-40 ☐40+

4. How often do you travel by air (on average per year)?

☐Less than ones ☐1-5 times ☐6-10 times ☐More than 10 times

5. What is your purpose of travel most of the time?

☐Business ☐Leisure/Tourism ☐Family/Personal ☐Other

6. What type of flights do you mostly take?

☐Domestic ☐International ☐Both

7. Are you a member of Ethiopian Airlines' Frequent Flyers program?

☐Yes ☐No

8. Which class do you mostly fly in?

☐Economy ☐Business

9. When was your last air travel with Ethiopian Airlines?

☐ Within the last 6 months

☐ Within the last 12 months

☐ More than 1 year ago

☐ I have never flown with Ethiopian Airlines

Part Two: Airline Service Quality and Passenger Confidence

Please indicate your agreement with the following statements.
Where, 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Neutral, 5 = Slightly Agree, 6 = Agree, 7 = Strongly Agree

Table 21: Questioners

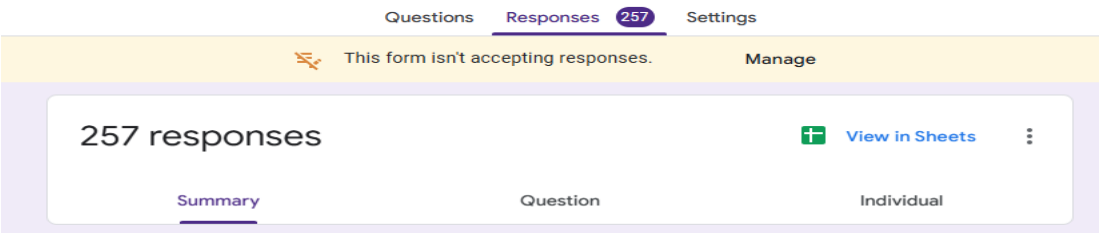
1. Safety and Security:								
S-No	**Statement**	1	2	3	4	5	6	7
1.1.	Ethiopian Airlines has adequate safety procedures in place.							
1.2.	Security checks are conducted effectively.							
1.3.	Management demonstrates a strong commitment to passenger safety and security through their practices.							
1.4.	Management clearly communicates their commitment to safety and security.							
1.5.	Staff consistently follow in-flight safety and security procedures.							
1.6.	Ethiopian Airlines operates a young fleet and uses newer aircraft models.							
1.7.	Safety information is well-disseminated (e.g., through live demonstrations, videos, or written materials).							
1.8.	I am aware of Ethiopian Airlines' past incidents or accidents.							
1.9	The airline's flight delays due to maintenance issues are minimal.							
2. Timeliness:								
S-No	**Statement**	1	2	3	4	5	6	7
2.1.	Ethiopian Airlines offers a convenient flight Schedule.							
2.2.	Flights consistently departs and arrives on time.							
2.3.	Baggage is handled promptly upon arrival.							
2.4.	Waiting time for services is minimal.							
2.5.	Complaints are addressed quickly and effectively.							
2.6.	Services are delivered promptly and accurately.							
3. Pricing:								
S-No	**Statement**	1	2	3	4	5	6	7
3.1.	Ethiopian Airlines Ticket prices are reasonable.							
3.2.	The airline pricing is competitive with other airlines.							
3.3.	I receive good value for money from Ethiopian Airlines' services.							
3.4.	I am satisfied that the services provided are worth the price I paid.							
3.5.	Additional fees (e.g., booking or service charges) added by the airline are reasonable.							
4. Facilities:								
S-No	**Statement**	1	2	3	4	5	6	7

4.1.	The number of seats at the boarding gate is sufficient and comfortable.							
4.2.	Check-in and baggage handling counters are adequately provided.							
4.3.	Preferred seat options are available and satisfactory.							
4.4.	The cabin interior is clean and pleasant.							
4.5.	The in-flight entertainment options enhance the overall flight experience.							
4.6.	The in-flight seats are comfortable, and onboard facilities are satisfactory.							
4.7.	The food and beverage service during the flight is of good quality.							
5. Information Communication Technology (ICT):								
S-No	**Statement**	1	2	3	4	5	6	7
5.1.	Online ticketing systems are user-friendly.							
5.2.	I rarely experience technical issues when using Ethiopian Airlines' website or mobile app.							
5.3.	ICT facilities, such as online booking and check-in, are accessible at all times, including off-hours when physical service counters are closed.							
5.4.	The airline provides timely updates (e.g., flight status) through digital platforms like the website or mobile app.							
5.5.	I am satisfied with the availability of in-flight ICT services, such as on-board Wi-Fi and entertainment.							
	6. Sales Promotion:							
S-No	**Statement**	1	2	3	4	5	6	7
6.1.	I am satisfied with the money I save through Ethiopian Airlines' sales promotions or discounts.							
6.2.	I often feel I am getting a good deal from Ethiopian Airlines' sales promotions.							
6.3.	I travel only when there are sales promotions and discounts.							
6.4.	I am satisfied with the flexibility of rates offered on different dates.							
6.5.	I am satisfied with the discounts on extra services (e.g., excess baggage, preferred seat selection, on-board Wi-Fi).							
6.6.	The airline's promotional packages are competitive compared to other airlines.							
6.7.	I am satisfied with the amount of time given for sales promotion periods.							
	7. Service Culture:							
S-No	**Statement**	1	2	3	4	5	6	7
7.1.	Ethiopian Airlines staff understand and respond appropriately to my specific needs (e.g., language, mobility assistance, dietary preferences).							
7.2.	The cabin crew effectively communicate and manage							

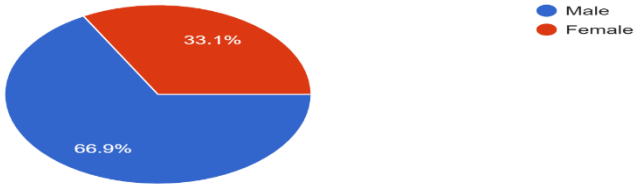
	changes in weather conditions during the flight.							
7.3.	Crew members maintain a neat and presentable appearance.							
7.4.	Ethiopian Airlines staff communicate clearly and effectively.							
7.5.	Cabin announcements made by the crew are clear and easy to understand.							
7.6.	Staff are courteous, polite, and respectful.							
7.7.	Management and staff make genuine efforts to improve their services based on passenger feedback.							
7.8.	Staff provide adequate assistance to elderly passengers and those with infants.							
7.9.	Staff maintain a warm, welcoming attitude that reflects a strong hospitality culture.							
7.10.	Staff communicate changes in departure gates promptly and clearly.							
8. Passenger Confidence:								
S-No	**Statement**	1	2	3	4	5	6	7
8.1.	Ethiopian Airlines is trustworthy.							
8.2.	Ethiopian Airlines is dependable.							
8.3.	Ethiopian Airlines consistently communicates and operates with full transparency.							
8.4.	The professionalism and attitude of the staff strengthen my confidence in the airline.							
8.5.	The quality of services provided by the airline is high.							
8.6.	The airline prioritizes cleanliness and maintenance inside the aircraft.							

