Int. j. adv. multidisc. res. stud. 2025; 5(3):773-779

Received: 09-04-2025
Accepted: 19-05-2025

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Application IPA in Investigating Service Quality, Customer Satisfaction of Vietjet Air- Low-cost Carriers in Vietnam

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DOI: https://doi.org/10.62225/2583049X.2025.5.3.4345

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Abstract
This study is based on SERVQUAL model, customer satisfaction and customer loyalty. Use Importance – Performance Analysis (IPA) to design and analyze inquiries for the purpose of investigating, assessing service quality and customer loyalty for two low cost airlines in Vietnam. A total of 297 useful responses were collected and the data were processed and presented in the form of graphical IPA grids. The main purpose of this study is to find out the factors of service quality low-cost airline affect satisfaction and customer loyalty. Then find ways to improve quality of service of VietJet Air. The analysis of IPA for VietJet Air show that customers want to be respectful of the rights of myself more. In addition, VietJet Air needs to invest in training staff to learn better about the service they provide to customers.

Keywords: Service Quality, Customer Satisfaction, Customer Loyally, IPA, Low-cost Carries, VietJet Air

1. Introduction

Service sector plays an important role in the economic development of countries in the world in general, as well as in developing countries in particular. Low cost carriers have a significant impact on the aviation industry. LCC is not a recent phenomenon, it originated in the 1970s. However, the LCC was noticed and expanded in recent years. It was started from Southwest Airlines, the US, since the low-cost carrier began increasing share of excitement. In 1995, a number of countries in Europe signed the Schengen Agreement regulating the freedom of movement of citizens of member countries. This led to the emergence of low-cost carriers Ryanair (1985) and EasyJet (1995) and became the two low-cost carriers in Europe today. According to the Far Eastern Economic Review (2003), it estimates that low-cost carriers in the US make up 25% of demand for air travel and 10% in Europe.

According to Fenton commented that: Unlike the mature markets like the US and Europe, the Asia-Pacific market is growing strongly positive about the past two decades. International Air Transport Association (IACA) forecasts that Asian Pacific airlines will see strong cyclical increases in commodity markets. Low-cost entry countries in the ASEAN region are increasingly competing to maintain a low cost share. But it also drags on that some low cost airlines (such as Air Mekong,...) have halted under competitive pressure from hyperlinks in long haul routes, as well as they face challenges different forms in their domestic market.

Asian market at the convergence of favorable characteristics for low-cost airline industry thrive. First, according to United Nations Population (2018), the region has a population of over 4.2 billion, concentrated in cities of more than 2.2 billion people, or 49% of the Asian population. Second, Asia has a mountainous terrain challenge, which makes it difficult to travel by road, rail or sea. Low cost airlines are the alternative mode of transport in the region. Third, economic growth has boosted the demand for air travel by the people. According to the Asian Development Bank (ADB), economic growth in 2018 is expected to increase to 6% in Asia.

According Andrija Vidovic said low-cost carrier always leading pricing strategy in the market they serve. In order to implement the price strategy, low cost carriers are focusing on cost cutting. Airlines' pricing strategies are very dynamic, their tickets do not include seat transfers, checked baggage, etc…. In addition, to cut costs, carriers often sell tickets online, space on the plane often higher density, as well as removing all the free services on board such as food, books, entertainment on the fly, etc. Moreover, the low-cost airlines often increase profits by selling products and services in their flight and their websites, such as checked baggage, cards…

2. Literature Review

2.1 Service quality

Other than tangible products that can be touched or tasted, while services are invisible they are not homogeneous and cannot be separated. In the process of using the service, the quality of service is reflected in the interaction between the customer and the service provider (Svensson 2002). Therefore, evaluating service quality is not an easy task. Many service quality books often have difficulty identifying or defining quality of service.

For a long time, many researchers have tried to define service quality as follows:

Lehtinen & Lehtinen (1982) argue that service quality must be evaluated in two respects: The service delivery process and the outcome of the service.

According to Gronross (1984), two areas of quality of service are proposed: Technical quality and functional quality. Technical quality refers to what service and quality of service speaks of how they are served.

According to Zeithamt and Bitner (2000), quality of service is the customer's assessment of the transcendence of an entity. It is a form of attitude and consequences resulting from a comparison between what is expected and what is received.

