ACADEMIA International Journal for Social Sciences
Volume 5, Issue 3(s8), 2026 ISSN-L (Online): 3006-6638

Sustainability vs. Affordability: How Passengers View Airline Pricing and Sustainability Effort

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Received: 26-01-2026 **Revised:** 10-02-2026 **Accepted:** 24-02-2026 **Published:** 12-03-2026

ABSTRACT

The present paper focuses on raising the question and discussing passengers' perceptions of Pakistani airlines regarding the linkage between ticket prices and sustainability programmes. The airlines around the world have begun adopting greener initiatives such as operating fuel-efficient aircraft, implementing carbon offset schemes, and modifying operations to reduce carbon emissions. The paper analyzes the drivers of sustainable awareness among passengers, how they see the affordability and perceived value in determining their willingness to pay for sustainable airline services. The quantitative and cross-sectional method was applied, and the study surveyed 160 airline passengers through a structured questionnaire, which employed a five-point Likert scale. Data was evaluated in SPSS relying on descriptive statistics, reliability, correlation, and regression analysis. Mediation and moderation data analyses examined the mediating role of perceived value and the moderating effect on income level. Findings indicate that passengers who learn more about the concept of sustainability are more willing to use greener services of airline companies. Still, affordability plays a large role that people desire to have sustainable solutions but not at the expense of overly pushing their finances. The research also concludes that perceived value partially defines the process of sustainability awareness into willingness-to-pay, and income level is what determines the extent to which affordability is important. Although the majority of passengers declare that they are in favor of environment-friendly aviation, most of them are not willing to pay the increased fares unless they can be able to see the changes.

Keywords: *Sustainability Awareness, Affordability, Willingness to Pay, Perceived Value, Aviation, Environmental Responsibility, SPSS Analysis*

INTRODUCTION

1. Introduction

Airlines are struggling with a challenging task. They should be more ecological and at the same time remain competitive in terms of the cost of tickets to the passengers. With the growing anxiety about climate change, airlines are pressurized to emit less carbon and switch to more environmentally friendly technologies. Nevertheless, these changes may be costly. As an illustration, purchasing fuel-efficient aircrafts, alternative fuel usage such as (SAF) and carbon offset programs are costly to

invest in.

Even though such initiatives can be effective in defending the environment, they may also raise the cost of conducting business by airlines. Consequently, there is the likelihood of an increase in the prices of tickets, and this might render the flight costlier to the masses. The airlines would have to therefore strike a balance between minimizing their effect on the environment and making air travel affordable to the passengers. This is the sustainability-affordability balance, which is among the key challenges to the aviation industry today (Rotondo et al., 2019).

Most airlines including Lufthansa, British Airways and Emirates are making efforts towards enhancing their performance in regard to the environment. They are experimenting with bio-fuels, providing carbon offset schemes and changing older planes with newer and fuel-efficient ones. Nevertheless, there is still a great problem. Research indicates that fewer than one-third of the passengers are ready to pay more for environmentally friendly flights.

Even though there are numerous individuals who profess their interest in the environment, the majority of the people who travel prefer to buy the cheapest flight ticket. This is more in countries such as in Pakistan where the price of the ticket is normally the most significant to the passengers. Consequently, this paper will look at how the passengers will manage to balance between sustainability and affordability, and how airlines can be environmentally friendly yet retain their services financially (Rice et al., 2020).

Sustainable practices are becoming more popular in the aviation industry as the industry tries to minimize its effects on the environment, but in many cases, these have led to increased operation costs and this cost may be transferred to the passengers in a way of increased airfares. In the developing nations like Pakistan where passengers are very price sensitive, an increase in ticket costs could diminish the sustainability of airline services. Moreover, the lack of knowledge about aviation sustainability measures can influence the readiness of passengers to pay extra prices for environmentally friendly travel plans. This poses a problem to airlines that want to strike a balance between sustainability goals and low costs. Thus, one should know how passengers view sustainable aviation practices, how ticket prices affect their choice of travel locations, and how their readiness to embrace sustainable air travel is affected (Gjerald et al., 2025).

The aim of the research is to propose an empirical study to examine passenger perceptions of the relationship between airline ticket pricing structures and environmental sustainability efforts on the Pakistani aviation market.

To gauge the level of consumer awareness on sustainable aviation practices.