Thank you for your time and valuable feedback!

Appendix D: Survey Response Summary



Part One: General Information 1. Gender
257 responses



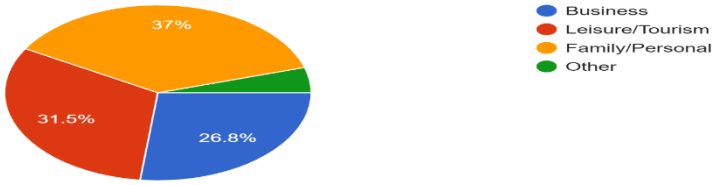
2. Educational Background
257 responses

2. Educational Background
257 responses

3. Age
257 responses

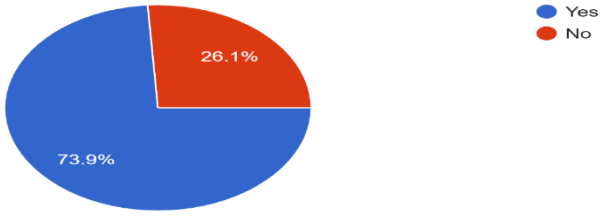
4. How often do you travel by air (on average per year)?
257 responses

5. What is your purpose of travel most of the time?
257 responses

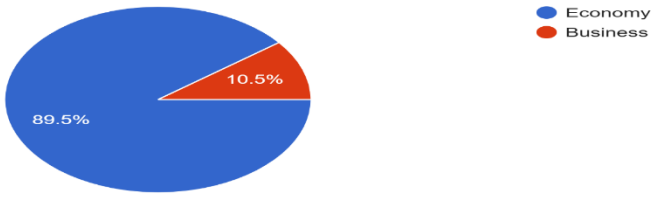


6. What type of flights do you mostly take?
257 responses

7. Are you a member of Ethiopian Airlines' Frequent Flyers program?
257 responses



8. Which class do you mostly fly in?
257 responses



9. When was your last air travel with Ethiopian Airlines?
257 responses

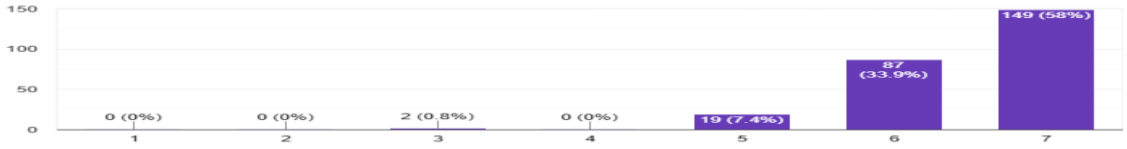
Part Two: Airline Service Quality and Passenger Confidence

Please indicate your level of agreement with each statement using the scale below:
Where, *7 = Strongly Agree, 6 = Agree, 5 = Somewhat Agree, 4 = Neutral, 3 = Somewhat Disagree, 2 = Disagree, 1 = Strongly Disagree.*

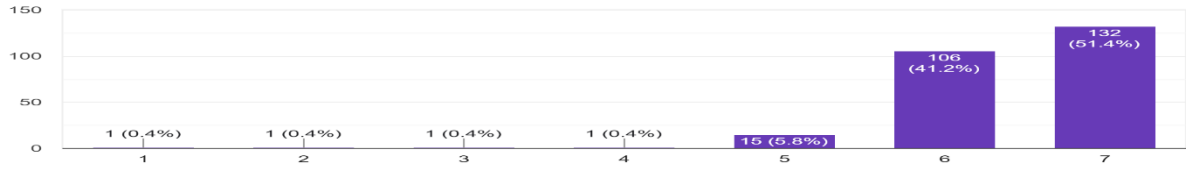
1. Safety and Security:

1.1. Ethiopian Airlines has adequate safety procedures in place.

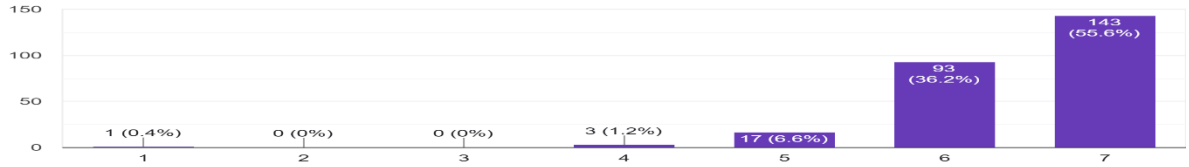
257 responses



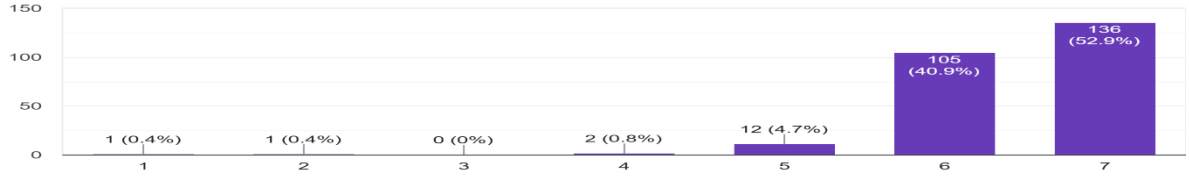
1.2. Security checks are conducted effectively.
257 responses



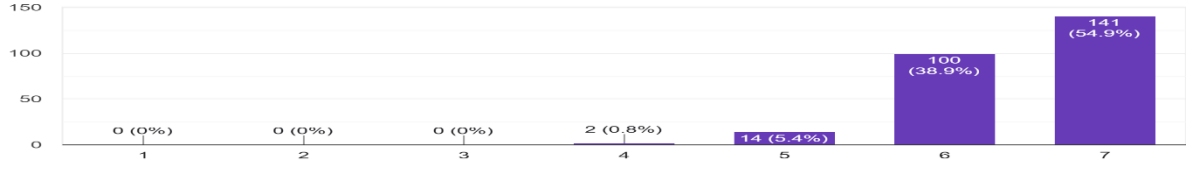
1.3. Management demonstrates a strong commitment to passenger safety and security through their practices.
257 responses



1.4. Management clearly communicates their commitment to safety and security.
257 responses

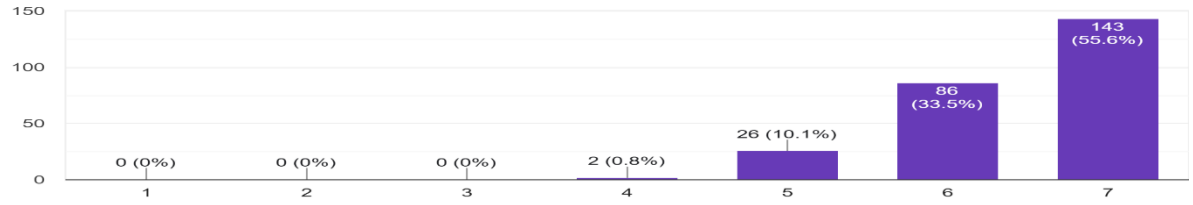


1.5. Staff consistently follow in-flight safety and security procedures.
257 responses



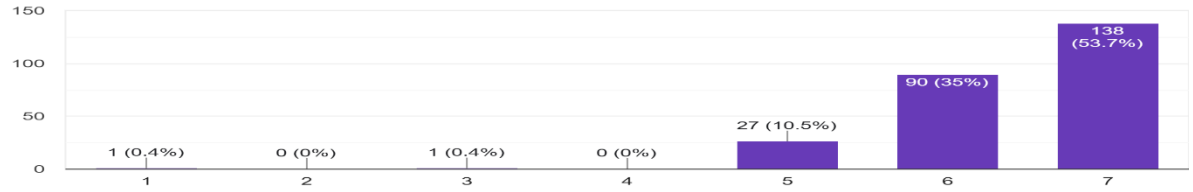
1.6. Ethiopian Airlines operates a young fleet and uses newer aircraft models.

