THE AIRPORT SERVICE QUALITY: CASE STUDY SARAJEVO INTERNATIONAL AIRPORT

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Abstract: Every successful company focuses business policy on the quality of service and customer satisfaction. The level of quality services provided and the level of customer satisfaction are among the main determinants of the profitability of service companies, including airports. Absence of research and valid data regarding airport service quality in Bosnia and Herzegovina, including Sarajevo Airport was the key motive for this paperwork. Without having this data/information airport management is not able to manage successful service quality andachieve passenger satisfaction.

The intention of this study is to provide a deeper insight into needs of modern passenger through the analysis of theoretical information and through customer research of satisfaction conducted at Sarajevo International Airport. The study was performed by using structured questionnaire (66 questions). Based on the existing literature for research, the authors adapted and expanded the query, used by ACI – AETRA ASQ program. 500 questionnaires were distributed and 440 collected, which makes the response rate of 88%. By the literature analysis and conducted research the most important factors that influence the perception of passengers in terms of service quality at Sarajevo Airport were identified: "check-in", Internet WIFI, security, food services, cleanness and staff hospitality.

The success of the airport depends on how well the airport knows and to what extent satisfies different groups of airport users. This paperwork confirmed the importance of service quality management and customer satisfaction for the long term success of the airport. The results of conducted research at the Sarajevo Airport, also indicate that it is possible to define services which, according to the opinion of passengers, significantly influence the level of satisfaction and perceived quality of provided services and those are the following: "Check-in", Internet WIFI, airport security, restaurant services, cleanness of passenger terminal and staff hospitality.

Keywords: airport, service quality, passenger satisfaction

INTRODUCTION

Today, more than ever, the airports are aware that understanding the specific needs and preferences of the users of airport services leads to a significant increase of their satisfaction, and thus, leads to an increase of revenue. Therefore, success of airports depends on as to how well the airport is aware of different groups of its customers and to which extent it satisfies their needs. All these customers have their personality, needs and wishes, habits and customs, and the task of the airport is to endeavor to identify as

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to which specific needs, wishes and habits of customers there are, and to try to obtain the information as to how and in what manner they can be satisfied. There are numerous reasons due to which airports endeavor to continuously work on increasing the quality of its services and increasing the satisfaction of its customers. Amongst others, one of the important reasons is the perception of the airport, which the passenger acquires at its first arrival to a country, and at the same time, it influences the perception about a certain country that a passenger is coming to.

The aim and purpose of this research is through synthesis of modern theoretical and practical experiences, as well as through the analysis of field research to obtain the information about needs of a modern passenger, and to reflect a level of satisfaction of passengers with the quality of services provided by Sarajevo Airport. Without possessing such information, management of the airport is not in a position to successfully manage the quality of services and satisfaction of its customers. The problem of research is reflected in the fact that there is no research of such type, nor are there valid data on quality of services of airports in BiH, which also relates to the International Airport "Sarajevo".

According to the words of General Director of ACI World, for business operations of today's airports, dynamics, benchmarking and measuring have become of crucial importance. Philosophy that we can only improve the things that we can measure is accepted by modern managers of airports.

SERVICE QUALITY AND SATISFACTION OF CUSTOMERS IN AIRPORT INDUSTRY

It can be stated with a certainty that today every successful company places at the focus of its business policy service quality and customers' satisfaction with the service. Scientific papers and professional publications from the aviation field, also provide evidence that managers in this field clearly understand the importance of perception of service quality by its customers (Aeroporti di Roma SpA, 2004; Bomenblit, 2002; Gooding, 1999). By reviewing the available literature and professional papers from this field, research papers can be found in regard to measuring of the passengers' perception related to the airport service quality, with the aim of identifying possibilities of improving the services (Yeh and Kuo, 2003), and in order to avoid the loss of valuable passenger traffic – decline in a number of passengers (Rhoades et al., 2000). Apart from that, the airport marketing experts explore the needs and wishes of passengers with the aim of increasing the revenue from non-aviation services, such as revenues from the restaurant services, revenues from shops, etc. at the airport (Danyliew and Cohen, 1997; Harrison, 1996).

