

## **SERVICE QUALITY METRICS FOR PASSENGER'S SATISFACTION (A CASE OF PAKISTAN'S AIR INDUSTRY)**

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**ABSTRACT:** Service quality and customer satisfaction are very significant concepts that air companies must understand to remain competitive in the business. Customer perception can truly define the level of service quality provided by an airline. The purpose of this study was to investigate the service quality as perceived by the domestic air passengers to rank out three Pakistani airlines i.e. air blue, Pakistan International Airlines (PIA) and Shaheen Air International (SAI). Survey methodology was used to collect the primary data through a quantitative research instrument. A total sample size of 300 domestic passengers (100 each) were asked to rank out the Pakistani airlines according to five points Likert's scale in terms of seven service quality dimensions i.e. reliability, assurance, facilities, employees, frequency, empathy and responsiveness. Air blue was perceived better in 'Reliability', SAI was better in 'Assurance' and PIA was better in 'Facilities'. Results showed that the 'Reliability' was supposed to be a Weapon of Mass Satisfaction (WMS) because it was ranked as the most important service dimension by the respondents followed by 'Frequency' of the flights and 'Facilities' offered to the air passengers. 'Empathy' and 'Employees' were ranked as the least important service dimensions.

**Key words:** Pakistan air industry, Ranking, Passenger's satisfaction, Service quality.

### **INTRODUCTION**

The dynamic and diversified nature of airline industry endows globally with a rich research vein particularly in a populated developing country like Pakistan. It is the most flourishing sector of country's economy. In air industry, the biggest share of the revenue is generated through air passengers, so the due care and extra attention must be given to the air passengers. Pakistan is a thickly populated country which is supposed to be a land of opportunities for air companies. It is up to the air companies to utilize the opportunities effectively. For this purpose they must understand the passenger's requirements and preferences. Air companies must provide satisfactory services to the passengers. They must also know the service quality metrics for passenger's satisfaction. In Pakistan, at domestic level, currently there are three different airlines providing the air transportation facilities; these are Pakistan International Airline (PIA), Shaheen Air International (SAI) and Airblue. To exceed customers expectations, the vision of Pakistan's flag carrier i.e. PIA. SAI are trying to keep the smile of passengers with each mile. Airblue is embodying a new era in the passenger air travel. The research intends to find out the current status and to rank out the mentioned airlines i.e. PIA, SAI and airblue based upon the feedback received from the passengers through a questionnaire. Also to identify the level of importance of service quality dimensions, according to the priorities set by the air

passengers. The main objective of this study was to rank out the three Pakistani airlines in accordance with the services provided to the passengers of the domestic flights in terms of seven attributes / dimensions i.e. 'Reliability', 'Assurance', 'Facilities', 'Employees', 'Frequency', 'Empathy' and 'Responsiveness'. Another objective was to find out the importance of the dimensions of service quality with respect to the passengers feedback. Quality is an increasingly significant component that signifies differences among the competing services. Improving the service quality is more difficult than improving the quality of products. An unsatisfactory product can be repaired or replaced however; an unsatisfactory delivered service cannot be replaced or undone, hence it is vital to deliver a satisfactory service the first time and all the times. It is easier to define quality in case of tangible products but in services it is much more elusive.

Service quality in an airline industry can be measured by many different measures/ indicators covering different specified categories. In a broader sense these indicators can be categorized into on-board comfort, airline employees, reliability of service, convenience of service, handling of abnormal conditions with sub dimensions (Chang and Yeh, 2002), in-flight services, reservation-related services, airport services, reliability, employees services, flight availability, overall service quality, ticket price, value, passenger satisfaction, airline image (Park, 2007), Ease of online booking and e-ticking, Boarding and clearance time (Soomro *et al.*,

2012). However, service quality can be studied independently either through expectation (Gilbert and Wong 2003) or perception (Han *et al.*, 2012). Delivering superior quality of services has been recognized as the most effective means of ensuring that a company's offerings stand out from a crowd of look-alike competitive offerings (Kandampully, 1998).

