



Passengers' Expectations of Airport Service Quality: A Case Study of Jeju International Airport

Jung-Sook Yang¹, Jin-Woo Park², Yu-Jin Choi³

ABSTRACT

This study aims to identify the difference between the level of expectation and satisfaction of airport users. An empirical survey was conducted on customers who have experience using Jeju international airport and 200 questionnaires were analyzed. To analyze the questionnaires, a GAP analysis was employed. The study found that only one criterion didn't have a meaningful difference out of the 26 criteria, namely, 25 criteria have meaningful differences between expectation and satisfaction of the airport users. This study would be useful as a basic literature in proposing improvement of the quality of airport services.

Keywords: Airport Service Quality; GAP Analysis; Jeju International Airport.

Available Online: 30th July, 2015.

This is an open access article under Creative Commons Attribution 4.0 License, 2015.

1.0 INTRODUCTION

Jeju Island's international awareness is increasing as it continues to receive recognition for being selected as one of the world's top 7 natural landscapes, three-time winner of UNESCO including registration as a world natural heritage, designation as a Biosphere Reserve, and certification as a member of Global Geoparks, and as an island of world peace. As the Jeju brand increases, so does an increase in tourism revenue and consumption expenditure, which in turn increases the economic and social ripple effect across the country as well as the entire Jeju region.

Jeju International Airport (JIA) is a free airport that declared a unilateral open sky guaranteeing 3rd and 4th freedom ever since September 1998. As of March 2014, regularly scheduled flight to China includes seven Korean airlines and eight Chinese airlines. In addition, with the rapid increase in the domestic low-cost aviation market and the activation of Jeju Olle Trail, the number of domestic and foreign travelers

¹ PhD student, Department of Business Administration, Korea Aerospace University. Email: jsyang2@flyasiana.com

² Associate Professor, Department of Business Administration, Korea Aerospace University, South Korea. Email: jwpark@kau.ac.kr

³ Department of Business Administration, Korea Aerospace University, South Korea. Email: eugene772@kau.ac.kr

has also increased drastically. Accordingly, JIA has become the busiest airport among domestic airports recording a 14.1% growth rate in the first half of 2014. However, in JIA many problems have emerged in terms of convenience, spatiality, and pleasure which are airport service quality factors in coping with the rapid increase in passengers. These serious problems may transfer to airport users, which may deepen seat availability related problems where users cannot obtain flight tickets at the desired time. To overcome such challenges, this paper aims to identify the items that airport users expect and perceive and analyze empirical differences between expectations and perceptions by reconstructing the airport service evaluation items to improve airport service quality.

2.0 LITERATURE REVIEW

2.01 AIRPORT SERVICE QUALITY

An Airport is a place where airport service providers interact with customers to deliver a service (Bitner, 1990, 1992; Brady and Cronin, 2001; Brown and Swartz, 1989; Dabgilkar et al., 1995; Elliott, 1995; Groomroos, 1982; Saleh and Ryan, 1991; Suprenant and Solomon, 1987). Overall airport service experienced by customers can be classified into passenger and freight disposition, waiting place, mobile facility within airport, auxiliary facility, and accessible traffic equipment as in order to evaluate airport service (Ndoh & Ashford, 1994). The influential factors to the service level of airport passenger terminals were classified into airport facility and airport system and these factors were constructed specifically and then evaluated according to the airport process such as arrival, connection, passing, and transit (Marter Seneviratne, 1990). Airport service quality was categorized into convenience, check-in time, serviceableness, kindness of employees, visibility of information, and security as a conceptual system to contribute to the activation of quality control (Chen et al., 2002). In terms of the overall facility, it was classified into 12 zones and evaluated both quantitatively and qualitatively.