To measure the particular effect of ticket pricing structures on the encouragement of passengers to green initiatives.

To determine the main socioeconomic obstacles that discourage passengers from using sustainable flights.

To offer practical, evidence-based suggestions on how to tradeoff between ticket affordability and being environmentally compliant.

Upon reading this, some of the questions arise that are:

How aware are the passengers about green aviation initiatives?

What are the effects of the price of an airline ticket on the willingness to pay for sustainable flights?

What are the critical elements that slow down passenger support for environmental-friendly air transportation?

How can commercial airlines optimize pricing strategies to retain customers while funding green initiatives?

This research is significant academically and in practice. Academically, little research has been done that examines the correlation between sustainability and affordability in the aviation industry of developing nations. The majority of the past research has concentrated on developed markets where the degree of passenger income and travel behavior is different. It is through this study, therefore, that this gap can be filled by investigating the perception of passengers regarding sustainable aviation practices in Pakistan and their readiness to pay towards it (Huang et al., 2026).

Industry users, e.g., airlines, regulators, and tourism planners, may also find the findings of this research useful. Airlines can use the insights in a way that passengers consider sustainability and ticket prices to develop pricing approaches that will support the environmental programs, yet will not price traveling too high to be unaffordable to the customers. The findings also give clues on the variables that move passengers in making the decision whether they should patronize the services of airline companies that are eco-friendly.

Such a study can be of assistance to the policy makers, especially the Pakistan Civil Aviation Authority (PCAA), in formulating policies concerning sustainable aviation. The findings emphasize the need to promote environmentally friendly activities besides taking into account the financial constraints of passengers. This would assist in the long term in the creation of an economic and environmentally responsible aviation sector in Pakistan (Nand et al., 2023).

The target population of the study is the commercial air travelers in Pakistan who use both local and regional flights. The results are predominantly from the survey reports where the passengers provided their views and experiences. The responses also might not necessarily be indicative of the actual decisions that passengers make when purchasing flights since the data is self-reported (Ali et al., 2015).

Though the study makes some helpful suggestions about the attitude of the passengers to sustainable airline practices and their readiness to pay for it, it does not look at the operational and financial aspect of airlines. That is, the study is based on the perception of passengers towards sustainability and affordability but does not consider the cost or financial implications to airlines (Hagmann et al., 2015a).

Due to such shortcomings, one must approach the results with certain caution when using them to extend to a broader context. Further studies would be able to offer a more comprehensive picture of the problem when incorporating views provided by passengers and data about airline operations and expenses (Tian et al., 2021).

2. Literature Review

This chapter is a review of past studies concerning the concept of sustainability, affordability, and passenger perception within the aviation sector. It looks at ways in which airlines are following green practices, the impact of such practices on the price of the tickets, and how customers react to these changes (Mayer et al., 2012).

The chapter also presents some of the relevant theories and findings of the previous studies to give a background to the research at hand (Kauppinen, 2025). It brings out what is already known about sustainable aviation, the struggles that airlines have to endure in order to keep ticket prices low, and the drivers behind the attitudes and behavior of passengers (McLinton et al., 2020).

This review finds gaps in the current literature and clarifies how the current study under development will help in the improved understanding of the relationship between sustainability and affordability of the aviation sector (Karaman et al., 2018).

2.1 Sustainable Airline Activities.

The major area of concern on Sustainability in aviation is the reduction of carbon emissions, enhancement of fuel efficiency, and adoption of environmentally friendly operation techniques. There are numerous programs launched by many airlines like biofuels, carbon offset programs, and digital technologies as a way to minimize their environmental impact (Uddin & Wang, 2025).

Such programs tend to raise operational expenses that may lead to an increment in the ticket prices to the passengers. A case in point is Lufthansa which launched its program Green Fares wherein the customer is required to pay a low tariff in order to cover carbon emission. Nevertheless, very few travelers make this choice. Research demonstrates that despite the fact that sustainability concerns are known by many passengers, this knowledge does not necessarily affect their behavior. As much as people may be concerned about the environment, most of them are not willing to part with their money to buy sustainable travel products at a higher price (Truxal & Aras, 2025).

H1: Sustainability Awareness positively influences Perceived Value.

H2: Affordability positively influences Perceived Value.