Thus, airports, as well as all other service-related companies, if they wish to operate with profit, must manage the quality of services they provide. The position and business operations of the airport in now days to a great extent differs from the one in the past, and there is more attention paid to the profitability of business services. Today the

airports are faced with a numerous competition at the market. Taking into account a huge pressure which in the past couple of years was made onto the airports by airlines in terms of price reduction of aviation services, it is necessary to emphasize also a rising significance of revenue increase from non-aviation services when it comes to the airports. In that regard, provision of high quality services, which contribute to the satisfaction of customers are surely a good path to successful business operations. With the aim of helping airports in measuring the service quality and benchmarking, Airport Council International¹ (hereinafter referred to as ACI) in 2006 introduced program under the name Airport Service Quality.

Although the interest for exploring the satisfaction of airport services customers occurred quite at late stage, that is, towards the end of 90-es in the last century, further in the research we provide an insight into the results of certain research papers from this field. Gritza et al. (2006) attempted to determine the factors which influence the satisfaction of passengers during security check. Research findings showed that waiting time for security check has a significant impact on passengers' satisfaction. Moreover, in accordance with the obtained results, factors which influence the satisfaction of passengers were not stable all the time, and there is a large number of other factors which influence the customers' satisfaction.

Martin - Cejas (2006) attempted to determine the relation between passengers' satisfaction and the level of passenger service registration at the airport Canaria, through the linear programming model. The research results showed that an average waiting time for "check-in" and long queues at "check-in" represent two relevant aspects when it comes to the perception of the level of quality and satisfaction with the provided service.

Correia and Wirasinghe (2007) conducted research of passengers' satisfaction at the International Airport in Sao Paulo in Brazil. They have used the data of qualitative research and derived the quantitative values of perception of provided service. At the end of research, they determined that the time of service provision, waiting time and space availability per person are the key elements of the level of quality provided service at the airport. Chen (2002) used the benchmarking of quality as an approach for determining the elements of airport quality and passengers' satisfaction with the service quality. Initial items were identified through direct interviews with different interest-related groups (including, but not limited only to passengers) at the Chaing Kai Shek International Airport (CKS). The sample for collection of quantitative data was made of airlines, forwarders, scientists and passengers. The results showed that practicality / comfort of transport outside the terminal building, setting and design of the interior, as well as information services at the airport, are the key attributes of quality.

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¹Airport Council International (ACI) is an international association of world airports. It was founded in 1991. ACI is a non-profit organization, whose main aim is strengthening the cooperation amongst its members – airports and other partners in the aviation world, including governments, airlines and producers of aircrafts.

METHODOLOGY

The aims of this research are directed towards the analysis:

- 1. current perception of passengers on their insight into service quality of airports,
- 2. services, which are, from the point of passenger, at the satisfactory level and
- 3. services which should be further enhanced and improved.

There are different methods which are available to the airport management for implementing the research on satisfaction of passengers and those are:

- Evidence and analysis of customers' complaints,
- Surveys on passengers' satisfaction,
- Surveys on satisfaction of airlines,
- Reports on results of measuring the satisfaction of passengers implemented by the airlines (survey of passengers, mystery shopper, various strengths, etc.),
- Scientific researches which are being implemented by the specialized institutions (example: faculties, ACI).

In this research paper, the survey was conducted through questionnaire filled by departing passengers.

Survey questionnaire was made on the basis of variables (elements and features of services), which were the subject of assessment by customers – passengers in similar research papers, especially in the program implemented by ACI. In this research, methodology of AETRA¹ program was used, adapted by the authors, as this program represents the global method for research and measuring of satisfaction degree of passengers and benchmarking.