Lewis and Booms (1993) states: Quality of service is a measure of how well a service is delivered to customers that match their expectations. Creating a quality service means meeting the customer's expectations in the best way.

According to Bui Nguyen Hung (2004): Quality of service is what customers feel. Every customer often feels different in quality and therefore the engagement of customers in the development and evaluation of service quality is very important. In the field of quality service is a function of customer perception. In other words, the quality of service is determined by the perceptions or perceptions of customers regarding their individual needs.

Parasuraman & ctg (1988) defines service quality as "the degree of difference between consumer expectations of service and their perceptions of service outcomes".

In general, studies show that the quality of service is the perception or awareness of customers about service expectations and actual results service receive.

2.2 Service quality in aviation

Most definitions of service quality depend on the type of service provided while focusing on meeting the needs and requirements of the customer to how the service is performed in accordance with expectations of its clients. In the aviation industry, service quality includes the interaction between customers and airlines through the staff they seek to influence the perception of customers and create the image of Company (Gursoy *et al*., 2005). Although prices are increasingly being used as the primary way to attract customers. However, some airlines are looking more for quality service to gain a competitive advantage by distinguishing their products because competitors are relatively efficient in meeting the price change (Jones and Sasser 1995). Competitive advantage lies in the quality of their services as well as customer perceptions (Chang and Yeh 2002).

Thus, quality assurance services are the key to the survival of all businesses in the hospitality industry, including airlines. On the other hand, service quality can be defined as a series of services in which the services provided are divided into a series of processes (Chen and Chang, 2005) [3]. For an airline's passenger transport service, each passenger will undergo a series of services from the time of booking to the departure of the airport, which can be divided into a sequence of services. (1) Pre-flight services, (2) Flight services, (3) Post-flight services and quality of service provided by air passengers are quality of service of three processes on.

2.2.1 Pre-flight services

Pre-flight services include: Ticketing and ticketing, pre-flight reminders and departures.

- Booking is the process of searching for tickets and ticket information. Customers can buy tickets online on its website or through the ticket office.
- **Pre-flight reminders:** Today there are many pre-flight reminders such as: Email or text messages reminding passengers one day prior to flight including departure date, time opening of check-in counters, information on baggage luggage, radio invitation boarding, and the convenience of boarding process...
- **Procedures:** Is the process of confirming the flight, luggage and boarding pass.
- **Departure:** Is the departure time of the flight at the airport. This is considered one of the most important factors in the quality of airline services, the key to success is the punctuality of departing at the airport and arriving at the airport on time (Tiernan *et al*. 2008; Gilbert & Wong, 2003). According to Carlzon (1987), passengers who appreciate punctuality do not just measure the length of time they have been promised but also the timing of their departure. So it can be said that departure times and punctuality are an important component of an airline's quality of service (Gilbert & Wong, 2003).

2.2.2 Flight services

According to research by Ng *et al* (2011), the quality of service on the flight is assessed through the comfort of the airplane: Introductory shopping, attendant service, broadcasting and informing, serving newspaper and magazine entertainment and in-flight entertainment. In-flight services can be assessed through the following components:

- **Airplane comfort:** Spacious, clean and decayed seating, armrests, armrests, and the comfort of the cabin and toilet.
- **Serving the hostess:** Friendly and courteous attitude Courts and courtesy, enthusiasm and thoughtfulness, seriousness and willingness to serve, appearance and dress, professional presence Transmit and provide information upon request.
- **Broadcast and inform information:** How to pronounce the fluency when broadcasting full level crew announcement information and video screen.
- **Food service:** The quantity, the ability to choose food, drinks, the form of displaying dishes and flavors of various kinds of drinks.
- **Newspapers:** The number of newspapers and magazines meet the requirements.
- **Flight Entertainment:** Ability to select movies, sound, sound quality, images and the ability to select video games.

2.2.3 Post-flight service

Post-flight services include services such as airport attendant assistance, baggage handling procedures and waiting time, and lost baggage service (Westwood *et al* 2000) is the last service chain that affects the quality of service. Therefore, in order to survive and develop airlines, they must not discriminate against the service sector, but must constantly compare their competition and continually improve their service activities (Doganis, 2006).