2.2 Affordability and Sensitivity to Pricing.

Flight costs are very significant in the way individuals choose flights, particularly in poor nations where monetary constraints are strict. When there are many passengers, the price of the ticket is more important than the brand, or additional benefits. Therefore, when airlines attempt to provide such sustainable solutions as carbon offset schemes or such environmentally friendly fuel, and their offers tend to be more expensive, they will lose the attention of such passengers who are more price-sensitive, particularly those with a smaller budget.

The hypothesis of value-based pricing goes straight to the point: individuals are not willing to pay a high price to make a sustainable choice until they note a clear and personal gain, possibly they are concerned about the environment, or have a sense of social responsibility, or just some personal satisfaction with making a greener choice. This puts the airlines in the emerging markets in a difficult situation. To make more people adopt sustainable travel, they must strike a balance between these green initiatives and the requirement to maintain cost-consciousness. Otherwise, greener will simply not take off (Banerji et al., 2023).

H3: Perceived Value positively influences Willingness to Pay.

H4: Sustainability Awareness positively influences Willingness to Pay.

2.3 Passengers Willingness to Pay and Perception.

The willingness of passengers to pay for sustainable air travel depends on a number of personal and situational factors such as their income level, education level, and environmental awareness. Younger and better-educated travelers will be willing to pay premiums to receive eco-friendly airline services but older and less educated passengers do not (Rice et al., 2020). As much as people like the concept of sustainability, their enthusiasm wanes quickly once the price of tickets starts to rise, typically once it goes beyond an approximation of 10 percent of the regular fare, they withdraw.

The figures speak volumes: despite the fact that passengers are environmentally conscious, the price is still the word to be reckoned with, particularly in such locations as tight-budget areas. In this way, even environmentally friendly flyers are afraid to pay more. Airlines will have to devise a means of making sustainability affordable so that more people can be on board with green options (Adialita et al., 2025).

H5: Perceived Value mediates the relationship between Sustainability Awareness and Willingness to Pay.

H6: Perceived Value mediates the relationship between Affordability and Willingness to Pay.

H7: Income Level moderates the relationship between Perceived Value and Willingness to Pay.

2.4 Underpining theory

According to the Theory of Planned Activity, the choice of passengers regarding the mode of travelling depends on three factors; what passengers themselves think about the trip, what they think others want them to do, and how much they believe they have control over the situation.

Sustainable travel becomes excessive, leaving passengers with no power, and thus they are less likely to choose the ones that are environmentally friendly. (Ajzen, 1991).

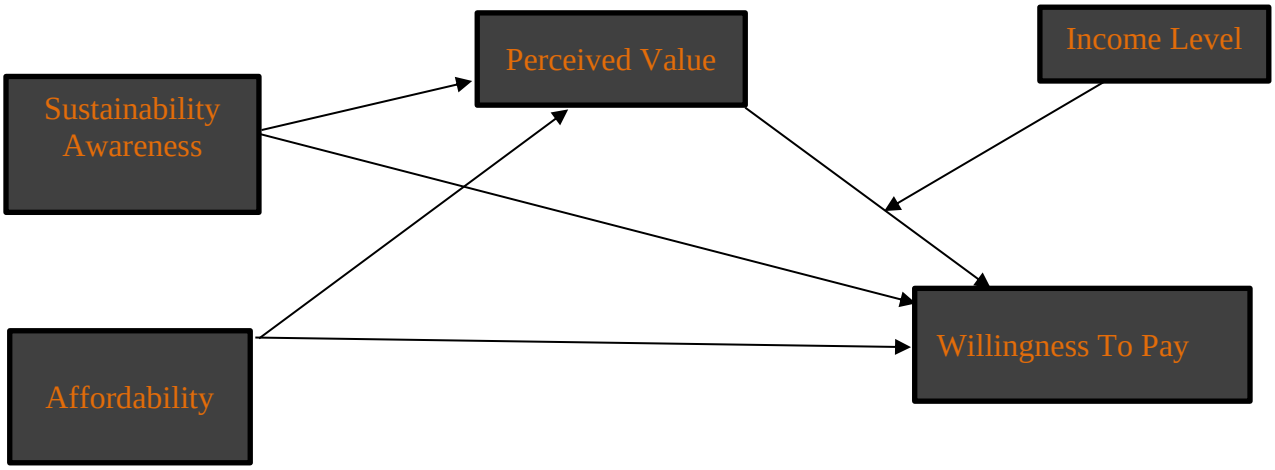
So, now, when you look at Value-Based Pricing Theory, passengers will then decide whether or not a ticket price is rational by balancing the environmental, emotional, and practical advantages that they are likely to receive (Xu et al., 2022). They will not pay an amount of money to get a greener option unless they perceive it to be worth the extra money (Desai et al., 2019).