Brady and Cronin (2001) explained and stressed the importance of departure gate and convenience facility used by users. Bitner (1992) said that cleanliness, facility convenience, and environmental conditions might have an influence on customers. Furthermore, Flight Information Display System (FIDS) must be exact and airport decorations as symbolic icons should reflect the local culture and be suitable for the flow of times (Callan & Kyndt, 2001). Such situations as cancellation of flights and delay of flights in airports may prolong the time an individual must stay in an airport. Therefore, it is very important to identify and provide the time that users typically stay at an airport (Darko, 1999). In the Airport Customer Satisfaction Survey co-hosted by Airports Council International (ACI) and International Aviation Transportation Association (IATA), airport service evaluation items help to understand customer-facing methods for airport managers (Bomenblit, 2002).

3.0 METHODOLOGY

This paper uses the GAP model of Parasuraman et al. (1985) to identify how differences exist between service quality expectations and perceptions. Variables used in the survey were listed based on the items whose validity and reliability were verified in the previous study. The survey consisted of 26 items on the expectations of airport service quality, 26 items on the perceptions of airport service quality, 2 items on the current status of using the JIA, and 5 items based on demographical statistics. The measurement items were measured on a Likert 5-point scale. The measurement items used in this study are shown in Table 1.

Table 1: Measurement items

	Airport Service Expectations	Airport Service Perceptions
1	In airports, restaurants, washrooms, entrance/exits, etc must be found easily.	It is easy to find restaurants, washrooms, entrance/exits, etc in an airport.
2	Luggage carts must be located at a convenient place.	Luggage carts are located at a convenient place.
3	There must be many displays on flight information within the terminal.	There are many displays on flight information within the terminal.

4	Airport terminal must be designed so that moving distance can be minimized.	Airport terminal must be designed so that moving distance can be minimized.
5	There must be a business center in an airport.	There is a business center in an airport.
6	Signposts guiding airport facility (luggage, security inspection, airline counter, etc) must be easily visible.	Signposts guiding airport facility (luggage, security inspection, airline counter, etc) are easily visible.
7	Moving walkways and escalators must be equipped within the terminal.	Moving walkways and escalators are equipped within the terminal.
8	Airport waiting room seats must be comfortable.	Airport waiting room seats are comfortable.
9	There must be spare capacity for the convenience of users within airport.	There is spare capacity for the convenience of users within airport.
10	Mail facility must be installed so that airport users can use it.	There is a mail facility for airport users to use it.
11	Airport employees must take interest in solving my problems.	Airport employees take interest in solving my problems.
12	Airport employees must look tidy.	Airport employees look tidy.
13	Airport employees must respond to customer's requests rapidly.	Airport employees respond to customer's requests rapidly.
14	Airport employees must be reliable.	Airport employees are reliable.
15	Airport employees must be aware of any airport services that users may want.	Airport employees are well aware of any airport services that users may want.
16	The dress of airport employees must be made to easily distinguish their duties.	The dress of airport employees can easily distinguish their duties.
17	Airport employees must be polite.	Airport employees are polite.
18	Airport employees must continue to provide all information related to airport services.	Airport employees continue to provide all information related to airport services.
19	Airport employees must respond immediately to my complaints.	Airport employees respond immediately to my complaints.
20	Banking operation must be available at the airport.	Banking operation is available at the airport.
21	Aviation security inspection must be made rapidly.	Aviation security inspection is rapid.
22	Announcements must be heard at every corner of the airport.	Announcements are heard at every corner of the airport.
23	Various information on local tourist destinations must be available at an airport.	Various information on local tourist destinations can be acquired at an airport.
24	After flight, luggage must be delivered rapidly.	After flight, luggage is delivered rapidly.
25	Check-in must be made rapidly.	Check-in is made rapidly.
26	Airport must be clean.	Airport is clean.

This survey was conducted on users who had used JIA from the period of Nov. 13, 2011 to Dec. 3, 2011. For this survey, a total 300 self-administered questionnaires were distributed. A total of 250 copies were collected, but among which 50 copies whose responses were unfaithful were excluded. Finally 200 copies were used for empirical analysis. The results from the identification of gender, age, educational level, and occupation, and monthly income, demographical factors in this study are shown in Table 2.