Survey questionnaire was distributed in Bosnian and English. The questionnaire was available to the passengers of all airlines, and was distributed following the passport control and security check. It encompassed 65 questions which relate to overall experience of passengers on the journey day, and were related to:

- Questions related to the airport services,
- Questions related to the preferences of passengers and
- Questions related to personal data of passengers.

Ordinal scale was used with the service quality assessment from 1 (dissatisfactory) to (excellent). Apart from the use of ordinal scale, questionnaire also contained a group of closed and open questions, as well as questions with several possible answers, and ranking.

It was planned to include 500 respondents, but 440 questionnaires were collected, which makes 88% degree of success. Before the research was implemented, pilot research was also conducted, in order to determine the understanding and applicability of the research instrument itself.

¹The expression AETRA has roots in latin word aethra, which means upper sphere or upper level (upper air) and clear sky.

RESEARCH RESULTS

In continuation of work there is analysis in regard to the perception of departing passengers on the flight date, when it comes to the quality of services of Sarajevo Airport itself.

Profile of passengers

Table 1. Social-demographic characteristics of respondents

Sex	Frequency	Percentage	Cumulative percentage
Male	233	59.14%	59.14%
Female	161	40.86%	100.00%
Total	394	100%	-
Age	Frequency	Percentage	Cumulative percentage
18-30	71	17.93%	17.93%
31-50	226	57.07%	75.00%
More than 50	99	25.00%	100.00%
Total	396	100%	-
Education	Frequency	Percentage	Cumulative percentage
Secondary education	57	14.77%	14.77%
College Degree	35	9.07%	23.83%
University Degree	156	40.41%	64.25%
Master of Science	94	24.35%	88.60%
PhD.	44	11.40%	100.00%
Total	386	100%	-
Revenues	Frequency	Percentage	Cumulative percentage
Up to 500 EUR	24	7.12%	7.12%
500 – 750 EUR	22	6.53%	13.65%
750 – 1.000 EUR	40	11.87%	25.52%
1.000 – 1.500 EUR	37	10.98%	36.50%
1.500 – 2.000 EUR	26	7.72%	44.21%
2.000+ EUR	188	55,79%	100,00%
Total	337	100%	-
Is it your first flight with MAS?	Frequency	Percentage	Cumulative percentage

YES	105	27.70%	27.70%
NO	274	72.30%	100.00%
Total	379	100%	-
How often do you travel by plane?	Frequency	Percentage	Cumulative percentage
Frequently (twice a week or more)	67	19.34%	19.34%
1-2 times a month	74	21.27%	40.61%
3-4 times a month	27	7.73%	48.34%
10 times a year	23	6.63%	54.97%
7-8 times a year	8	2.21%	57.18%
5-6 times a year	38	11.05%	68.23%
3-4 times a year	32	9.12%	77.35%
2-3 times a year	19	5.52%	82.87%
1-2 times a year	41	11.88%	94.75%
Rarely	13	3.87%	98.62%
Periodically	4	1.10%	99.72%
Occasionally	1	0.28%	100.00%
Total	347	100%	-
The most frequent reason for flying	Frequency	Percentage	Cumulative percentage
Business	279	47.77%	47.77%
Touristic	131	22.43%	70.21%
Living abroad	78	13.36%	83.56%
Visiting family	92	15.75%	99.32%
Other	4	0.68%	100.00%
Total	584	100%	-

Service quality analysis of Sarajevo airport from aspect of accompanying infrastructure, support staff, non-aviation services and terminal services

In further research below we present the research results in regard to the quality service analysis of Sarajevo Airport through the 4 dimension quality. The research analysis show that passengers of Sarajevo Airport are most satisfied with the quality of support staff service, and above all, in regard to the check-in services (total average mark which the respondents attributed to the support staff amounts to 4.24), while the quality of non-aviation services was marked with the lowest grade (total average mark which the respondents attributed to non-aviation services amounts to 3.24).

