

Identifying the Dimensions of Service Quality as Antecedents to Passenger Satisfaction of Rajiv Gandhi International Airport

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ABSTRACT

This paper explores on service quality of an International airport of Hyderabad, which is more influenced on the passenger satisfaction. Measuring and improving service quality has become an important task for many of the airline companies. Previous researchers have contributed much on SERVQUAL and SERVPREF which is been applied in many of the marketing studies that deals with the customer satisfaction. Based on the sound contribution of the researchers, a 20 – item scale was developed for this study. Through factor analysis a five dimension service quality study has been obtained. The result from the analysis has suggested that all the five dimensions of service quality as well as service range influences the passenger satisfaction. The information endowed with the study can be used for designing the marketing strategies to improve the passenger satisfaction in aviation industry.

Introduction

The Indian Aviation Industry is among the world's fastest growing industries. It has undergone huge transformation following the liberalization of the aviation industry in India. The origin of the Indian aviation industry dates back to 1912 when the 1st flight from Karachi to Delhi commenced in collaboration with the Indian State Air Services and Imperial Airways. However, the industry got its real start by JRD Tata through his launch of Tata Airline, in the year 1932. In 1990, open-sky policy was adopted by the government whereby air taxi- operators were allowed to operate their flights from any of the airports, decide their fares for cargo and passenger services and the flight schedules. The economy of a country is

substantially determined by the quality of air transport. Aviation Industry in India saw an important change in the year 2003, when budget flying was introduced by Air Deccan through the lowering down of fares to about 17% in comparison to what the other airlines charged. Air Deccan was joined in this process by Go Airways, Spice Jet, and Kingfisher Air. Thus new trends were introduced in the aviation market, by these budget airlines.

Rajiv Gandhi International Airport

GMR Hyderabad International Airport Limited, the developer of the Rajiv Gandhi International Airport is a public – private joint venture between GMR Group, Malaysia Airports Holdings Berhad, state government of Andhra Pradesh and Airports

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Authority of India. GMR Group is one of the fastest growing and leading private sector organizations in India founded by its present group chairman Dr. G. M. Rao in 1978. Rajiv Gandhi International Airport is the second public-private partnership venture in the Indian airports. Hyderabad international airport has been named amongst the world's top five in the annual Airport Service Quality (ASQ) passenger survey along with the ones at Seoul, Singapore, Hong Kong and Beijing. In 2010, Hyderabad airport was ranked among the top airports of the world in the Airport Services Quality (ASQ) by the global body and Airports Council International (ACI). It serves as a hub for Spice Jet and Lufthansa Cargo and also a focus city for Air India, Jet Airways.

Problem Area

Indian aviation industry has faced several changes in the recent past. Open sky policies have resulted in fierce competition forcing the airport operations into cost cutting and new areas of revenues. Airports are a place where passengers encounter a bundle of tangible and intangible services in what Bitner (1992) has characterised as an "elaborate servicescape". Only when the passengers are satisfied the airports can generate the revenue. These passengers are made satisfied by providing various services and enhancing them for the sustainability. According to Fodness and Murray (2007) airport is not a tourist destination for passengers who travel by air but, a transition point. Here, dimensions of service quality play a crucial role in creating such satisfaction among the passengers. The aim of this study is to identify such dimensions of service quality which acts as a criterion to the passengers' satisfaction of Rajiv Gandhi International Airport, Hyderabad.

Objectives of the Study

- To measure the relationship between service quality dimensions and passenger satisfaction.

- To identify the dimensions of service quality that leads to passenger satisfaction.

Theoretical background

In the service literature service quality is interpreted as perceived quality which means a customer's judgment about a service. The authors of SERVQUAL which has been extensively used in assessing service quality of different service providers including airlines suggested that "Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery" (Parasuraman et al., 1985, p.42). Within the SERVQUAL model, service quality is defined as the gap between customer perceptions of what happened during the service transaction and his expectations of how the service transaction should have been performed. SERVQUAL refers to five dimensions of quality which is initiated by Parasuraman and his team during the year – 1988 such as;

- i. Tangibility – the physical environment of the airport.
- ii. Reliability – performing the services promptly and accurately to the passengers.
- iii. Responsiveness – Crew's willingness to help and assist the passengers.
- iv. Assurance – promising attitude which inspires the passengers.
- v. Empathy – individual attention given to the passengers in the airport.