Table 2: Sample characteristics

Characteristics		Frequency	Ratio (%)
Gender	Male	88	44.0
	Female	112	56.0
Age	less than 20	2	1.0
	20 ~ 29	102	51.0
	30 ~ 39	68	34.0
	40 ~ 49	25	12.5
	50 ~ 59	3	1.5
	More than 60 years old	0	0.0
Education	less than high school graduation (in attendance)	9	4.5
	vocation college graduation(in attendance)	108	54.0
	college graduation(in attendance)	76	38.0
	graduate school graduation (in attendance)	7	3.5
Job	office worker	20	10.0

	research service	3	1.5
	service sector worker	12	6.0
	self-employed	121	60.5
	student	5	2.5
	other	39	19.5
Monthly Income	less than 1 million won	8	4.0
	1.01 ~ 2 million won	131	65.5
	2.01 ~ 3 million won	43	21.5
	3.01 ~ 4 million won	12	6.0
	More than 4 million won	6	3.0
Purpose of traveling within the last 1 years	Tourism	92	46.0
	Visit to Relatives/friends	35	17.5
	Business	32	16.0
	other	41	20.5
Travel partner	individual	61	30.5
	family/relatives	59	29.5
	friends/colleagues	77	38.5
	Group travel	3	1.5

Among 200 JIA users, there were 88 males (44%) and 112 females (56%). To look at the age distribution, the number of individuals aged less than 20 years old was 2(1%), 20~29 years old 102(51%), 30~39 years old 68(34%), 40~49 years old 25(12.5%), and 50~59 years old 3(1.5%), which suggests that those in their 20~30's were represented the majority users. To look at academic level, vocational graduation (in attendance) represented 108 individuals (54%) and college graduation (in attendance) 76(38%), which suggests that 92% of the entire population were customers at the high educational level. To look at it by occupation, service sector workers (60.5%) occupied the highest percentage, followed by other, office worker, self-employed, student, and research service. The other occupations excluding office worker took on a similar distribution. Finally, to look at the monthly average income, 1.01 to 2 million won occupied the highest percentage at 131 persons (65.5%) and 2.01 to 3 million won occupied the second percentage at 43 persons (21.5%). Monthly income of 1 million won showed the highest distribution in that most of the users were young.

The purpose of travelling to Jeju Island using JIA was mostly tourism at 92 persons (46%), which was about 3 times higher than for business. This suggests that with the spread of five-day workweek and increased tourism and leisure activity, domestic tourism has increased. Individual and family/relative reflected 61 persons (30.5%) and 59 persons (29.5%), respectively, both of which showed the highest distribution. The reason for this is that with the low-cost airlines entering our domestic airline market, the Jeju area was naturally promoted. This made Jeju Island more known compared to previous years, personal travel and family/friend/colleague travel became higher than group travel.

4.0 EMPIRICAL RESULTS

4.01 GAP ANALYSIS

The findings from the verification of differences between expectations and perceptions of users of airport service quality in this study are shown in Table 3.

Table 3: Gap analysis for airport service quality

Item	expectations	perceptions	GAP	Paired t-test	
	Average (A)	Average (B)	(A)-(B)	t	p
A Basic facility	4.39	3.00	1.39	15.093	.000***