2.3 Customer loyally

Reynolds *et al*. (1974) measures customer loyalty by demographic variables. It is believed that customer loyalty refers to the behavior of repeat purchases in this store when customers have demand for goods. The population Griffin (1995) found that the products or services provided by the company were posted). When his alternatives are better or the customer has a willingness to repeat purchases, the customer will have customer loyalty to the public. Jones and Sasser (1995) believes that customer loyalty is the customer's willingness to repurchase a particular product or service, and believes that customer loyalty is divided into two categories, long-term loyalty and short-term loyalty, so-called long-term loyalty refers to Long-term purchases by customers do not easily change choices; so-called short-term loyalty means that when customers have better products or service choices, they will immediately change targets.

Summarizing the customer loyalty means that the customer has a trust or affection for a certain company's products or services, and generates repurchase intentions and even actively promotes positive propaganda to others. Reichheld and Sasser (1990) think that the feeling of satisfaction will be Increase customer loyalty to the company, because the increase in loyalty means that customers may have repeated purchases of products or services provided by the company in the future. Parasuraman Zeithaml and Berry (1991) stated that customers who are loyal to the company are one of the important sources of competitive advantage. Therefore, customer loyalty is an important key to the success of the company's operation and management.

2.4 PZB service quality model

Parasuraman & CTG (1985 [11], 1988) are pioneers in the study of service quality in marketing in a specific and detailed way. He and his team have defined service quality as "the degree of variation between consumer expectations of service and their perceptions of service outcomes".

The focus of this model is the distance or difference (GAP) between the customer's expectations and their perception of the service, called satisfaction. Satisfaction = Feeling - Expectation. Based on this difference, guests will feel satisfied or dissatisfied about the service they feel.

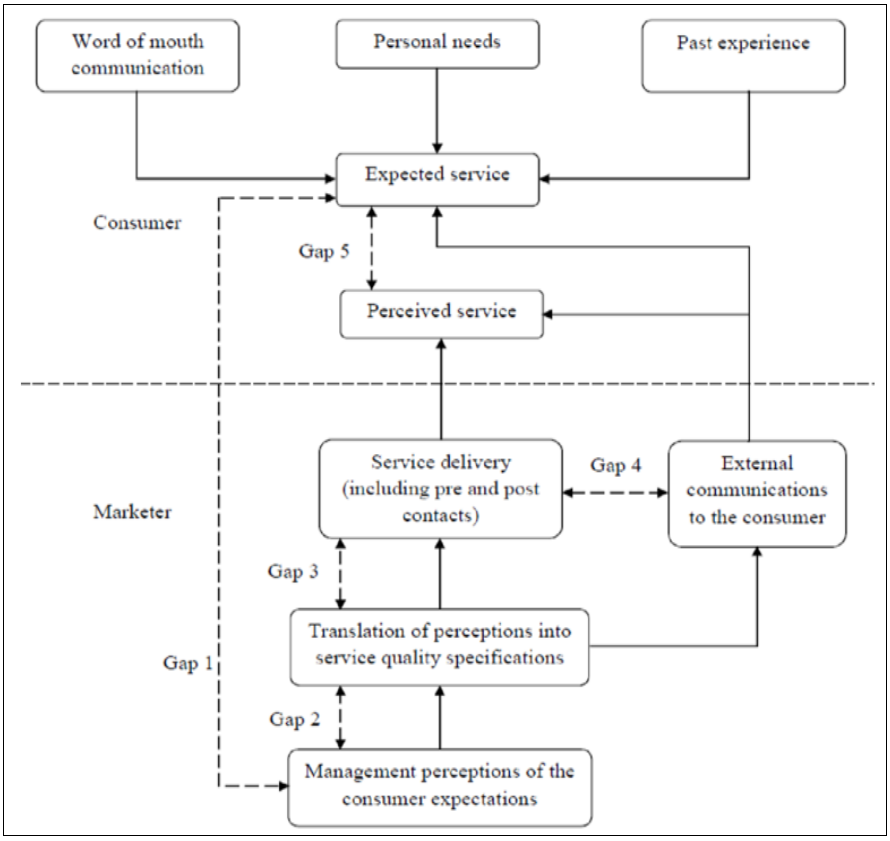

Fig 2.1: PZB Service Quality Model

According PZB model (Figure 1), with five gap:

- Distance 1 (Gap 1): Is the distance between the actual expectations of the customer and the perception of the travel service manager about it. If this gap is large, the tourism manager is not clear about what the client expects. So understanding exactly what the customer expects is the first and most important step in providing quality service.
- Distance 2 (Gap 2) is the gap between the perception of the service manager about what the customer expects of converting that perception into his / her quality of service.
- Distance 3 (Gap 3) is the distance between the established service quality standards of the tourism service enterprise and the quality of the actual travel service (ie, the delivery of services according to the standards have been defined or not).
- Distance 4 (Gap 4) is the distance between the quality of service provided with the information, advertisement or promise that a travel service provides to the customer, it represents the service manager. Make promises about service with them.
- Distance 5 (GAP) is the distance between expected service (expected) and service received (perceived). It seems that the low appreciation for service quality depends on the customer's perception of the actual service result and the customer's expectations about the service. The quality a customer perceives for a service is a function of the width and magnitude of the distance between the expected service and the service received. Parasuraman and the researchers say that at a time when the distance of 5 is zero, the quality of service is perfect.

2.5 SERVQUAL Scale

In the SERVQUAL Scale (Parasuraman *et al*., 1994), service quality is defined as follows: Quality of service = Perceived level – Expected value. The authors have initiated and used qualitative and quantitative research to develop and validate service quality measures (SERVQUAL Scale). The SERVQUAL range is adjustable and tested in a wide variety of service, including 22 variables to measure the five components of service quality.

Table 2.1: Summary of SERVQUAL items

Dimension	No. of Items	Definition
Reliability	5	The ability to perform the promised service dependably and accurately
Assurance	4	The knowledge and courtesy of employees and their ability to convey trust and confidence
Tangibles	4	The appearance of physical facilities, equipment, personnel and communication materials
Empathy	5	The provision of caring, individualized attention to customer
Responsiveness	4	The willingness to help customers and to provide prompt service

Source: Parasuraman *et al*., 1988

2.6 Important- Performance Analysis (IPA)

Sampson and Showalter (1999) proposed three research hypotheses for IPA:

1. Importance and satisfaction are relevant.
2. In general, the importance of perception is inversely related to the perceived performance; that is, when the performance situation is sufficient, its importance is reduced. In Maslow's theory of demand, it is also pointed out that when demand is satisfied, it is no longer one of the motives.
3. Importance is the leading function of the performance situation, which means that changes in the degree of performance will affect the change of importance.

The simple structure of IPA analysis proposed by Martilla & James (1977) [9] is not clearly defined. The analysis mainly focuses on the correlation between the importance of quality attributes and the average score of satisfaction. Hollenhorst Olson & Fortney (1992) used the average score of IPA's importance and satisfaction as the separation point of the two-dimensional matrix coordinates of IPA analysis, making the distribution of service quality attributes more judged, with the overall average of importance and satisfaction. Divided into four quadrants. Through the consumer's point of view and the application of IPA analysis, the advantages and disadvantages of the service quality attributes of each quadrant are explained as a resource allocation application for business management. The four quadrants of the differentiated service quality built by its IPA analysis are shown in Figure 2.2 below:

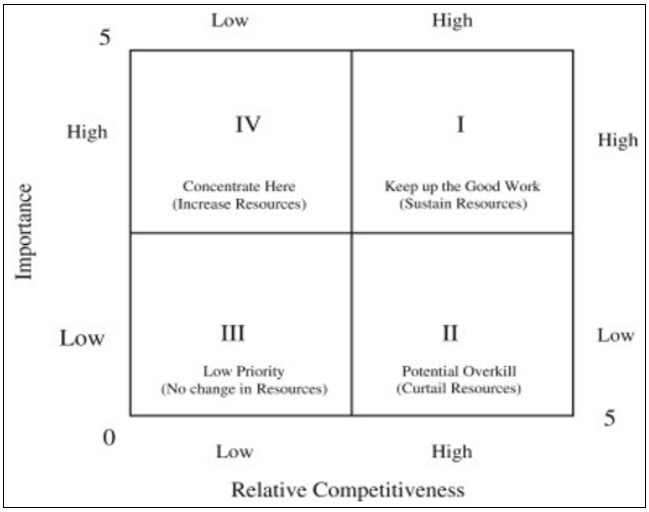

Fig 2.2: The Diagram of Importance-Performance Analysis

The interpretation of 'classical optimization' (Eskidsen & Kristensen, 2006) by Martilla and James (1977) [9] is quite simple:

Quadrant (I): *High importance and high performance (keep up the good work)*

Attributes located in this quadrant are indicative of the success of the destination in meeting the customer performance criteria in the areas that the visitor considers relevant. They represent potential strengths and competitive advantages that need to be sustained or exploited. It is thought that scarce resources are being allocated efficiently when needed, and current strategies should be sustained or strengthened.