Comparison of these two theories will reveal that making people buy into the idea of sustainability in aviation is something that cannot be achieved only through the sale of greener tickets (Rice et al., 2020). Individuals must be inspired, have support of people around them and be capable of affording the change. Sustainable aviation involves real advances in addressing the psychological aspect of what people desire, as well as the financial reality of what people are capable of doing (Mehmood et al., 2025).

2.5 Research Model

The study identifies a model explaining the reconsideration of passengers in regard to sustainable air travel, particularly during a period of financial limitations (Alil et al., 2025). The model is based on the Theory of Planned Behavior and Value-Based Pricing and is a combination of psychological and economic concepts that explore the reasoning behind individuals opting to pay more for an upgrade to a greener airline (Ajzen, 1991). Two of the most outstanding ones here are the extent to which passengers are aware of sustainability and the extent to which they are conscious about the cost of the tickets. Awareness is being informed on matters such as carbon offsetting, bio-fuels, or fuel-saving aircrafts (Tileaga, 2025). Affordability is concerned with the price tag influencing the choice of the passenger and it is usually the largest point-breaker in developing countries. Although individuals may be aware of what the environment entails, most of them do not want to spend more money in an effort to make sustainable decisions. The real point of sticking is the price (Lu & Wang, 2018).

2.5.1 Conceptual Framework



The framework illustrates that Sustainability Awareness (H1) and Affordability (H2) positively influence Perceived Value, which in turn positively affects Willingness to Pay (H3). Sustainability Awareness also has a direct positive effect on Willingness to Pay (H4). Perceived Value mediates the relationship between Sustainability Awareness and Willingness to Pay (H5) as well as between Affordability and Willingness to Pay (H6). Furthermore, Income Level moderates the relationship between Perceived Value and Willingness to Pay (H7).

Note: SA = Sustainability Awareness; AF = Affordability; PV = Perceived Value; WTP = Willingness to Pay.

The model puts perceived value in the heart of things that passengers pay more when they are convinced that sustainability is actually benefiting the environment or society. Income is another factor that has a great impact. There is a difference in the willingness of the affluent travellers to pay the cost for sustainable ones and low income travellers are more price-sensitive (Atay, 2025). The last link in the chain is willingness to pay, reflecting the level of willingness of people to spend more

money on greener aviation. Ultimately, this model brings together the influence of awareness, the consideration of cost issues, perceived value and income on decisions related to sustainable travel in particular segments such as Pakistan where individuals are highly sensitive to cost (Ajzen, 1991).

3. Methodology

This chapter segregates that the study investigated opinions that consumers have on sustainability and affordability of airline pricing. It covers the high-level research method, and moves down to the philosophical assumptions underlying the research, and the research subject matter. Sampling process is also attended to and it reveals the method of selection of participants to ensure the data is solid and reliable. You will have information about the data collection devices and methods, what was used and how it was analyzed. Throughout the chapter, the methodology of the study is introduced step by step, establishing a strong base, on which the following analysis and discussion will occur (Marion-Audibert, 2024).

3.1 Research Design

The study done was quantitative and cross-sectional to determine the relationship between the sustainability awareness, affordability and willingness to pay by the passengers. This enables the study to get reliable data and gain a good knowledge of passenger perceptions. Under the statistical analysis one is able to observe real patterns in which things fit, which do not fit and the influence that each variable has on the other. The method ensures the reliability of things and grounds the results on empirical evidence, therefore, we are able to have a firsthand look at consumer behavior in relation to sustainable practices as opposed to mere guess and assumptions.