257 responses



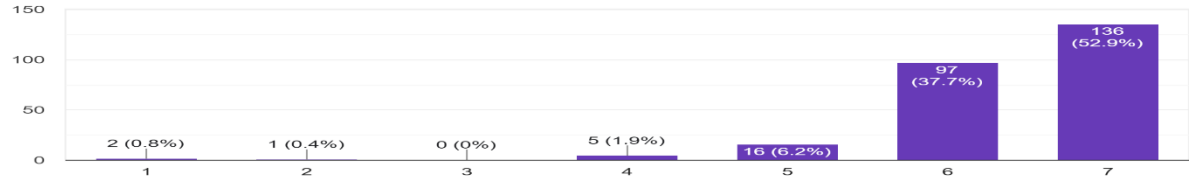
1.7. Safety information is well-disseminated (e.g., through live demonstrations, videos, or written materials).

257 responses



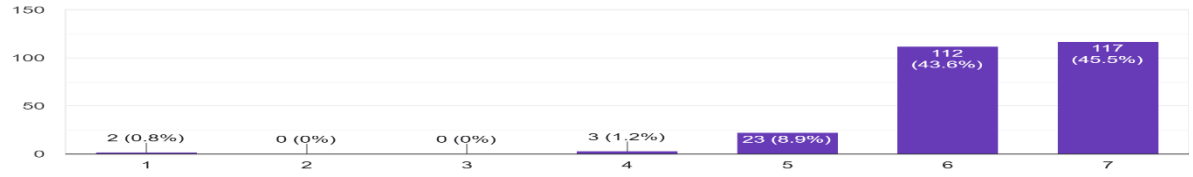
1.8. I am aware of Ethiopian Airlines' past incidents or accidents.

257 responses



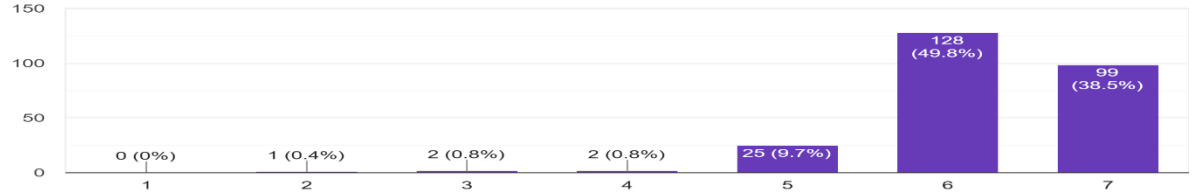
1.9. The airline's flight delays due to maintenance issues are minimal.

257 responses

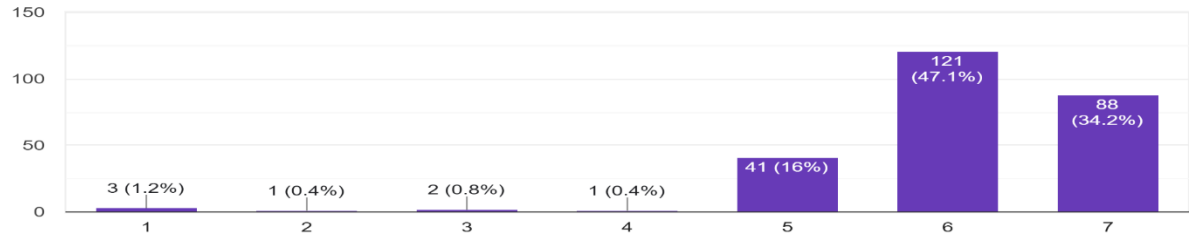


2. Timeliness: 2.1. Ethiopian Airlines offers a convenient flight Schedule.

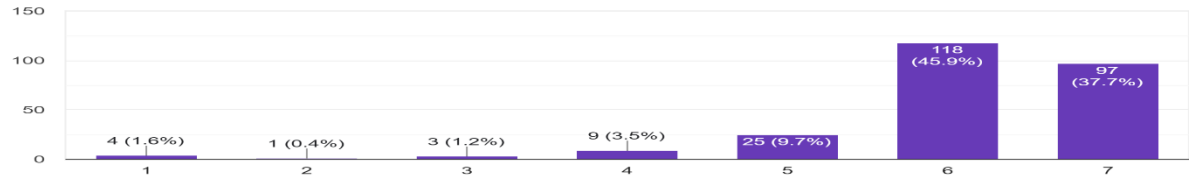
257 responses



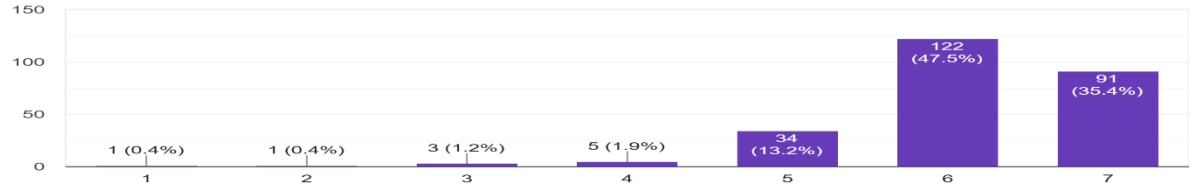
2.2. Flights consistently departs and arrives on time.
257 responses



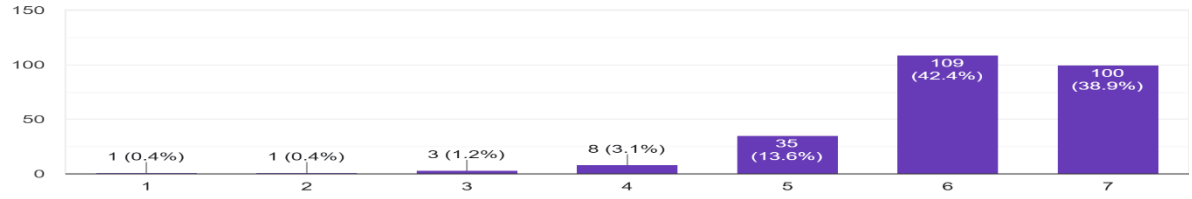
2.3. Baggage is handled promptly upon arrival.
257 responses