Quadrant (II): *Low importance and high performance (possible overkill)*

This area captures the suggestive attributes of superior performance. Marginal resources are being directed at properties that exhibit small strengths that have minimal impact on the relative competitiveness of the business or of a destination. These attributes indicate the inefficient use of

resources and should indicate the lowest priority for improvement. Cost-cutting strategies may be appropriate to release resources and re-deploy as needed.

Quadrant (III): *Low importance and low performance (low priority)*

Properties within this category do not present an immediate threat of competition and are considered minor weaknesses. They have the ability to draw low priority in the distribution of scarce resources by decision makers and are potential candidates for complete loss of resources and effort. If no profit can be achieved from improved performance, additional effort in the field is not required.

Quadrant (IV): *High importance and low performance (concentrate here)*

This quadrant is the most important classification because it provides a classification of the factors in which the company or destination does not meet the level of awareness of customers in the areas in which they value prominence. The lack of efficiency on these attributes requires immediate attention and highest priority on resources and effort. The factors identified in this quadrant represent weaknesses and threats to competitiveness. Changes and policy strategies should focus on directing marginal resources and efforts to add these attributes.

3. Data Analysis

The study sent out 350 questionnaires in July 18 2018 at the waiting room, Noi Bai International Airport, Ha Noi, and 350 of them were returned. Among the questions to be returned, a total of 53 questions is incomplete. Sample data 297 has been grouped into several groups according to the criteria (see Table 3.1).

Table 3.1: Data Classification

Measure	Items	Frequence	Percentage (%)
Gender	Male	214	72.1
	Female	83	27.9
Age	<25	4	1.3
	25 - 35	205	69.0
	35 - 45	65	21.9
	>45	23	7.7
Occupation	Student	53	17.8
	Housewife	19	6.4
	Freelancer	82	27.6
	Personal business	65	21.9
	Employees	63	21.2
	Retired	15	5.1
Frequency	0~1	28	9.4
	2~3	73	24.6
	4~5	112	37.7
	6~7	15	5.1
	≥8	69	23.2
Purpose	Go on business	107	36.0
	Visited relatives	18	6.1
	Go to school	47	15.8
	Traveling	125	42.1
Salary	<5.000.000 VNĐ	19	6.4
	5.000.000 VNĐ ~ 10.000.000 VNĐ	79	26.6
	10.000.000 VNĐ ~ 15.000.000 VNĐ	145	48.8
	>15.000.000 VNĐ	54	18.2

3.1 Importance – Performance Analysis

Table 3.2: Questions, Importance, Performance, Quadrant

S. No	Questions	Importance	Satisfaction	Quadrant
1	Time flies and landings are always on schedule	3.9864	3.1212	III
2	Fare information, flight schedules are easily found	3.0673	3.0741	III
3	Low-cost carriers' baggage handling service is convenient	4.8081	3.1481	I
4	Low-cost carriers' staffs have professional attitude	3.9461	3.0976	III
5	The price of the ticket is suitable and competitive	4.7980	3.0808	IV
6	I feel safe when flying	4.7643	3.1077	IV
7	Low-cost carriers' staffs have a good knowledge about aviation service	4.7778	2.7508	IV
8	Promotion of low-cost carriers give customers very interesting	3.9293	3.0539	III
9	Personal information when used on its website is confidential and secure	4.7542	3.3401	I
10	Staff uniforms at low cost airlines are nice and eye-catching	4.1347	3.8081	II
11	Low-cost carriers' equipment is modern and suitable for service supply	4.6364	3.7744	I
12	Website of the low-cost carrier easily used to buy tickets online	4.8418	3.5387	I
13	Seat and aisle are comfortable and clean	4.8249	3.4579	I
14	Low-cost carriers' operating time is convenience for you	3.0875	3.1279	II
15	Low-cost carriers' staffs always listening and understanding your need and want	3.0572	2.7643	III
16	For overweight luggage, the charge is reasonable for you	4.0067	3.2525	II
17	Low-cost carriers' payment methods are convenience for customers	3.9630	3.1919	II
18	Low-cost carriers' is always respects the interests of customers	3.1077	2.9158	III
19	Low-cost carriers' provide fast and accurate service	4.6364	2.9495	IV
20	Low-cost carriers' services are diversiform	3.9562	2.9394	III
21	The notice of cabin crew during the flight is very clear	4.8552	2.9966	IV
22	Low-cost carriers' staffs are willing to meet assist customer	4.8586	3.2088	I
Average		4.64	3.12	