3.2 Research Philosophy

This research takes the positivist research philosophy which focuses on objective and measurable data to test relationships between variables. The structured questionnaire was used to measure the perceptions of the passengers regarding sustainability awareness, affordability, perceived value, and willingness to pay for sustainable airline services. The study aims to determine the association between the chosen variables and present results, which are supported by observable evidence, by using the techniques of numerical data analysis (statistics). This methodology helps to achieve the goal of building a systematic knowledge of the passenger behavior in terms of sustainable aviation practices and airline pricing (Betanzo, 2012)

3.3 Population and Sampling

The target population comprises Pakistani travelers that use both domestic and regional airlines. The sampling technique that was used was convenience sampling that sampled 160 respondents of the airports and online travel platforms. This will guarantee the accessibility and appropriateness to the objective of the study (Hagmann et al., 2015b).

3.4 Data Collection

The study employed a standardized questionnaire, separating it into particular parts with each section addressing a specific issue, like how well people understand sustainable practices, how they view the aspect of affordability, and whether a passenger is willing to pay an extra amount of money to utilize the services of sustainability. A five-point Likert scale was used for all questions so the participants could answer them in relation to their degree of agreement, which had a range of strongly disagree to strongly agree. In addition to these questions, it included details of the participants' demographic features, including age, gender, education level, and traveling frequency. The data gathered enabled the research to deepen its understanding of the passengers' perspectives on sustainability and pricing as they relate to various types of passengers.

3.5 Data Analysis

Data will be analysed using SPSS, which will help to delve deeper into the data to discover the core of the study's findings. First, descriptive statistics, means, frequencies, and percentages, will be calculated to have a clear picture of how the respondents responded. Next, correlation analysis will be performed to view the way the variables relate to each other and which trends begin to take effect. The tests of the hypotheses of the study will be conducted using SPSS, whether the relationships between the variables really are true statistically or not. This is done to bring out important insights that are important to the purpose of the research and ensures that the findings are founded on strong ground.

3.6 Ethical Considerations

Participants were informed about the purpose of the study and assured that all their responses would remain confidential. No personal information was collected from participants and they were free to participate or withdraw at any time without a penalty. Ethical approval was taken before the survey was conducted. Participants were informed about how their responses would treated, how it would be stored in a safe manner and only provide results in a general and anonymous manner. These measures rendered the entire process professional, and more so, made everyone feel that we cared about their privacy and safety throughout the process.

4. Data Analysis and Results

Data analysis was conducted using Statistical Package of Social Sciences (SPSS). This paper used the descriptive statistics, reliability, correlation and regression analyses to examine the correlations

between sustainability awareness, affordability, perceived value and willingness to pay sustainable airline services.

4.1 Demographic Analysis

One hundred and sixty-one respondents took part in the survey. Their demographics such as gender, age bracket, education, and frequency of air travelling were analyzed with SPSS frequency.

Table 1

Demographic Variable	**Category**	**Frequency**	**Percentage (%)**
Gender	Male	98	61.3
	Female	61	38.1
	Prefer not to say	1	0.6
Age Group	18–25 years	57	35.6
	26–35 years	51	31.9
	36–45 years	26	16.3
	46 years and above	26	16.3
Education Level	Intermediate	13	8.1
	Bachelor's Degree	67	41.9
	Master's Degree	63	39.4
	MPhil/PhD	17	10.6
Air Travel Frequency	Never	28	17.5
	1–2 times per year	70	43.8
	3–5 times per year	46	28.7

Demographic Variable	Category	Frequency	Percentage (%)
	More than 5 times per year	16	10.0

Table 1 gives the demographic data of the respondents. Most of the participants were men (61.3) and 38.1% were women. Majority of the respondents were between the ages of 18-25 (35.6%), then there were 26-35 years (31.9%), this shows that the sample was made up of young adults. In terms of educational qualification, a majority of the respondents were well-educated (41.9% and 39.4% having a Bachelor and a Master degree, respectively). By the frequency of air travel, the highest percentage of respondents flew 1–2 times a year (43.8%), then it was 3–5 times a year (28.7%).

4.2 Descriptive Statistics

The perceptions of the respondents in terms of sustainability awareness, affordability, perceived value, and willingness to pay were summarized using descriptive statistics.

Table 2

Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Sustainability Awareness (SA)	160	1.00	5.00	3.76	1.03
Affordability (AF)	160	1.00	5.00	3.40	1.10
Perceived Value (PV)	160	1.00	5.00	3.83	0.91
Willingness to Pay (WTP)	160	1.00	5.00	3.48	0.94
Income Level (IL)	160	1.00	4.00	2.94	1.03

Note: All construct scores are based on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), except Income Level, which is a four-point ordinal scale (1 = Below PKR 30,000; 2 = PKR 30,001–60,000; 3 = PKR 60,001–100,000; 4 = Above PKR 100,000).