Table 2. Descriptive statistics for answers to questions related to support staff

	N	No of answers "I don't know / I didn't use"	Minimum	Maximum	Average mark	Standard deviation	Variance Coefficien t	The most frequent mark
Waiting time for security check	431	4	1	5	4.19	0.90	21.57	5
Hospitality and service provision of our security staff	431	10	1	5	4.18	0.97	23.18	5
Thoroughness of our security check	428	9	1	5	4.01	1.02	25.41	5
Feeling safe and secured at the Airport	427	4	1	5	4.32	0.82	18.99	5
Sale box of flight tickets of Sarajevo Airport	418	156	1	5	4.26	0.91	21.37	5
Hospitality and service provision of staff at the box for tickets sale	417	140	1	5	4.29	0.90	20.95	5
Promptness of work at check-in	428	3	1	5	4.48	0.80	17.76	5
Hospitality and service provision of staff at check-in box	422	6	1	5	4.53	0.72	15.97	5
Waiting time in the queue at passport control	421	5	1	5	4.24	0.94	22.14	5
Hospitality and service provision at passport control	415	44	1	5	4.26	0.87	20.40	5
Customs control	200	16	1	5	4.30	0.91	21.10	5
Hospitality and service provision by customs control staff	415	69	1	5	4.16	0.95	22.89	5
Lost & Found Services	400	248	1	5	4.13	0.97	23.56	5
Hospitality and service provision by Lost & Found staff	394	245	1	5	4,15	1,00	24,17	5
Average mark for support staff						,24 eviation 0.6	55	

From the Table 2 it is clearly visible that respondents gave the best marks to the work at the check-in, while the lowest mark was given to the thoroughness of security check. Also, with the adequate non-parametric tests, we have verified as to whether the sex, age, education degree and amount of income influence the attitude of respondents in regard to the analyzed categories. Namely, males, and respondents in upper income categories, mainly give a lower mark in regard to the field of security staff. From this, it can be concluded that male respondents have more experience when it comes to the mentioned service, and also, it is very certain that people with higher income have a possibility to fly more frequently, to use the services of larger number of airports, so that they can compare the provided services and can provide their opinion in that regard.

These results indicate the need that in the following period, Sarajevo Airport should consider and make certain measures and proposals for enhancing the services of thoroughness of security check, which will also impact the change of perception of passengers when it comes to this service.

When it comes to the non-aviation services, the lowest mark of 3.00 was given to the offer and assortment of Duty Free Shop, and in that respect, some serious work should

be done in the context of enhancing it, for a reason that the mentioned shop definitely downgrades a positive impression on overall picture of quality of Sarajevo Airport and its services

Table 3. Descriptive statistics for answers to the questions related to non-aviation services

	N	No of answers "I don't know / I didn't use "	Minimum	Maximum	Average mark	Standard deviation	Variance Coefficient	The most frequent mark
Catering services prior to passport control	416	122	1	5	3.53	1.21	34.24	4
Prices of catering services prior to passport control	406	127	1	5	3.11	1.25	40.33	4
Catering services following passport control	405	141	1	5	3.24	1.31	40.30	3
Prices of catering services following passport control	397	155	1	5	3.05	1.21	39.71	3
Duty Free Shop	402	151	1	5	3.15	1.21	38.41	3
Assortment of products in Duty Free Shop	405	134	1	5	3.00	1.20	39.96	3
Hospitality and service provision by Duty Free Shop staff	360	160	1	5	3.90	0.98	25.19	3
Average mark for non-aviation services				3 Standard d	.24 leviation 1.	00		

Using rank correlation coefficient we analyze the relation between passengers' satisfaction withresearched segments of non-aviation services and overall satisfaction with Sarajevo Airport.