According to Freathy (2004), the objective for many airport authorities has been to reposition the airport, making it a commercial attraction in its own right, instead of merely offering limited assortment, price-based, branded products. Generally, by allocating more space to the retail,

service stores and duty – free shops airports are able to generate income. Graham (2008) states that there are two reasons for the airports to increase their dependency on commercial revenues –

- a. Commercialisation and privatisation of airports from public entities which have given freedom and motivation to utilise the commercial opportunities that exist.
- b. Airlines have pressured airports into keeping their charges static, or decreasing them due to the fierce competition that airlines face and need to keep their costs at minimum.

Within the airport industry, airport service quality and passenger satisfaction is measured in the AETRA customer satisfaction survey, conducted by Airports Council International (ACI) and the International Air Transport Association (IATA).

A study done by Fodness and Murray (2007) provides us with a conceptual model of service quality in airports empirically investigating the expectations of the passengers in the industry. Below mentioned figure shows the preliminary model for the airport service quality's impact on servicescape, service personnel and services.



Figure 1 : Preliminary conceptual model for airport service quality source - Fodness and Murray (2007, p.497)

According to the researchers, passengers' expectations are based on the above mentioned five factors which become the dimensions for measuring the quality of the service provided in the airport. In airline service industry passengers judge the quality of service by comparing their expected level of service performance with the perceived performance of the airline companies who are generally referred to as service providers.

Passenger Satisfaction in Rajiv Gandhi Airport :

An effective passenger satisfaction survey program is focused on measuring the passengers' perceptions of how well the airport delivers on the critical success factors and dimensions of the business. These usually include factors like service promptness, staff

responsiveness, and understanding of the passenger's problem. The Rajiv Gandhi International Airport (RGIA) has been adjudged as the third best Airport in the world in the 5-15 MIPA categories in Airport Service Quality by Council International (ACI).

The Hyderabad Airport, led by GMR Group, has been ranked ahead of global contenders like Abu Dhabi, Adelaide, Geneva, Cape Town, Hamburg and London Luton Airports. These outcomes and awards prove the level of satisfaction provided by the airport.

The Novotel Hyderabad Airport Hotel was opened in October 2008 with 305 rooms and suites, featuring Wi-Fi, executive amenities, restaurants, two bars, pools and meeting rooms. The hotel also has a spa and a fitness center confirms the hospitality provided to the transit and other types of passengers.

Methodology

The research process involved the following steps. First, a literature review was undertaken to identify the service quality dimensions in Rajiv Gandhi International Airport, Hyderabad. After gaining the support of the senior management of the airport which belongs to the group of GMR, which is one of the fastest growing infrastructure enterprises in India, the next step was to perform a qualitative research study which provided the basis for the scale development. Two focus groups consisted of passengers of the participating airport were performed focusing upon the main issues of interest i.e. to identify determinants of perceived service quality. Finally, a quantitative research was implemented where factor analysis was used to analyze dimensions of service quality. The dimensions obtained were then used as inputs in regression analysis for predicting passenger satisfaction with the airport.

Questionnaire:

Table 1 showing the Service quality attributes used in this study	
The airport performs its services without errors	Reliability
Airport services are performed within the promised time	Reliability
Airport crew's / employees show sincere concern in solving the passengers' problems related to the airport business operations	Reliability
Airport correctly performs a prompt service from the very first time	Reliability
The airport performs a service exactly as promised	Reliability
Airport employees quickly respond to the requests given by the passengers	Responsiveness
Airport employees are always willing to help	Responsiveness
Airport employees react quickly in eliminating the potential errors	Responsiveness
Passengers' do not spend much time on the waiting lane	Responsiveness
Employees tell the passengers' exactly when a service will be performed	Assurance
The airport employees are trustworthy	Assurance
The airport employees are kind and polite	Assurance