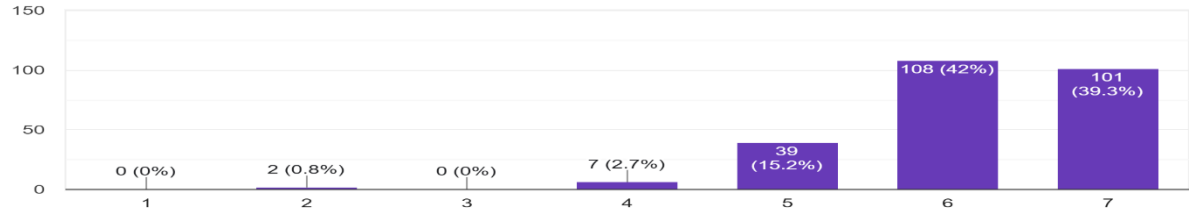
2.4. Waiting time for services is minimal.
257 responses



2.5. Complaints are addressed quickly and effectively.
257 responses

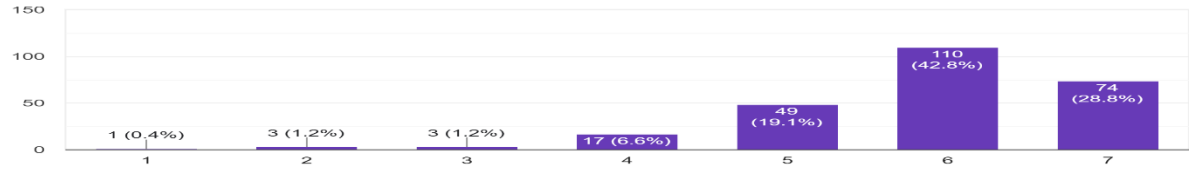


2.6. Services are delivered promptly and accurately.
257 responses



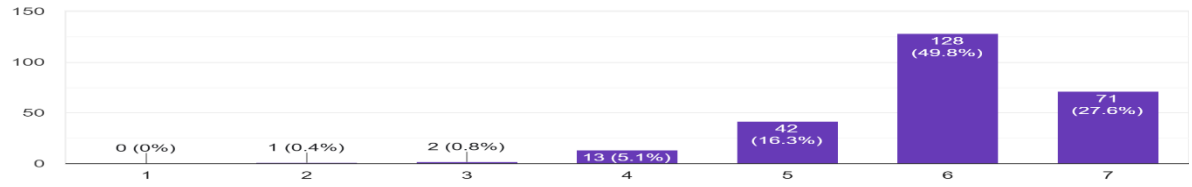
3. Pricing: 3.1. Ethiopian Airlines ticket prices are reasonable.

257 responses



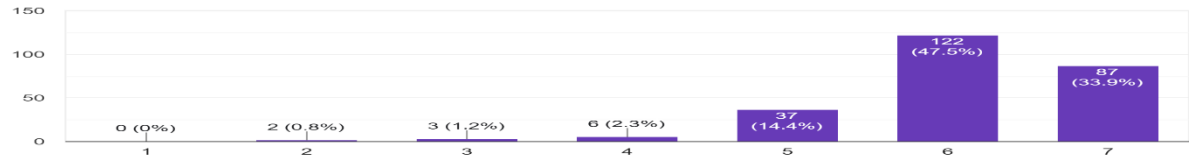
3.2. The airline pricing is competitive with other airlines.

257 responses



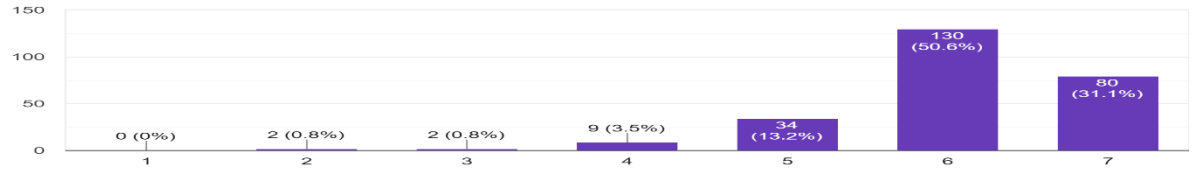
3.3. I receive good value for money from Ethiopian Airlines' services.

257 responses



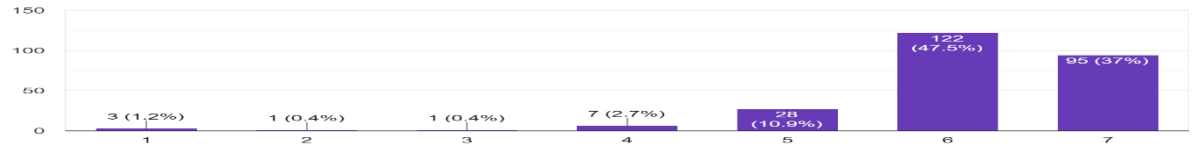
3.4. I am satisfied that the services provided are worth the price I paid.

257 responses



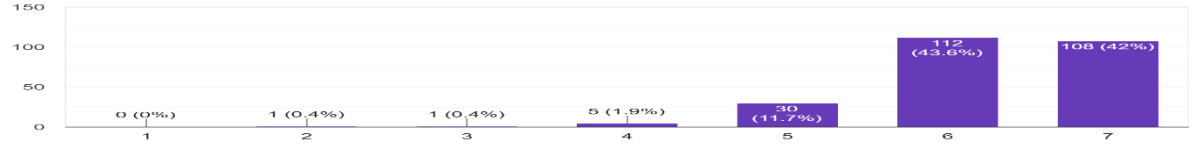
3.5. Additional fees (e.g., booking or service charges) added by the airline are reasonable.

257 responses



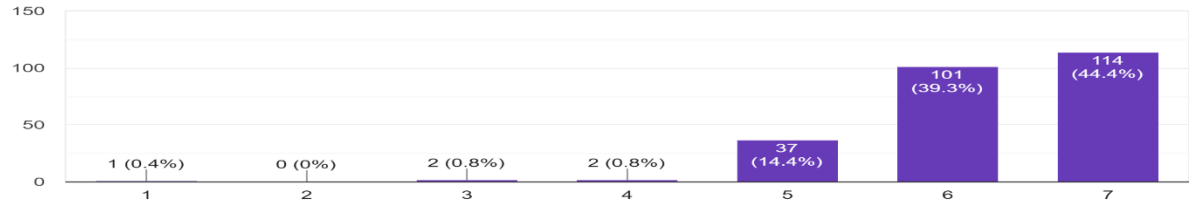
4. Facilities: 4.1. The number of seats at the boarding gate is sufficient and comfortable.

257 responses



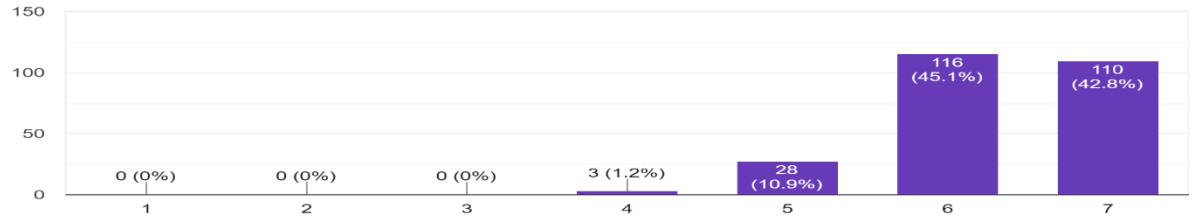
4.2. Check-in and baggage handling counters are adequately provided.