	(restaurant, toilet)					
B	location of luggage cart	4.27	3.08	1.18	14.491	.000***
C	Flight information display	4.06	3.02	1.04	12.451	.000***
D	Signpost facility	4.28	2.69	1.58	16.889	.000***
E	Business center	3.72	2.55	1.17	12.197	.000***
F	Facility signs	4.42	2.94	1.48	16.511	.000***
G	Moving distance	4.34	3.17	1.16	13.706	.000***
H	Waiting room seats	4.21	2.91	1.29	14.451	.000***
I	Convenient extra space	4.26	2.66	1.60	17.685	.000***
J	Mail facility	3.82	3.11	0.71	8.162	.000***
K	Interest in users	4.11	3.27	0.84	10.709	.000***
L	Tidiness and dress of airport employees	4.14	3.66	0.48	6.984	.000***
M	Rapid response to airport employees	4.22	3.57	0.64	8.970	.000***
N	Reliability in airport employees	4.28	3.61	0.67	9.641	.000***
O	Level of knowledge of airport employees	3.92	3.20	0.72	8.549	.000***
P	Distinguishment of dress of airport employees	3.99	3.22	0.77	9.846	.000***
Q	Politeness of airport employees	4.07	3.53	0.53	6.951	.000***
R	Airport employees information provision	4.00	3.34	0.66	9.154	.000***
S	Airport employees' complaints solving	3.95	3.45	0.50	6.614	.000***
T	Banking operation	4.02	3.94	0.07	0.285	.776
U	Rapid security inspection	4.01	3.31	0.70	7.320	.000***
V	Announcement	4.14	3.13	1.01	11.229	.000***
W	Various information provision	3.99	3.42	0.57	6.857	.000***
X	Rapidity in processing luggage	4.25	3.45	0.79	10.444	.000***
Y	Rapidity in check-in	4.20	3.48	0.72	9.190	.000***
Z	Cleanness	4.45	3.52	0.92	11.403	.000***

*** p<0.001

From the results of our analysis, it was found that the overall recognition of each item was lower than expectations. Airport service items that airport users think to be of most importance appeared as cleanliness, followed by facility signs and basic facilities of an airport (restaurant, toilet), which suggests that expectations of airport facilities were high.

All items except banking operation service appeared at less than 0.001 of significance level, which suggested that there was a significant difference. In the case of banking operation service which was not statistically significant, it was highly satisfactory given that it was housed within the airport. There appeared to be no difference between expectations and perceptions of airport users with respect to banking operation and whether or not having access to Automated Teller Machine (ATM) since these days individuals use more credit cards than cash.

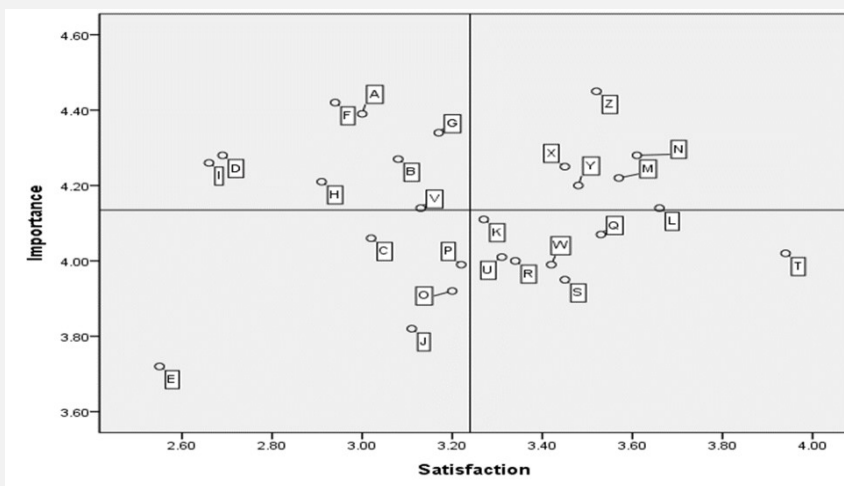
Among the 25 items that showed a significant difference, the items that showed the biggest differences included 'convenient extra space', 'sign facility', 'guidance signs', 'basic facilities', 'waiting room seats', 'luggage cart location', 'business center', 'moving routes', and 'flight information displays.' The expectations of these items were high, but perceptions of them were low. This suggested that users'

satisfaction with the physical environment of JIA decreased. The physical environment of an airport is a concept that is directly connected with the psychology of users and has the greatest influence. Also, it is important to evaluate the images located in an airport and is necessary to make users stay longer at an airport by installing better convenience facilities. This enables users to have more economic benefits at an airport. The items related to airport employee evaluation also showed a statistical significant difference, but the gap was not big, which suggested that in JIA, services are well-performed.