The employees are knowledgeable enough to reliably respond to the passengers' questions	Assurance
The employees knows to advice the passengers' on their specific needs	Empathy
The passengers' wishes and needs are considered	Empathy
The employees understand on the specific needs of the passengers'	Empathy
The airport is visually appealing	Tangibility
The airport uses modern – good looking technical equipments	Tangibility
Printed material forms of the airport looks attractive	Tangibility
The airport employees are suitably dressed and neat, considering the work they perform	Tangibility

Sample and data collection

The target population was composed of the passengers who were in departure section of the airport. Data were collected by using a convenient sampling method. A self-administered interview method was used. However, the interviewer was present to help respondents if necessary. Respondents filled in the questionnaires before they entered the checking lane. This ensured that results reflected the respondents overall impression of the airport service quality and not their feelings about a particular service encounter. The sample included 150 passengers, where 100 were female and 50 male. The age distribution was quite even as 24.7% were aged from 21 to 30 years, 25.3% were aged from 31 to 40 years, 22% were aged from 41 to 50 and 24% were aged 50 years or more. The level of formal education showed that the most of the passengers had a secondary school education (54.7%), followed by 42.6% of passengers that had at least a university-level education and only 2.7% passengers who had a primary school education.

Results

Factor analysis:

Once data have been collected, the usual process in service quality studies is to perform factor

analysis, in order to establish the underlying traits and factors, and to calculate Cronbach's alpha coefficient as a measure of internal reliability.

Data appropriateness – First, the appropriateness of data for factor analysis was determined by checking the correlation matrix, which showed that the variables correlated fairly well with all others. Also important was the Bartlett's test of sphericity which showed that the correlation matrix had significant correlations at the significance level of 0.000. The Keiser-Meyer-Olkin measure of sampling adequacy showed similar results as its level was 0.931 which was marvellous by Kaiser and Rice's recommendations (Sharma, 1996).

Factor extraction – The number of factors that can be obtained by Kaiser's criterion which recommends retaining all factors with Eigen values greater than 1. Usually the number of factors can also be extracted using a Screen Plot but yet such a decision may be rather subjective. The analysis showed that 4 or 5 factors may be obtained, as the line between the fourth and fifth factor was almost straight. After careful examination we decided to obtain four factors as they produced the most meaningful solution.

Service quality factors – Previously four factors extracted could now be interpreted on the basis of the factor matrix. In factor analysis it often happens that factors obtained cannot be meaningfully explained which requires the axis rotation. According to Field (2005) using an orthogonal rotation ensures that the factors remain independent even after the rotation has occurred. Varimax orthogonal rotation was used here where the main objective is to get a factor structure in which each variable was highly loaded on one and only one factor. When there is a higher value for a factor loading between the variable and the individual factor, and then higher is the probability that the factor represents this variable. Following suggestions from previous literature studies that only factor loadings greater than 0.4 should be interpreted, factor loadings less than 0.4 were not presented in the matrix, which made interpretation noticeably easier. The three factors identified (accounting for 52.41 per cent of total variance) refer to:

1. Assurance and empathy which can be addressed as the quality of social interactions between the passenger and the airport service provider. Passengers want the airport employees to be competent, helpful and polite, to understand their needs, to respect them as individuals and to provide clear and understandable information. Although the airport is becoming more and more high-tech the identification of this dimension reveals that personal contact still needs to be addressed.
2. Reliability and responsiveness which relate to performance standards and can be addressed as the process quality. Considering the airport sector the identification of this dimension seems

sound as passengers do not want to have problems when dealing with their boarding and travel issues. They want to get a service without errors, performed to high standards, correctly, promptly and timely.

3. Tangibles which represent the appearance of an airport's interior, equipments, staff members and printed materials. Visual images help passengers form an impression about the service they receive. They expect the airport employees to be properly dressed, appropriately arranged, attractive and security equipments installed which has to be up-to-date.