N = 160 for constructs; N = 160 for Income Level. The descriptive statistics for the study variables are shown in Table 2. The findings reveal that the general level of awareness among the respondents about the sustainability practices in the aviation industry is fairly good. The study variable perceived value, had the highest mean value, indicating recognition of benefits that could be gained from sustainable airline services. Both Willingness to Pay and Affordability were significant factors in travelers' travel decisions, with moderate support expressed for paying extra to ensure environmentally responsible aviation practices. The income distribution also shows that most of the respondents were in the middle-income range, which could be a factor in their choice of what airline services they want to opt for.

4.3 Reliability Analysis

The internal consistency of the questionnaire items was determined by reliability analysis with Cronbach's Alpha.

Table 3

Reliability Analysis

Construct	**Cronbach's Alpha**
Sustainability Awareness	**0.827**
Affordability	**0.773**
Perceived Value	**0.892**
Willingness to Pay	**0.880**
Income Level	Single-item measure (N/A)

Note: The Cronbach's Alpha values showed that the internal consistency of the items was satisfactory range ≥ 0.70 (Nunnally, 1978). For a single demographic item, the measure of the income level is measured on an ordinal scale, and therefore the internal consistency reliability (Cronbach's Alpha) cannot be calculated, (N/A) for single item measures.

The reliability of the study constructs has been presented in table 3. The Cronbach's Alpha reliability coefficient was above the 0.70 level for all multi-item variables, which was considered as acceptable level of internal consistency among the measurement items. The results indicate that the items in the questionnaires were reliable and appropriate for statistical analysis.

Since the measure of Income Level was based on one item to determine the income level, reliability analysis could not be applied to this variable.

4.4 Correlation Analysis

Pearson correlation analysis was conducted to examine the relationships between the key variables.

Table 4

Constructs	SA	AF	PV	WTP	IL
Sustainability Awareness (SA)	1.000				
Affordability (AF)	-0.023	1.000			
Perceived Value (PV)	0.631**	-0.027	1.000		
Willingness to Pay (WTP)	0.520**	-0.238**	0.703**	1.000	
Income Level (IL)	0.342**	-0.219**	0.302**	0.255**	1.000

Table 4 presents the correlation among variables of the study. Sustainability Awareness was found to be positively related to Perceived Value and Willingness to pay. Passengers that are more aware that the airlines should be more sustainable are more willing to pay and value the airlines' sustainable services. Perceived Value showed the highest positive relationship with Willingness to Pay, which is important in influencing the behaviour of passengers. Affordability was found to have a negative relationship with Willingness to Pay; this is expected as the higher the costs associated with tickets, the less support there may be for sustainable aviation initiatives.

4.5 Regression Analysis

A regression analysis was also conducted to determine the effect of sustainability awareness, affordability, and perceived value on the willingness to pay.

Table 5

Model Summary

R	R^2	Adjusted R^2	Std. Error	F-statistic	Sig.
0.742	0.551	0.533	0.6206	3.84	0.000

Table 5 gives an overall performance of the regression model. The results show that the model explained 55.1% of the variation in Willingness to Pay (R^2 = 0.551). Besides, the model was statistically significant ($p<0.001$), meaning that the independent variables chosen are significant enough to explain the willingness to participate in sustainable airline services among passengers. The results indicate that the regression model is an adequate model of the data.

Table 6

Regression Coefficients (Predictors of Willingness to Pay)

Predictor Variable	Unstandardized B	Std. Error	Beta	t-value	p-value	95% CI Lower	95% CI Upper
(Constant)	0.874	0.372	—	2.350	0.020	0.140	1.608
Sustainability Awareness	0.147	0.080	0.131	1.848	0.066	-0.010	0.304
Affordability Barriers	-0.241	0.060	-0.224	-4.044	<0.001	-0.359	-0.123
Perceived Value	0.650	0.073	0.622	8.883	<0.001	0.505	0.794
Income Level	-0.021	0.048	-0.027	-0.450	0.654	-0.116	0.073

Table 6 shows the individual contribution of each predictor to Willingness to Pay. Perceived Value proved to be the most significant **($\beta = 0.622$, $p < 0.001$)** predictor, meaning that the greater the perceived value for the passenger of sustainable airline practices, the more willing he/she will be financially supportive of the practices. Affordability Barriers were significantly negatively correlated with willingness to pay (WTP) **($\beta = -0.224$, $p < 0.001$)**, indicating that higher the passengers are price sensitive, the lower the price they are willing to pay. Sustainability Awareness had a positive but weaker effect on Willingness to Pay and didn't have a statistically significant direct effect in the model for this study.