257 responses



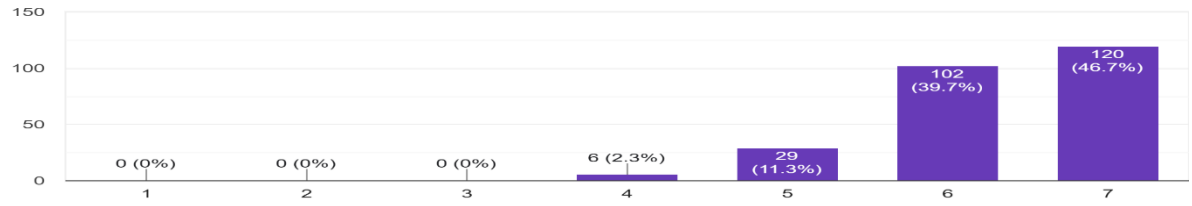
4.3. Preferred seat options are available and satisfactory.

257 responses



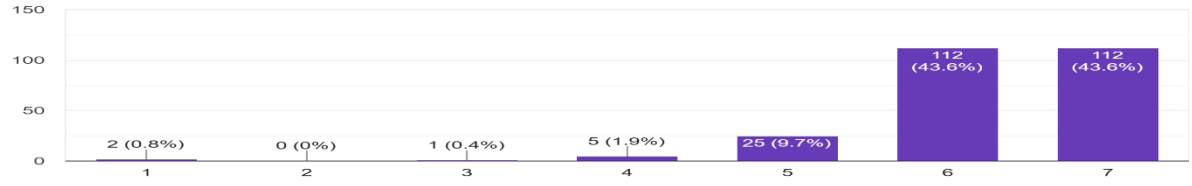
4.4. The cabin interior is clean and pleasant.

257 responses



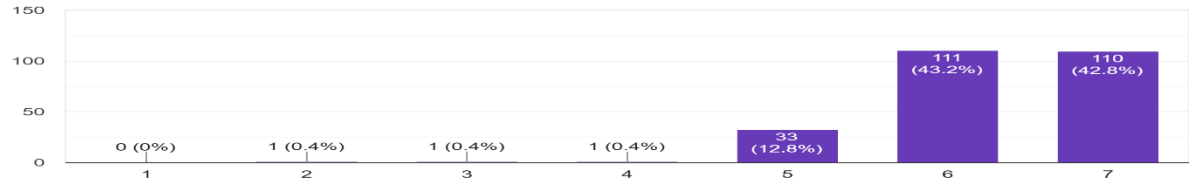
4.5. The in-flight entertainment options enhance the overall flight experience .

257 responses

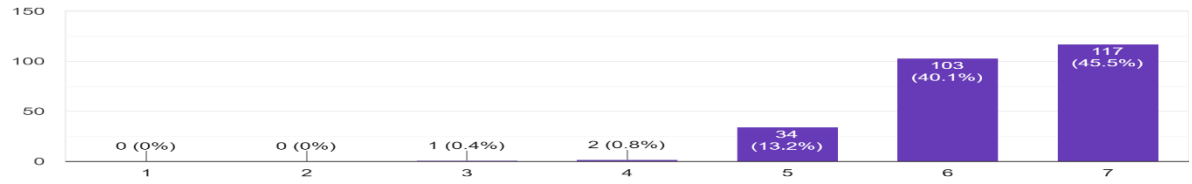


4.6. The in-flight seats are comfortable, and onboard facilities are satisfactory.

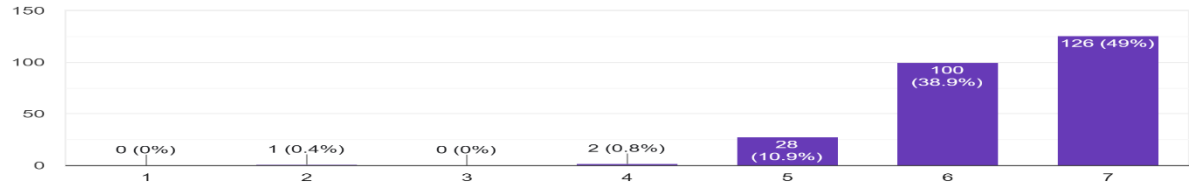
257 responses



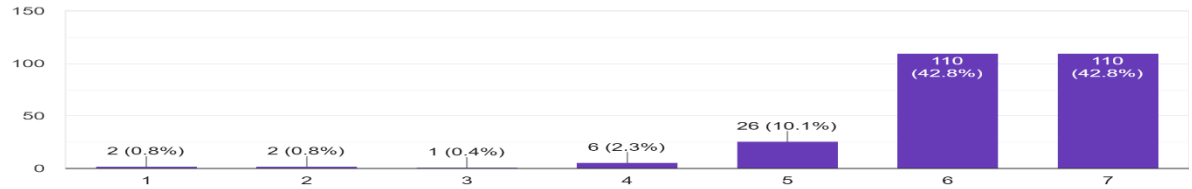
4.7. The food and beverage service during the flight is of good quality.
257 responses



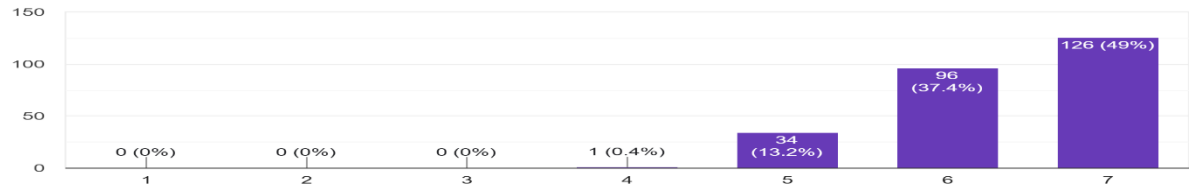
5. Information Communication Technology (ICT): 5.1. Online ticketing systems are user-friendly.
257 responses



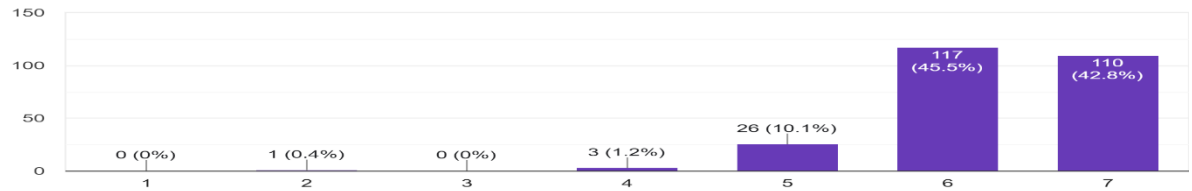
5.2. I rarely experience technical issues when using Ethiopian Airlines' website or mobile app.
257 responses