The importance and satisfaction of service quality in VietJet Air is 3.12 and 4.64. After analyzing the two axes referencing the X axis and the Y axis. In the first quadrant – high importance, high satisfaction are 6 factors. Second quadrant - low importance, high level of satisfaction are 4 factors. Third quadrant - low importance, low satisfaction level has 7 factors. Fourth quarter - high importance, low satisfaction level has 5 factors. Among them, consumers think that high importance but low satisfaction is the key to improving priorities, and more attention must be paid, as shown in Figure 3.1. The corresponding factors for each quadrant are shown in Table 3.2.

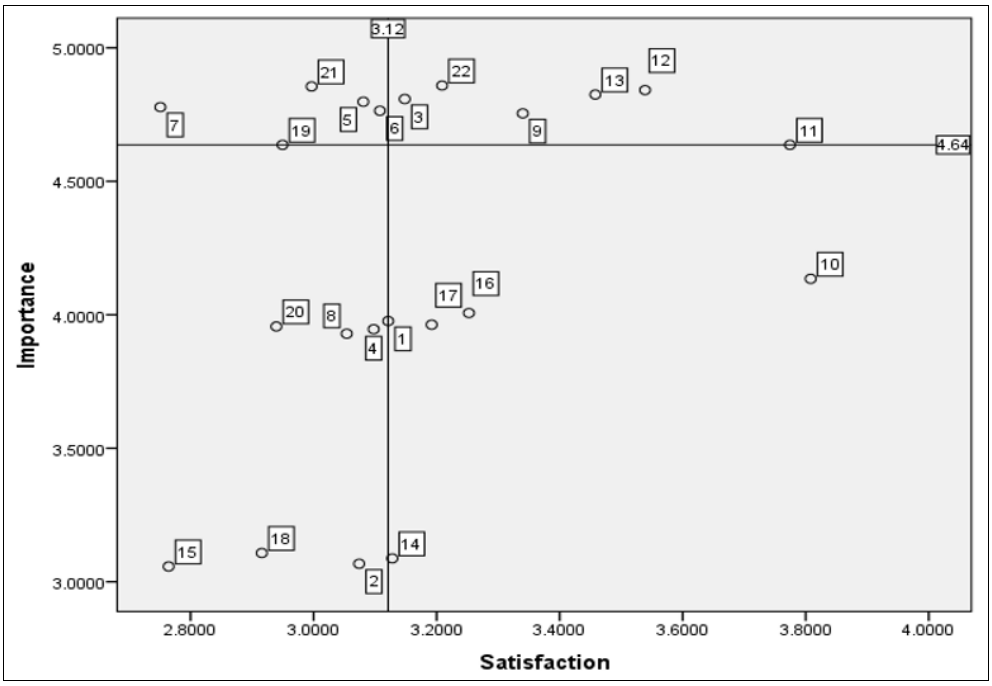

Fig 3.1: Importance – Performance Matrix

3.2 Comparing the Importance and Satisfaction of customers using VietJet Air services

The comparison was made based on the assessment of 297 passengers who had been on the flight of VietJet Air. A study using the Paired Sample Test to test the average difference of each observation variable through the passenger's assessment of the quality of service provided by VietJet Air.