Globally the airlines ranking is done by the Skytrax (<http://www.skytrax.com/>) established in 2000 which introduced a new award system known as World Airline Star Ranking ranging from 1-Star Airline to 5-Star. It does not take into consideration the feedback of air passengers rather it evaluates and ranks the airlines based upon a detailed audit program carried out by their own experts. For example in the year 201, Qatar Airways was awarded as the Skytrax Airline of the Year (Campbell and Ellis, 2013). With multiple carriers providing the same basic service the perception of quality held by a consumer has become an important competitive point (Headley and Bowen, 1997). Indifferent scores the perception score is supposed to be the dominant component in evaluating service quality (Erdil and Yildiz, 2011). Therefore, this study has focused mainly on the perception part of servqual to investigate the service quality metrics for passenger satisfaction and hence carried out the ranking of Pakistani airlines in terms of seven dimensions.

## MATERIALS AND METHODS

Service quality provided by the three Pakistani airlines was evaluated separately on the basis of seven dimensions, ultimately leading towards the comparison and ranking of the concerned airlines. Analytical Hierarchy Process i.e. AHP was used as a research model as shown in figure 1. Values in the said figure were given in alphabetical order i.e. airblue, PIA and SAI respectively. The mechanism and ways were established to address the gravity and solutions of problems being encountered by the domestic passengers. For this purpose the schedule of all the three airlines was viewed comparatively to ensure the collection of data from the air passengers of simultaneous and parallel flights.

It was a quantitative research based upon a questionnaire. Questions were taken from published instrument (Gilbert and Wong, 2003). For this purpose survey method was used to distribute and collect the questionnaire from the domestic passengers only, through face to face interaction at the Allam A Iqbal International Airport Lahore, Pakistan. Primary data was collected through instrument and observations. Modified form of RATER model of SERVQUAL was redefined and used as a skeleton.

Items 1 to 3 of the instrument evaluated 'Reliability' of the service quality provided by the concerned airline, 4 to 6 evaluate 'Assurance'. The dimension 'Tangible' was been broken down into 'Facilities', 'Employees' and 'Frequency'. Items 7 to 9 evaluated 'Facilities'. Similarly items 10 and 11, items 12 and 13, items 14 and 15, and