4.02 IPA ANALYSIS

As a result of calculating the average values of importance and satisfaction of JIA users regarding a total of 26 items for IPA analysis, the average satisfaction appeared at 3.23(standard deviation 0.33) and average importance 4.13(standard deviation 0.18). The average values of importance of each item appeared higher than those of satisfaction, which suggested that overall, satisfaction was low. Accordingly, it seems to be necessary to seek ways to increase satisfaction with the items whose satisfaction is lower than importance (Figure 1).

Figure 1: IPA result for JIA



As a result of IPA analysis, the 1st quadrant included ‘cleanliness’, ‘reliability of airport employee’, ‘rapidity in luggage disposition’, ‘response from airport employee’, ‘rapidity in check-in’, and ‘appearance and dress of airport employee.’ In these six items, the satisfaction appeared to be of highest importance for JIA users. Since the cleanliness and luggage disposition in the current airport are well performed, it is necessary to continue to maintain the high satisfaction of users.

The 2nd quadrant is considered important by users, but not actually satisfactory. This quadrant includes ‘guidance signs’, ‘moving distance’, ‘basic facility’, ‘luggage cart location’, ‘sign facility’, ‘convenient extra space’, and ‘waiting room seats’. An airport is a very large space. In this spacious place, it is difficult for first-time airport users to find the location of airline counters, luggage carts, and of convenience facilities. If people are getting off from a traffic facility located on the ground level to enter the airport, guidance signs must be located at the appropriate location so that users can check immediately within the moving line and not waste time due to the signs. Moreover, waiting room seats are necessary facilities for users who will stay at an airport for prolonged periods of time, for example, due to cancellation of flight and delayed flights. Efforts to improve the items in the 2nd quadrant intensively may satisfy airport users much better.

The 3rd quadrant whose importance and satisfaction were all low, included ‘announcement’, ‘flight information display’, ‘distinguishment of dress of airport employee’, ‘level of knowledge of airport employee’, ‘mail facility’, and ‘business center.’ Recently, there are airports that have installed a business center for airport marketing, but in JIA, it is recommended that the current facilities should be maintained

because tourists outnumber business users. More efforts than the current level being made are unnecessary and so an investment in this area must be classified as low-priority. Furthermore, mail facility is not the item that is considered to be essential in this digital globalization and so should be classified as low-priority because it is thought to be a facility for resident airport agency.

The 4th quadrant included 'rapidity in security inspection', 'interest in users', 'politeness of airport employee', 'provision of flight service information for airport employees', 'various information provision', 'banking operation', and 'airport employees' ability to cope with customer complaints.' Amongst the items that belonged to this quadrant, satisfaction appeared to have the highest importance. First, in the case of banking operation, users were very satisfied because they could exchange money and deal with other banking operations at the bank located at the airport. However, the major task of the bank located was currency exchange. Besides, banking operations can be dealt with at an ATM quite sufficiently. And so airport managers should pay considerable attention to accepting the idea of having several banks in an airport.

Security inspection is an item that is considered as the most important for airline safety by airlines and agencies, but the importance of airline safety and security appeared to be not recognized directly by airport users. Airport employees' provision of flight service information was also very important to resident airport agencies, but was not considered as important by airport users. In summary, it is necessary to improve investments that contribute to the 2nd quadrant and by reducing the costs and expenditures invested to items of the 4th quadrant.

5.0 CONCLUSIONS

This paper aimed to evaluate the airport service quality in users who use JIA. Looking at the analysis results, it was found that users' perceptions were lower than their expectations. There appeared to be a significant difference in 25 of the 26 evaluated items on the airport service quality.