Table 3.3: The average difference between Importance and Satisfaction

S. No	Questions	Importance (1)	Satisfaction (2)	GAP (1) – (2)	Sig.
1	Time flies and landings are always on schedule	3.9864	3.1212	0.855	**0.1**
2	Fare information, flight schedules are easily found	3.0673	3.0741	**-0.007**	**0**
3	Low-cost carriers' baggage handling service is convenient	4.8081	3.1481	1.66	**0.036**
4	Low-cost carriers' staffs have professional attitude	3.9461	3.0976	0.848	0.255
5	The price of the ticket is suitable and competitive	4.7980	3.0808	1.717	0.101
6	I feel safe when flying	4.7643	3.1077	1.657	0.194
7	Low-cost carriers' staffs have a good knowledge about aviation service	4.7778	2.7508	2.027	0.262
8	Promotion of low-cost carriers give customers very interesting	3.9293	3.0539	0.875	0.551
9	Personal information when used on its website is confidential and secure	4.7542	3.3401	1.414	0.405
10	Staff uniforms at low cost airlines are nice and eye-catching	4.1347	3.8081	0.327	0.176
11	Low-cost carriers' equipment is modern and suitable for service supply	4.6364	3.7744	0.862	**0.062**
12	Website of the low-cost carrier easily used to buy tickets online	4.8418	3.5387	1.303	**0.076**
13	Seat and aisle are comfortable and clean	4.8249	3.4579	1.367	0.373
14	Low-cost carriers' operating time is convenience for you	3.0875	3.1279	**-0.04**	0.593
15	Low-cost carriers' staffs always listening and understanding your need and want	3.0572	2.7643	0.293	0.66
16	For overweight luggage, the charge is reasonable for you	4.0067	3.2525	0.754	0.744
17	Low-cost carriers' payment methods are convenience for customers	3.9630	3.1919	0.771	0.854
18	Low-cost carriers' is always respects the interests of customers	3.1077	2.9158	0.192	0.904
19	Low-cost carriers' provide fast and accurate service	4.6364	2.9495	1.687	0.957
20	Low-cost carriers' services are diversiform	3.9562	2.9394	1.017	0.685
21	The notice of cabin crew during the flight is very clear	4.8552	2.9966	1.859	0.388
22	Low-cost carriers' staffs are willing to meet assist customer	4.8586	3.2088	1.65	0.639

Comparative results for Importance and Satisfaction are summarized in Table 3.3:

- The group has a positive GAP variable ie the mean value of Importance is higher than the mean of Satisfaction, consisting of 20 variables 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22.
- The group has negative GAP variable ie the mean value of Importance is lower than the mean of Satisfaction, including 2 variables 2, 14.

This proves that customer assessment of service quality factors of VietJet Air has not satisfied the majority of customers. VietJet Air only satisfies customers about variable 2 and variable 14. For customers, customers still expect VietJet Air will improve.

However, there are five significant differences:

- Variable 1 have Sig. = 0.1 = 0.1, average score of Importance is 3.9864, average score of Satisfaction is 3.1212. This difference is statistically significant at 10%
- Variable 1 have Sig. = 0 < 0.05, average score of Importance is 3.0673, average score of Satisfaction is 3.0741. This difference is statistically significant at 5%
- Variable 1 have Sig. = 0.036 < 0.05, average score of Importance is 4.8081, average score of Satisfaction is 3.1481. This difference is statistically significant at 5%
- Variable 1 have Sig. = 0.062 < 0.1, average score of Importance is 4.6364, average score of Satisfaction is 3.7744. This difference is statistically significant at 10%
- Variable 1 have Sig. = 0.076 < 0.1, average score of Importance is 4.8418, average score of Satisfaction is 3.5387. This difference is statistically significant at 10%.

4. Conclusion

With essentially low-cost carrier should VietJet Air provides customers with competitive fares and often chooses VietJet Air because they are affordable and meet the needs of many. However, price is not the most important factor that affects customer satisfaction, but also other factors such as serviceability, responsiveness, reliability, co-ordination feel and tangible means. But it needs policies to enhance competitiveness, offering affordable fares to enhance customer satisfaction.

Through the IPA model, I have made some suggestions to improve the quality of VietJet Air's services as follows:

- Airlines should arrange many staff in the check-in areas of VietJet Air to assist customers who have difficulty in carrying luggage or have difficulty checking in. Another important factor is that when there are delays or cancellations, it is necessary to quickly inform the customer via telephone or text message about the exact time the aircraft will take off, Customer's waiting outside the airport.
- Airlines should invest in expanding the fleet, focusing on maintenance to minimize the delay of the trip due to technical problems. Besides, VietJet Air should also pay more attention to the handling of complaints and complaints of customers quickly.
- Consider increasing the frequency of flights and opening some new destinations in the country so that customers can easily choose the appropriate flight schedules and destinations as well as increase the ability to serve customers.
- There are more discounts, promotions and the use of communication tools to bring information to all customers' needs and thereby attract and meet the needs of moving customers.
- VietJet Air needs to be trained, trained and asked to be polite and cheerful when communicating with customers so that customers are more sympathetic to employees as well as improved customer satisfaction.

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