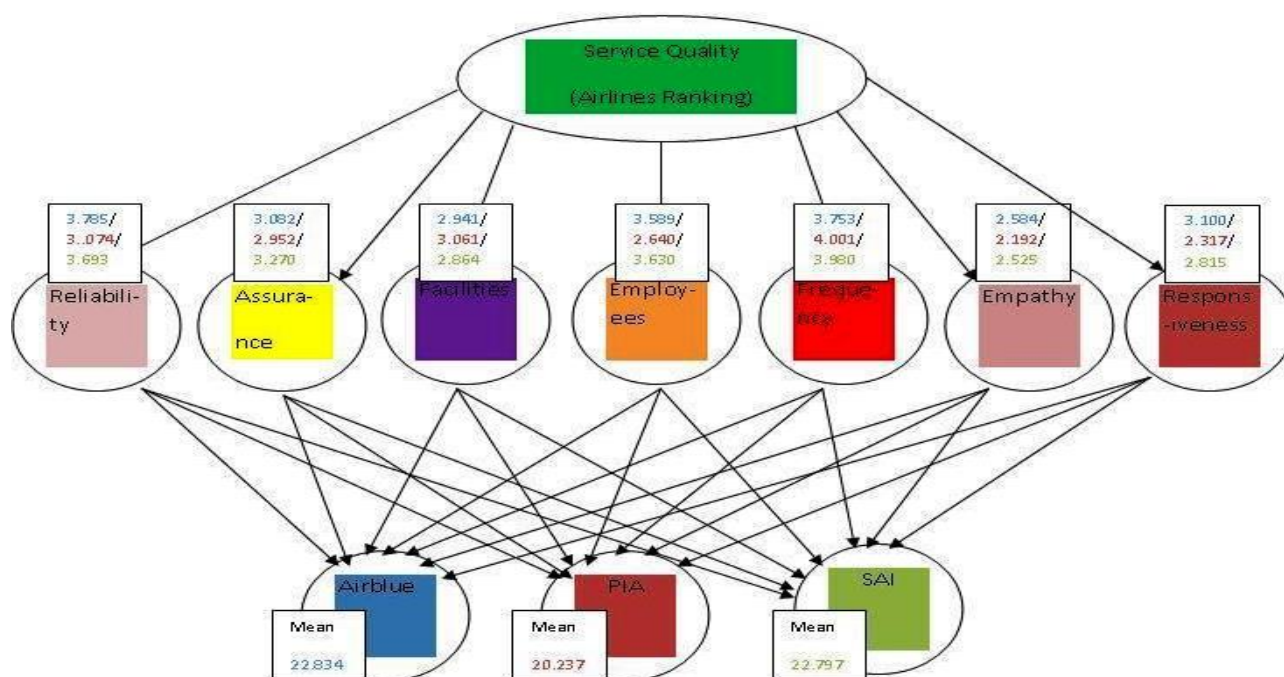


Figure 1: Research Model (Analytical Hierarchy Process)

items 16, 17 evaluated 'Employees', 'Frequency', 'Empathy' and 'Responsiveness' respectively. Questionnaire had three parts. Part 1 was about the personal information. Part 2 was about the service quality of the concerned airline. Respondents were asked to rank out each item in terms of five points Likert's scale where, 1 was used for strongly disagree and 5 for strongly agree. In part 3, respondents were asked to prioritize the given 7 attributes / dimensions in order of importance where, 7 was used for the attribute which was the most important for the respondent while traveling by air and 1 for the least important. At the end of the questionnaire, space was provided for possible comments. The findings have been used to rank out the airlines in terms of seven dimensions separately as perceived by the air passengers and also to identify the importance of service quality metrics / indicators.

## RESULTS AND DISCUSSION

The most accepted reliability statistics i.e. Cronbach's Alpha was used to test the reliability (Santos,

1999). Number of items and values of Chronbach's Alpha against airblue, PIA and SAI are presented in table 2.

**Table 2: Reliability Statistics**

|         | Cronbach's Alpha | N of Items |
|---------|------------------|------------|
| Airblue | .836             | 17         |
| PIA     | .728             | 17         |
| SAI     | .711             | 17         |

Total items were 17 for all the three air companies. Chronbach's Alpha value for airblue was  $0.836 > 0.7$  indicating that the reliability of the items of the instrument used was alright because 0.7 (or above) is an accepted value of reliability coefficient alpha (Santos, 1999). Similarly the reliability coefficient alpha of the items of the instrument used for PIA was  $0.728 > 0.7$  which was accepted and for SAI it was  $0.711 > 0.7$  which was also accepted value of reliability coefficient alpha. Mean and standard deviation of each and every item individually were calculated for all the three airlines separately. A detailed result has been summarized in the table 3.