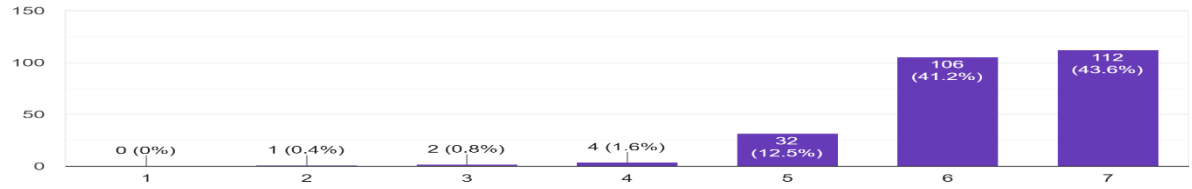
5.3. ICT facilities, such as online booking and check-in, are accessible at all times, including off-hours when physical service counters are closed.
257 responses



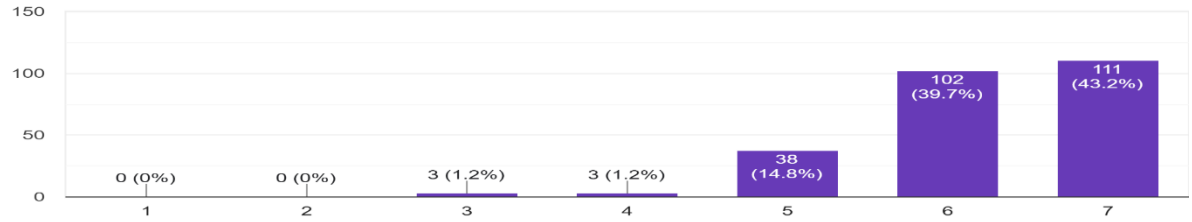
5.4. The airline provides timely updates (e.g., flight status) through digital platforms like the website or mobile app.
257 responses



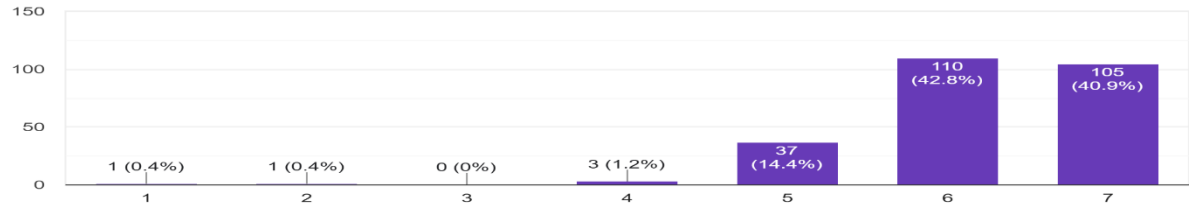
5.5. I am satisfied with the availability of in-flight ICT services, such as on-board Wi-Fi and entertainment.
257 responses



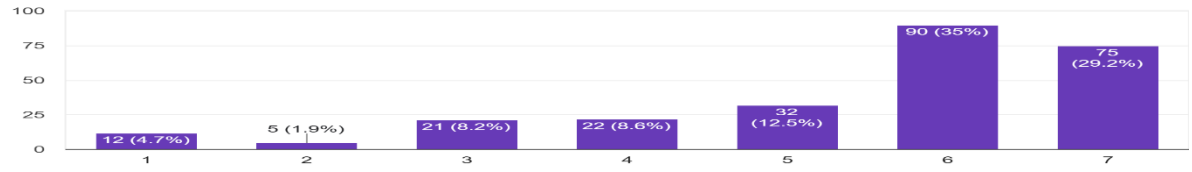
6. Sales Promotion: 6.1. I am satisfied with the money I save through Ethiopian Airlines' sales promotions or discounts.
257 responses



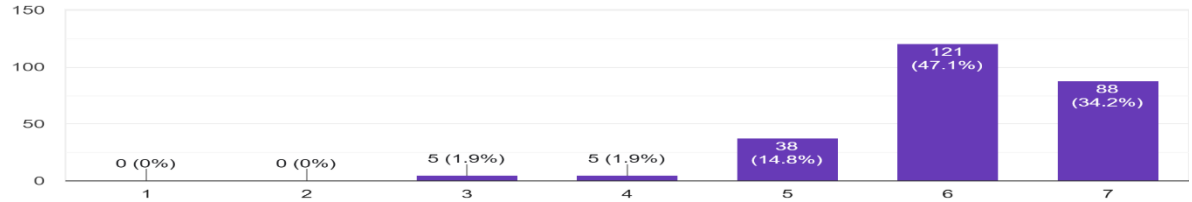
6.2. I often feel I am getting a good deal from Ethiopian Airlines' sales promotions.
257 responses



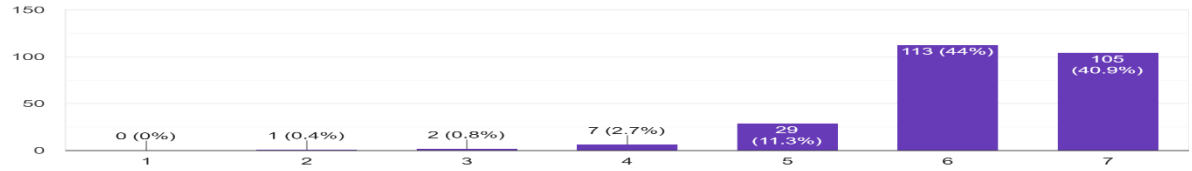
6.3. I travel only when there are sales promotions and discounts.
257 responses



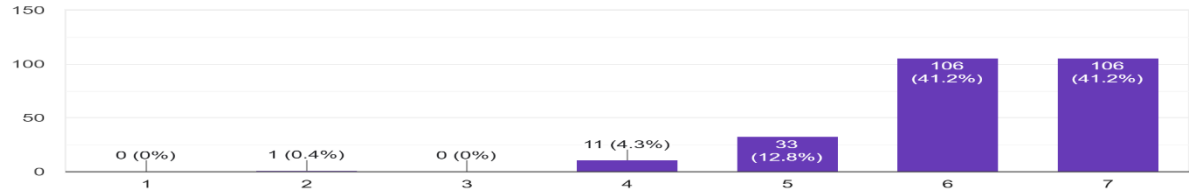
6.4. I am satisfied with the flexibility of rates offered on different dates.
257 responses



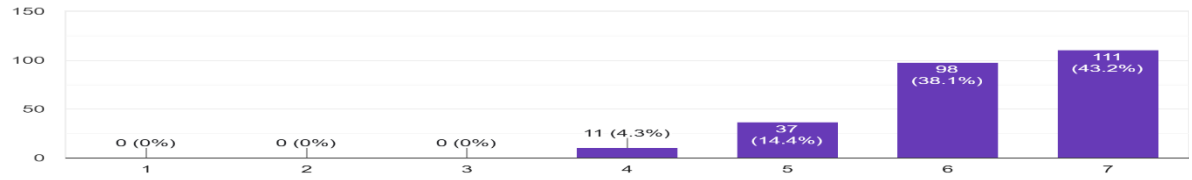
6.5. I am satisfied with the discounts on extra services (e.g., excess baggage, preferred seat selection, on-board Wi-Fi).
257 responses