Income Level didn't have a statistically significant direct effect in the model, but Sustainability Awareness did have a positive effect, although a weaker one. Results show the overall importance of perceived value on the passengers, showing that they will support sustainable airline services.

4.6 Hypothesis Testing

Table 7

Hypothesis Results

H	Relationship	Test	Result	β / B	p-value	Decision
H1	SA → Perceived Value	Simple Regression	Supported	β = 0.631	< 0.001	✓
H2	Affordability → Perceived Value	Simple Regression	Not Supported*	β = –0.027	0.737	✗
H3	Perceived Value → WTP	Simple Regression	Supported	β = 0.703	< 0.001	✓
H4	SA → WTP	Simple Regression	Supported	β = 0.520	< 0.001	✓
H5	PV mediates SA → WTP	Baron-Kenny / Sobel	Supported	Indirect = 0.440	< 0.001	✓
H6	PV mediates AF → WTP	Baron-Kenny / Sobel	Not Supported*	Indirect = –0.020	0.737	✗
H7	Income moderates PV → WTP	Moderation (interaction)	Supported	B = 0.157	0.014	✓

The results of the hypothesis testing are summarized in Table 7. The results support H1, H3, H4, H5, and H7, showing significant relationships among the proposed variables. In particular, the Sustainability Awareness construct positively impacted both Perceived Value and Willingness to Pay, and the Perceived Value construct had a strong positive impact on passengers' willingness to support sustainable airline services. Perceived Value was also found to be a mediator between Sustainability Awareness and Willingness to Pay. But it was not the case for H2 and H6, indicating that Affordability was not significant to Perceived Value, and the hypothesized mediation mechanism was not confirmed.

4.7 Structural Equation Model (SEM)

Table 8

Structural Equation Model — Path Coefficients Summary

Path	Type	Std. β	B	SE	t-value	p-value
SA → Perceived Value	Direct	0.631	0.677	0.066	10.198	< 0.001
Affordability → Perceived Value	Direct	–0.027	–0.028	0.082	–0.336	0.737
Perceived Value → WTP	Direct	0.703	0.734	0.059	12.384	< 0.001
SA → WTP (direct)	Direct	0.520	0.582	0.076	7.631	< 0.001
SA → PV → WTP (indirect)	Mediation	0.444	0.440	0.067	6.559	< 0.001
AF → PV → WTP (indirect)	Mediation	–0.019	–0.020	0.060	–0.336	0.737
Income × PV → WTP	Moderation	—	0.157	0.063	2.489	0.014

To test the proposed research framework and analyze the relationship between the variables of the study, the Structural Equation Model (SEM) was used. The results are generally consistent with the conceptual model that was developed for the present study. Sustainability Awareness had a positive effect on both Perceived Value ($\beta = 0.631$, $p < 0.001$) and Willingness to Pay ($\beta = 0.520$, $p < 0.001$). Perceived Value was the most important factor influencing the passenger decision ($\beta = 0.703$, $p < 0.001$).

Also, the analysis confirmed the mediating effect of Perceived Value between Sustainability Awareness and Willingness to pay, while no mediation effect could be found for Affordability. Additionally, the direct link between Perceived Value and Willingness to Pay (B = 0.157, p = 0.014) was moderated by Income Level, suggesting that financial ability affects passengers' response to sustainable aviation practices' perceived value.

5. Discussion

In this chapter, study findings have been discussed in such a manner that they are related to the previous research and theoretical framework that has been used in the given research. It speculates

on how sustainability awareness, affordability, perceived value, and income level influence the readiness of the passengers to pay for sustainable airline services. The chapter offers a more insightful perspective on the perception and evaluation of environmentally friendly practices in airlines by the passengers by comparing the results to the previous studies.