**Table 3: Descriptive Statistics-Comparison on a 5 points Likert's scale (all items)**

| Service quality dimensions with items                      | Airblue |       | PIA   |       | SAI   |       |
|------------------------------------------------------------|---------|-------|-------|-------|-------|-------|
|                                                            | Mean    | SD    | Mean  | SD    | Mean  | SD    |
| Q1 (Rel) On-time departure and arrival                     | 4.178   | 0.433 | 2.490 | 1.024 | 3.70  | 0.847 |
| Q2 (Rel) Consistent ground/in-flight services              | 3.920   | 0.560 | 3.115 | 0.851 | 3.860 | 0.792 |
| Q3 (Rel) Food and beverage                                 | 3.257   | 0.688 | 3.615 | 0.687 | 3.520 | 0.822 |
| Q4 (A) Behavior of employees gives confidence              | 2.881   | 0.951 | 2.539 | 0.869 | 3.060 | 0.802 |
| Q5 (A) Safety                                              | 3.376   | 0.823 | 3.712 | 0.878 | 3.720 | 0.818 |
| Q6 (A) Employees have knowledge to answer questions        | 2.990   | 0.794 | 2.606 | 0.830 | 3.030 | 0.731 |
| Q7 (Fa) Clean and comfortable interior/seat                | 3.277   | 1.011 | 3.433 | 0.785 | 3.290 | 0.686 |
| Q8 (Fa) In-flight entertainment facilities and programs    | 2.792   | 0.668 | 3.019 | 0.682 | 2.610 | 0.584 |
| Q9 (Fa) Availability of waiting lounges                    | 2.752   | 0.727 | 2.760 | 0.815 | 2.750 | 0.662 |
| Q10 (Empl) Courteous employees                             | 3.267   | 1.240 | 2.279 | 0.770 | 3.190 | 0.721 |
| Q11 (Empl) Neat and tidy employees                         | 3.911   | 1.123 | 2.904 | 1.075 | 4.070 | 0.844 |
| Q12 (Fr) Non-stop flights to your destination              | 4.000   | 0.616 | 3.865 | 0.576 | 4.080 | 0.442 |
| Q13 (Fr) Convenient flight schedule and enough frequencies | 3.505   | 0.610 | 4.154 | 0.571 | 3.880 | 0.671 |
| Q14 (Empa) Understanding of passenger's specific needs     | 2.564   | 1.053 | 2.317 | 0.714 | 2.610 | 0.650 |
| Q15 (Empa) Individual attention to passengers              | 2.604   | 0.964 | 2.067 | 0.700 | 2.440 | 0.556 |
| Q16 (Res) Efficient check-in/baggage handling services     | 2.901   | 1.015 | 2.221 | 0.800 | 2.600 | 0.636 |
| Q17 (Res) Employees are always willing to help             | 3.297   | 0.807 | 2.414 | 0.91  | 3.030 | 0.674 |

Rel=Reliability, A=Assurance, Fa=Facilities, Empl=Employees, Fr=Frequency, Empa=Empathy, Res=Responsiveness

## DISCUSSION

According to the statistics given in table 3, **air blue** was ahead in six items of the instrument i.e. Q1(Reliability), Q2(Reliability), Q10(Employees), Q15(Empathy), Q16(Responsiveness) and Q17(Responsiveness). In two items out of seventeen (11.76%), airblue had scored 4 or above on the five

points Likert's scale indicating that the respondents were satisfied (i.e. agree) with only two items of service quality, Q1 'Reliability' i.e. 'On-time departure and arrival' and Q12 (Frequency) i.e. 'Non-stop service to destination'. However, Q1 had the highest mean and lowest standard deviation among all the items showing that a vast majority of the respondents were satisfied with 'On-time departure and arrival'. On the other hand in

seven items out of seventeen (41.18%) airblue had scored below 3 indicating that the respondents were dissatisfied (i.e. disagree) with seven items i.e. Q4 (Assurance), Q6 (Assurance), Q8 (Facilities), Q9 (Facilities), Q14 (Empathy), Q15(Empathy) and Q16 (Responsiveness).

**PIA** was ahead of both airblue and SAI in two dimensions i.e. 'Facilities' and 'Frequency' (both were the sub dimensions of 'Tangible'). Individually in terms of items, PIA was ahead in *five items* i.e. Q3 (Reliability), Q7 (Facilities), Q8 (Facilities), Q9 (Facilities) and Q13 (Frequency). In one item out of 17 (5.88%) scored above 4 on five points Likert's scale indicated that the respondents were satisfied (i.e. agree) with only one item of the instrument Q13'Frequency' i.e. 'convenient flight schedule and enough frequencies'. In remaining four items PIA scored less than 4 on the five points Likert's scale indicated that the respondents were nearly neutral. In ten items out of seventeen (58.82%) PIA had scored below 3 indicating that the respondents were dissatisfied (i.e. disagree) with items i.e. Q4(Assurance), Q6(Assurance), Q9(Facilities), Q10(Employees), Q11(Employees), Q14(Empathy), Q15(Empathy), Q16(Responsiveness) and Q17(Responsiveness).