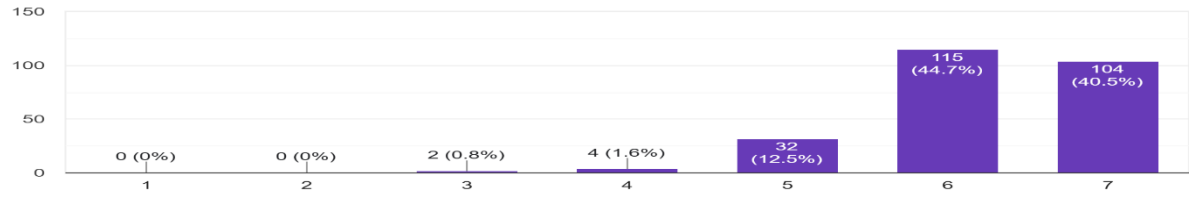
6.6. The airline's promotional packages are competitive compared to other airlines.
257 responses



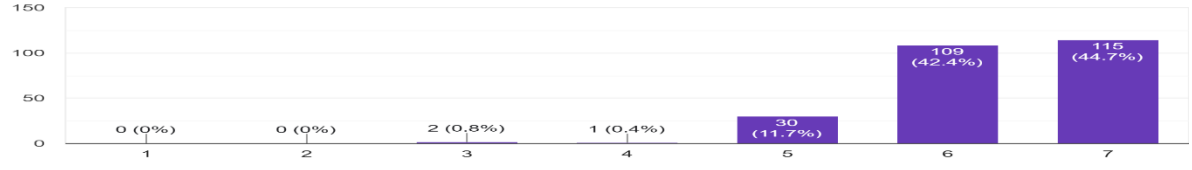
6.7. I am satisfied with the amount of time given for sales promotion periods.
257 responses



7. Service Culture: 7.1. Ethiopian Airlines staff understand and respond appropriately to my specific needs (e.g., language, mobility assistance, dietary preferences).
257 responses

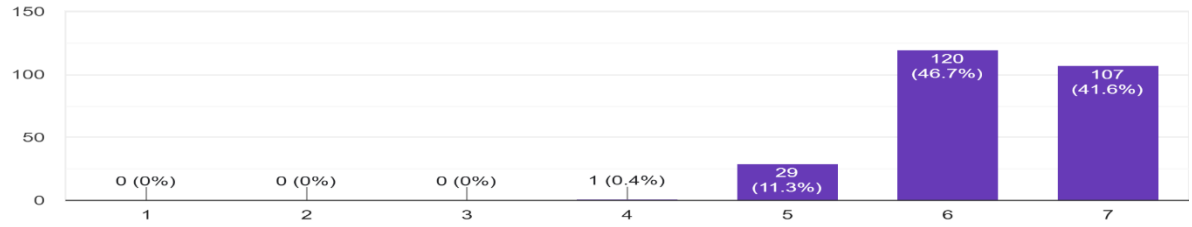


7.2. The cabin crew effectively communicate and manage changes in weather conditions during the flight.
257 responses



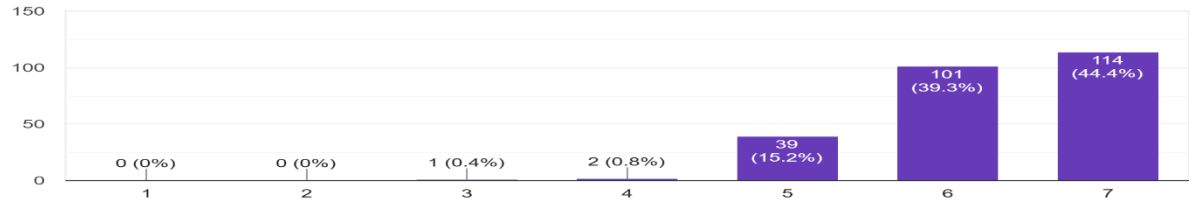
7.3. Crew members maintain a neat and presentable appearance.

257 responses



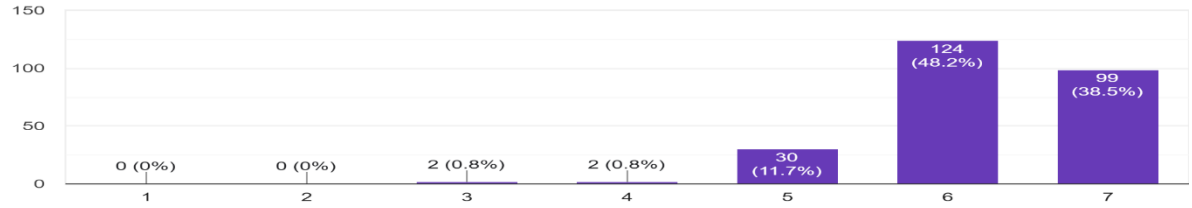
7.4. Ethiopian Airlines staff communicate clearly and effectively.

257 responses



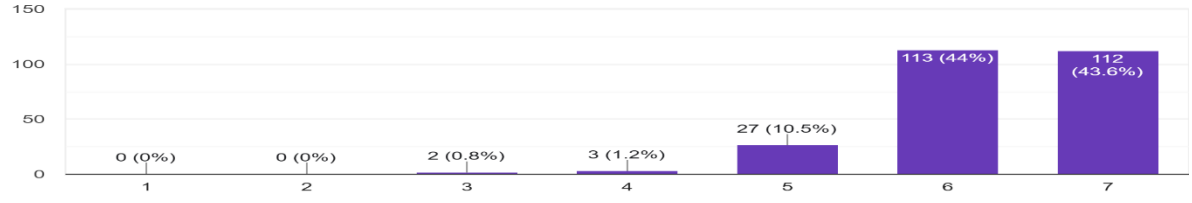
7.5. Cabin announcements made by the crew are clear and easy to understand.

257 responses



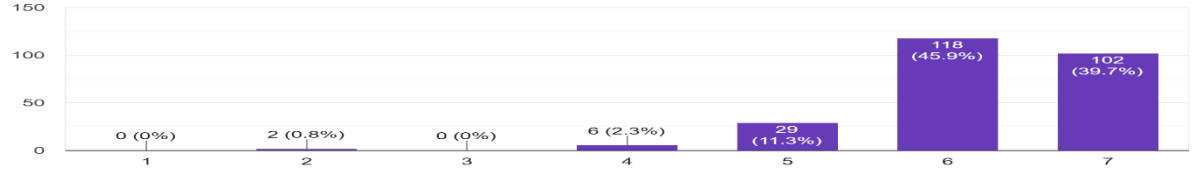
7.6. Staff are courteous, polite, and respectful.