5.1 Practical and Methodological Contributions.

The results of this research indicate that the more sustainable passengers are, the more they are ready to spend on the services of an airline that is environmentally friendly. When the passengers get to know about environmental problems and what the airlines are doing to minimize their environmental impact, they will be more willing to endorse sustainable aviation practices despite a possible increase in their ticket price.

The results are in line with those of (Rice et al., 2020) and (Lu & Wang, 2018) as the researchers noted that passengers possessing higher environmental awareness tend to be more receptive to sustainable aviation programs. The findings are also consistent with the Theory of Planned Behavior (Ajzen, 1991) that proposes the attitudes and knowledge have an effect on behavioral intentions. The higher the awareness of sustainability practices among passengers, the higher their readiness to the sustainable airline services (Lan Huong et al., 2025).

In methodological terms, the study is unique in the sense that it analyzes the sustainability awareness, affordability, perceived value, income level, and willingness to pay through one study. This addition of perceived value as a mediating variable and the income level as a moderating variable gives a more comprehensive insight into the passenger behavior in relation to sustainable airline services.

The results also show that an increase in ticket price decreases the willingness of people to spend on the services offered by environmentally friendly airlines. This point is in line with (Banerji et al., 2023) and (Rice et al., 2020) that indicate ticket price as one of the most significant factors influencing airline choice. These results also confirm Value-Based Pricing Theory, which states that passengers will be ready to spend more money only when they think that the advantages of a higher cost outweigh its cost.

5.2 Future Direction

More of these findings can be investigated in the future. Researchers can take one direction in which longitudinal studies are conducted to follow the changes in the attitude that people have towards sustainable flying. This type of approach gives a literal understanding of how behavior changes with time.

The alternative approach would be to examine the same patterns in other forms such as transport,

like rail, tourism, or hospitality. Are there customer preferences being affected by sustainability knowledge and low cost in a similar way?

And there are other factors in force as well. The willingness of passengers to accept sustainable aviation could be caused by environmental concern, airline brand name, government regulation or even the greater social forces. Their introduction to the list will enable one to have a more comprehensive image of what is the actual reason behind these decisions.

5.3 Limitations

The authors applied the cross-sectional approach to study; thus, all the data is availed at one point in time. It means that we get an image of the attitude or feelings of passengers at the moment of survey but not how they evolve with time.

Self-reported questionnaires were used by the authors. In studies of behavior, surveys are the norm, but there are some limitations: personal bias may creep in, individuals may respond in a manner that they perceive to be good or they may just misinterpret a question. Therefore, what individuals write on papers is not necessarily what they do when travelling.

The study is narrowed down to the airline passengers in Pakistan which restricts the extent of extrapolation of the results. The passengers in other countries especially in countries where income, environmental awareness or laws governing aviation seem not to be similar may contemplate sustainability and affordability in their own way.

Lastly, the study did not consider a lot of factors: sustainability awareness, affordability, perceived value, and income. Nevertheless, other variables, including the perception of the reputation of an airline by people, the requirement by a government, or the belief of individuals concerning the environment can be used to affect the readiness of a person to pay a higher price to have a sustainable flight.

5.4 Conclusion

This paper has analyzed the connection between sustainability awareness, affordability, perceived value, income level and willingness of passengers to pay towards sustainable airline services in Pakistan. The results show that passengers that are more aware of sustainability concerns tend to be more open to environmentally friendly airline practices in general. Affordability is however a very important aspect that determines the choices of purchasing the tickets as most passengers are more likely to pay low prices of tickets despite the fact that they are sustainable activities. The findings also indicate that the perceived value is an important factor influencing willingness to pay, which implies that passengers would be more willing to incur extra expenses when they think that sustainable practices have substantial environmental and social impacts. Moreover, the income level

has been identified to impact the degree to which the passenger behavior is influenced by affordability concerns. On the whole, the research indicates the existence of support concerning sustainable aviation among passengers, but financial factors remain a significant obstacle to the implementation of more environmentally friendly modes of travel. Thus, the airlines need to work on enhancing awareness, communicating the advantages of sustainability programs, and creating price policies that do not ruin the environmental goals and make them unaffordable to the passengers. The paper adds to the literature base by presenting evidence on the Pakistani aviation industry and presents practical suggestions to airlines and policymakers who strive to ensure sustainable air travel and be competitive and affordable to passengers.

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