**SAI** was ahead in *six items* i.e. Q4(Assurance), Q5(Assurance), Q6(Assurance), Q11(Employees), Q12(Frequency) and Q14(Empathy). Just like airblue, *intwoitems* out of seventeen (11.76%) SAI had scored 4 or above on the five points Likert's scale indicated that the respondents were satisfied (i.e. agree) with only two dimensions of service quality, Q11(Employees) i.e. 'Employees were neat and tidy' and Q12 (Frequency) i.e. 'Non-stop flights to destination'. In five items out of seventeen (29.41%) SAI had score below 3 indicating that the respondents were dissatisfied (i.e. disagree) with five items i.e. Q8 (Facilities), Q9 (Facilities), Q14 (Empathy), Q15(Empathy) and Q16(Responsiveness).

**Dimension-wise ranking:** Air blue had the highest score/rank in three dimensions i.e. 'Reliability', 'Empathy' and 'Responsiveness'. SAI had highest score/rank in two dimensions i.e. 'Assurance', and 'Employees'. PIA had an edge in two dimensions i.e. 'Facilities' and 'Frequency'. The findings were given in the following table 4 showing the ranking in terms of seven dimensions.

**Table 4: Ranking of airlines in terms seven dimensions**

| Dimension      | 1 <sup>st</sup> position(Mean value) | 2 <sup>nd</sup> position(Mean value) | 3 <sup>rd</sup> position(Mean value) |
|----------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Reliability    | airblue (3.785)                      | SAI (3.693)                          | PIA (3.074)                          |
| Assurance      | SAI (3.270)                          | airblue (3.082)                      | PIA (2.952)                          |
| Facilities     | PIA (3.061)                          | airblue (2.941)                      | SAI (2.863)                          |
| Employees      | SAI (3.630)                          | airblue (3.589)                      | PIA (2.640)                          |
| Frequency      | PIA(4.001)                           | SAI(3.980)                           | Airblue(3.753)                       |
| Empathy        | airblue (2.584)                      | SAI (2.525)                          | PIA (2.192)                          |
| Responsiveness | airblue (3.100)                      | SAI (2.815)                          | PIA (2.317)                          |

**Priority of dimensions:** In part 3 of the instrument, respondents were asked to prioritize directly the given seven attributes / dimensions in order of importance to them and the combined result of all the 300 respondents is given in table 5. The findings showed that 'Reliability' was the most important dimension with a mean value of 6.390 for a vast majority of respondents followed by 'Frequency' with 4.860 and 'Facilities' 4.216. 'Assurance' was slightly less than 4 i.e. 3.928 and 'Responsiveness' had a mean value of 3.525. The mean values of 'Employees' and 'Empathy' were 2.636 and 2.452 respectively on a 7 points priority scale. See table 5.

**Table 5: Descriptive statistics-relative importance of seven dimensions**

| Priority        | Dimension      | N   | Mean* | Standard Deviation |
|-----------------|----------------|-----|-------|--------------------|
| 1 <sup>st</sup> | Reliability    | 300 | 6.390 | 0.915              |
| 2 <sup>nd</sup> | Frequency      | 300 | 4.860 | 1.956              |
| 3 <sup>rd</sup> | Facilities     | 300 | 4.216 | 1.626              |
| 4 <sup>th</sup> | Assurance      | 300 | 3.928 | 1.426              |
| 5 <sup>th</sup> | Responsiveness | 300 | 3.525 | 1.558              |
| 6 <sup>th</sup> | Employees      | 300 | 2.636 | 1.629              |
| 7 <sup>th</sup> | Empathy        | 300 | 2.452 | 1.630              |

Mean\*: 7= the most important, 1= the least important

So with respect to the passenger's feedback 'Reliability' was supposed to be the most important dimension and the dimension 'Empathy' was the least important.

**Cross-country comparison:** Regarding relative importance of service quality metrics, in order to rate

relative importance of 5 dimensions data was collected by the researchers from more than 1900 customers of 5 different service companies; 'Reliability' had repeatedly been mentioned as the most important dimension having 32 points out of 100 (Gilbert and Wong 2003).