The common ground of the items that showed the biggest difference was the items related to the physical environment of the airport, which suggested that users felt unsatisfied. Users responded more sensitively to physical services rather than human services provided at an airport and this affected service evaluation directly. Therefore, it is urgent to establish measures to increase the satisfaction of users.

Due to the extension of a domestic flight terminal building in 2006, international flight building in 2009, and an extension of a runway, mooring berth, parking lot, etc in 2012, more and more Chinese tourists are coming to Korea every year. To prepare for this rapid influx of tourists, new innovative methods must be introduced rather than simple airport improvements.

In preparation for rapidly increasing air transportation demand, expansion of airport infrastructure seems necessary including expansion of existing facilities and construction of a new airport to satisfy long-term needs. In the first place, we have to promote short-term improvement projects that are already underway such as construction of a new taxiway, expansion of moving area facilities, and expansion and relocation of terminals. In addition, other measures that can improve airport administration should be implemented. First, to alleviate congestion and inconvenience of passengers, internal facilities of passenger terminal should be modified, to be followed by alleviation of congestion in parking lots and roads within the airport premises. Furthermore, measures should be taken to improve security screening for immigration and customs clearance through manpower expansion and to operate such airport facilities as check-in counter more efficiently. Secondly, airspace handling capacity should be enhanced by implementing aircraft dispersion during peak time, expansion of navigable time, improvement of aircraft departure and arrival procedure, expansion of slots, and adoption of methods that can enhance control capacity through expansion of control manpower. Utilization of auxiliary runways should also be considered.

REFERENCES

- Baker, J., Grewal, D., & Parasuraman, A. (1994). The influence of store environment on quality inferences and store image. *Journal of the Academy of Marketing Science*, 22(4), 328-339.
- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *The Journal of Marketing*, 69-82.
- Bitner, M. J. (1992). Services capes: The impact of physical surroundings on customers and employees. *The Journal of Marketing*, 57-71.
- Bomenblit, A. (2002). Hong Kong international tops study. *Business Travel News*, 19, 6.
- Brady, M. K., & Cronin Jr, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34-49.
- Brown, S. W., & Swartz, T. A. (1989). A gap analysis of professional service quality. *The Journal of Marketing*, 92-98.
- Callan, R. J., & Kyndt, G. (2001). Business travelers' perception of service quality: A prefatory study of two european city centre hotels. *International Journal of Tourism Research*, 3(4), 313-323.
- Chen, H. (2002). Benchmarking and quality improvement: A quality benchmarking deployment approach. *International Journal of Quality & Reliability Management*, 19(6), 757-773.
- Dabholkar, P. A., Thorpe, D. I., & Rentz, J. O. (1995). A measure of service quality for retail stores: Scale development and validation. *Journal of the Academy of Marketing Science*, 24(1), 3-16.
- Darko, K. (1999). Taking the high road. *American Demographics*, 36-39.
- Elliott, K. M. (1995). A comparison of alternative measures of service quality. *Journal of Customer Service in Marketing & Management*, 1(1), 33-44.
- Gronroos, C. (1982). *Strategic management and marketing in the service sector: Helsingfors: Swedish school of economics and business administration. Marketing Research Orientation Upward Communication Gap*, 1.
- Martel, N., & Seneviratne, P. N. (1990). Analysis of factors influencing quality of service in passenger terminal buildings. *Transportation Research Record*, 1273.
- Ndoh, N. N., & Ashford, N. J. (1994). Evaluation of transportation level of service using fuzzy sets. *Transportation Research Record*, 1461.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.
- Rhoades, D. L., Waguespack Jr, B., & Young, S. (2000). Developing a quality index for US airports. *Managing Service Quality: An International Journal*, 10(4), 257-262.
- Saleh, F., & Ryan, C. (1991). Analysing service quality in the hospitality industry using the SERVQUAL model. *Service Industries Journal*, 11(3), 324-345.
- Surprenant, C. F., & Solomon, M. R. (1987). Predictability and personalization in the service encounter. *The Journal of Marketing*, 86-96.