257 responses

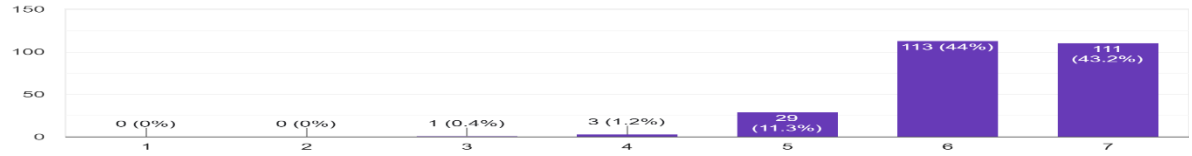


7.7. Management and staff make genuine efforts to improve their services based on passenger feedback.

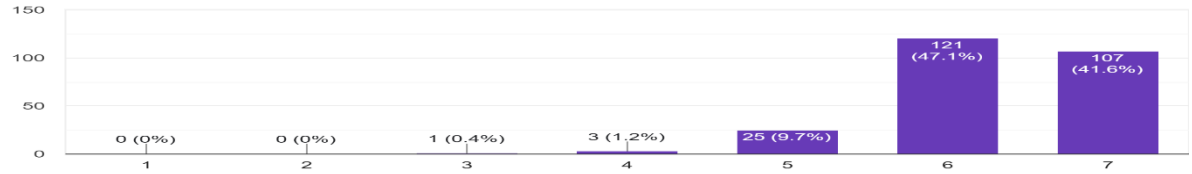
257 responses



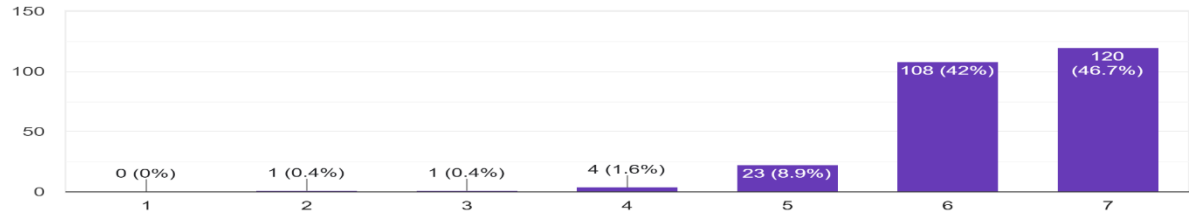
7.8. Staff provide adequate assistance to elderly passengers and those with infants.
257 responses



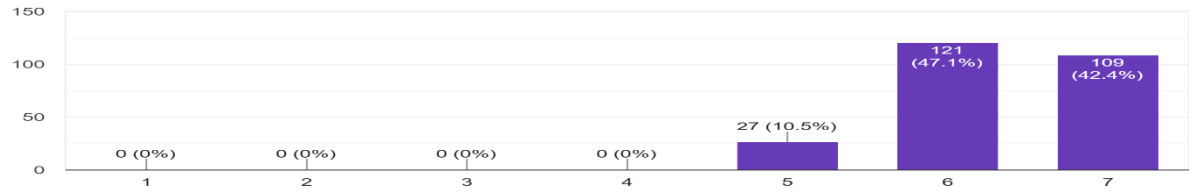
7.9. Staff maintain a warm, welcoming attitude that reflects a strong hospitality culture.
257 responses



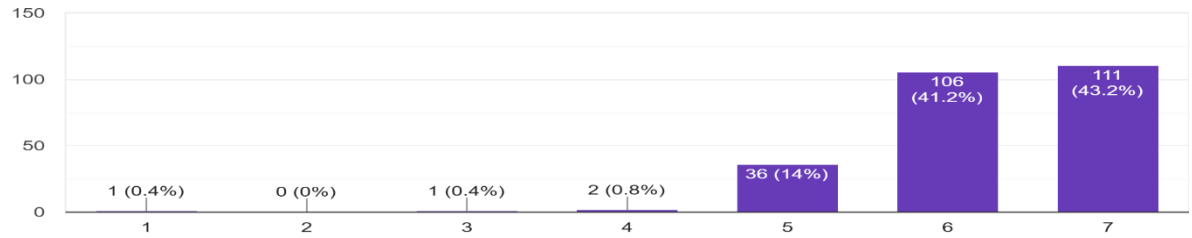
7.10. Staff communicate changes in departure gates promptly and clearly.
257 responses



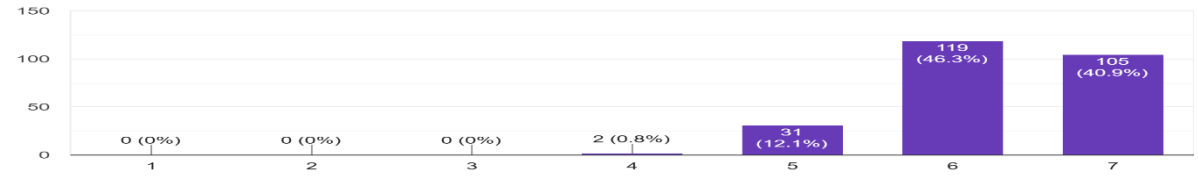
8. Passenger Confidence: 8.1. Ethiopian Airlines is trustworthy.
257 responses



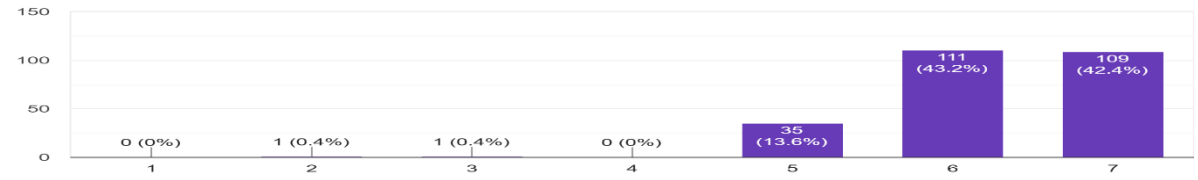
8.2. Ethiopian Airlines is dependable.
257 responses



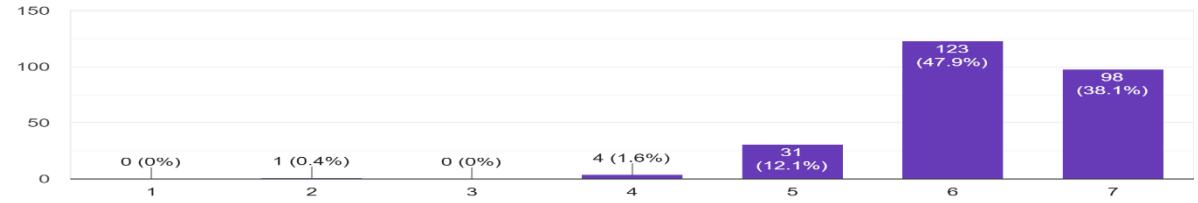
8.3. Ethiopian Airlines consistently communicates and operates with full transparency.
257 responses



8.4. The professionalism and attitude of the staff strengthen my confidence in the airline.
257 responses



8.5. The quality of services provided by the airline is high.
257 responses



8.6. The airline prioritizes cleanliness and maintenance inside the aircraft.
257 responses