Although five factors were expected (following the findings of our exploratory study) three factors with a meaningful interpretation were obtained. Considering five dimensions of service quality suggested by Parasuraman et al. (1988) the number of dimensions was reduced but the consolidation seems reasonable. Similarly, fewer dimensions were found by other authors which analyses on service quality in the banking sector (Arasli et al., 2005; Avkiran, 1999; Jabnoun and Al-Tamimi, 2002; Levesque and McDougall, 1996), confirming that the number of dimensions varies depending on the type of industry. Assurance and empathy represent a "softer" dimension that deals with people's interaction while reliability and responsiveness represent a "harder" dimension that deals with operational processes inside the airport. Tangibility represents a dimension which is related to the appearance of the airport and it is also determined by Parasuraman et al. and others. The three dimensions can also be aligned in respect to the new conceptualization of service quality which consists of functional-utilitarian and hedonic attributes (Falk et al., 2010). While the first two dimensions (assurance and empathy, reliability and responsiveness,) can be attributed to

functional-utilitarian service quality, tangibles can be attributed to hedonic service quality. However, it can be expected that the functional utilitarian attributes may have a more important role than hedonic attributes in an international airport

setting. Passengers in the airport would primarily expect a flawless performance and secondly an enjoyable experience. These three dimensions obtained through factor analysis can be used in further analysis.

Table 2 : Rotated Factor Matrix

S.No	Variables	Factor 1	Factor 2	Factor 3
1.	The airport employees tell the passengers' exactly when a service will be performed	0.521		
2.	The airport employees are trustworthy	0.565		
3.	The airport employees are kind & polite	0.747		
4.	The employees are knowledgeable enough to reliably respond to the passengers' questions	0.605		
5.	The passengers' wishes and needs are considered	0.691		
6.	The employees understand the specific needs of the passengers'	0.798		
7.	The airport performs its services without errors		0.507	
8.	Airport crews show sincere concern in solving the passengers' problems related to airport business operations		0.670	
9.	This airport correctly performs a prompt service from the very first time		0.530	
10.	The airport performs the service exactly as promised		0.587	
11.	The airport employees quickly responds to the requests given by the passengers		0.657	
12.	Airport employees are always willing to help		0.742	
13.	The employees react quick in eliminating the potential errors		0.609	
14.	Passengers do not spend much time on the waiting lane		0.635	
15.	Printed material forms supplied in the airport is attractive			0.627

Factor one (assurance and empathy) was found to be the most critical in forming passenger satisfaction. This would suggest that efforts to improve the quality of interactions between a passenger and an airport service provider are likely to have an important and positive effect on the passenger satisfaction. The level of satisfaction also improved as service range, tangibility as well as reliability and responsiveness became more favourable. The importance of these findings is that all the dimensions of service quality obtained influence the passenger satisfaction therefore airport cannot ignore any of these dimensions, though not all dimensions are equally important.

Conclusion

Results from the study confirms the general agreement that though service quality has many dimensions there is no consensus on the exact nature of these dimensions (Brady and Cronin, 2001). Moreover, the analysis shows that all three dimensions of service quality as well as service range that are offered inside the airport in various forms are acting as a good predictors of passengers' satisfaction. We found significant variation regarding the effect of dimensions on customer satisfaction. The largest part of the variability (32.2%) of passenger satisfaction can be attributed to the airport staffs which may act as important information for managers and supervisors working in the aviation sector when analyzing the reasons for passengers' satisfaction or dissatisfaction. It is evident that assurance and empathy primarily drives on the passenger satisfaction and that airport employees (especially contact personnel) have a fatal impact on the most appealing service attribute when targeting the passengers. Human contact is much essential for a successful service which is to be delivered to the passengers. According to Kumar et al. (2008) if service companies have performance problems that result in customer dissatisfaction, the solution cannot locate more empathetic employees at customer contact points, but the company has to review and adjust the service delivery process. To conclude, the research findings suggest that service quality, referring to a passenger's judgment about an airport's superiority, which should be regarded as a source of competitive advantage in the services marketing, as it constitutes the major driver of passenger satisfaction.

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