**Table 6: Relative importance-cross country comparisons**

| Dimension                                                                                       | Mean* (USA,1989)               | Mean** (HKIA,2003)                       | Mean*** (AIIAP Lahore,2013)        |
|-------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------|------------------------------------|
| Reliability                                                                                     | 32 (1 <sup>st</sup> )          | 2.7165 (2 <sup>nd</sup> )                | 6.390 (1 <sup>st</sup> )           |
| Assurance                                                                                       | 19 (3 <sup>rd</sup> )          | 1.1098 (1 <sup>st</sup> )                | 3.928 (4 <sup>th</sup> )           |
| Facilities                                                                                      | Tangible 11 (5 <sup>th</sup> ) | 6.0427 (6 <sup>th</sup> )                | 4.216 (3 <sup>rd</sup> )           |
| Employees                                                                                       |                                | 4.4299 (5 <sup>th</sup> )                | 2.636 (6 <sup>th</sup> )           |
| Flight pattern                                                                                  |                                | 4.3659 (4 <sup>th</sup> )                | 4.860 (2 <sup>nd</sup> )/Frequency |
| Empathy                                                                                         | 16 (4 <sup>th</sup> )          | 6.4543 (7 <sup>th</sup> ) /Customization | 2.452 (7 <sup>th</sup> )/Empathy   |
| Responsiveness                                                                                  | 22 (2 <sup>nd</sup> )          | 2.8963 (3 <sup>rd</sup> )                | 3,525 (5 <sup>th</sup> )           |
| Mean* Values are taken out of 100 , Source: Parasuraman et al, 1989 (Gilbert and Wong, 2003)    |                                |                                          |                                    |
| Mean** Values are mentioned in the range of 1-7 , 1=the most important (Gilbert and Wong, 2003) |                                |                                          |                                    |
| Mean*** Values are mentioned in the range of 7-1, 7=the most important, Current Study           |                                |                                          |                                    |

Later in their research (Gilbert and Wong, 2003) they had replaced the dimension 'Tangible' by three sub dimensions i.e. 'Flight pattern', 'Employees' and 'Facilities'. 'Empathy' was renamed by 'Customization'. They (on expectation based study) came to the conclusion that 'Assurance' was the most important dimension followed by 'Reliability' Perhaps it was due to the 9/11 tragedy that made the assurance more important than 'Reliability' and all other dimensions (Gilbert and Wong, 2003).

In the current study 'Flight pattern' was renamed as 'Frequency'. 'Customization' was used in its original name i.e. 'Empathy' and the value '7' was taken for the most important and '1' for the least important. The results of the current study showed that the 'Reliability' (mean value 6.390) had been prioritized / declared by the respondents as the most important among all the dimensions. 'Frequency' had been found the 2<sup>nd</sup> most important dimension with a mean value of 4.860 contrary to the previous study (Gilbert and Wong, 2003), in which the dimension 'Flight pattern' (i.e. 'Frequency') was ranked 4<sup>th</sup>. In the current study the respondents had ranked 'Facilities', 'Assurance', 'Responsiveness', 'Employees' and 'Empathy' as 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> respectively. Whereas in the previous study by David (Gilbert and Wong, 2003), 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> positions were given to 'Responsiveness', 'Flight pattern' (i.e. 'Frequency'), 'Employees', 'Facilities' and 'Customization' (i.e. 'Empathy') respectively. See table 6.

**Acknowledgement:** Authors are profoundly thankful to all those at IB&M UET Lahore and at Allama Iqbal International Airport Lahore who have provided guidance and support in one way or other to accomplish this study.

Authors are equally grateful to all the respondents for their valuable input.

**Conclusion:** This study gave a new trend in existing body of knowledge about Pakistani air industry by providing a simple and straightforward understanding of how passengers perceive and evaluate service quality in domestic perspective. In the current study authors have come to the conclusion that the dimension 'Reliability' was supposed to be a *Weapon of Mass Satisfaction* (WMS) in the air industry of Pakistan on the basis of perception and priority as well. It was a competitive strength for airblue and also for SAI but a spacious dimension of service quality for air industry of Pakistan particularly for PIA. Efforts were made by the researchers to present passenger's driven assessment about the service quality to help airlines understand their strengths and weaknesses. The outcomes of this study can be applied in Pakistan's domestic routes. On the other hand findings are very simple to understand by the air passengers to select the airline of their choice.

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