Table 4. Correlation matrix: non-aviation services and overall satisfaction with Sarajevo Airport

	Overall opinion/satisfaction						
Segments of non-aviation services	Rank Correlation Coefficient	P value	N				
Catering services prior to passport control	-0,052	0,414	248				
Prices of catering services prior to passport control	0,554**	0,000	235				
Catering services following passport control	0,473**	0,000	220				
Prices of catering services following passport control	0,506**	0,000	203				
Duty Free Shop	0,437**	0,000	215				
Assortment of products in Duty Free Shop	0,550**	0,000	233				
Hospitality and service provision by Duty Free Shop staff	0,555**	0,000	170				

Only for Catering services prior to passport control the significant relation with the overall satisfaction wasn't confirmed. All other segments of non-aviation services are in direct correlation with overall satisfaction (correlation coefficients are relatively high and significant).

Passengers' perception when it comes to the dimension – accompanying infrastructure of Airport is relatively satisfactory. Availability of parking space was given the best mark 4.02, while the lowest mark was given to the parking space price in the amount of 2.99.

Table 5. Descriptive statistics for responses to questions in regard to the accompanying infrastructure of the Airport

	N	No of answers "I don't know / I didn't use"	Minimum	Maximum	Average mark	Standard deviation	Variance coefficient	The most frequent mark
Transport to/from Airport	422	168	1	5	3.22	1.44	44.87	4
Availability of parking space	423	165	1	5	4.02	0.99	24.58	5
Price of parking space	411	181	1	5	2,99	1,35	45,07	3
Availability of luggage trolleys	416	173	1	5	3.80	1.13	29.76	5
Average mark for accompanying infrastructure of Airport		3.501 Standard deviation 1.03						

With the adequate non-parametric tests we have verified as to whether sex, age, education degree and amount of income influence the opinion of respondents on analyzed categories in regard to the accompanying infrastructure of Airport. The results of statistics tests indicate that there is a significant difference among respondents with different education degree in regard to the mark of parking space availability, and in a way that respondents with university degree give a significantly lower mark to this category than others. Also, there is a significant difference among respondents of different income groups in regard to assessing the price of parking space in a way that respondents with High School diploma gave a significantly lower mark to this category than others. These differences are completely logical, as with the respondents with University degree and higher income, prices of parking space certainly have lower significance than the service itself – parking space availability.

When it comes to the terminal services, the research shows that passengers are satisfied the most with the clean passenger terminal (4.28) and hospitality and service provision by the staff in VIP/business lounges (4.22), while the lowest mark was given to Internet/wireless access (3.45) and availability of bank/cash machine /foreign exchange office (3.46).

Table 6. Descriptive statistics for answers to questions in regard to terminal services

	N	No of answers "I don't know / I didn't use"	Minimum	Maximum	Average mark	Standard deviation	Variance Coefficient	The most frequent mark
Availability of bank/cash machine/foreign exchange office	402	217	1	5	3,46	1,28	36,91	4
Availability of VIP/business lounge	398	217	1	5	3.83	1.14	29.76	4
Assortment of offer in VIP/business lounges	384	219	1	5	3.57	1.18	33.06	4
Hospitality and service provision by staff in VIP/business lounges	381	211	1	5	4.22	0.93	21.96	5
Availability of toilet spaces	404	32	1	5	4.03	0.92	22.87	5
Cleanness of toilet spaces	403	39	1	5	4.00	0.95	23.76	4
Cleanness of passenger terminal	399	23	1	5	4.28	0.74	17.24	5
Equipment and services for disabled persons and persons with special needs	375	251	1	5	3.95	1.09	27.54	5
Comfort in queues waiting at the gate	389	36	1	5	3.72	0.93	24.99	4
Time for luggage delivery at arrival	392	77	1	5	3.88	0.,92	23.75	4
Ambient of Airport	398	21	1	5	3.79	0.92	24.20	4
Your overall opinion on Sarajevo Airport	404	22	1	5	3.98	0.82	20.60	4
Web check-in	376	245	1	5	3.61	1.33	36.77	4
Mobile check-in	367	269	1	5	3.49	1.35	38.65	4
Web page of Sarajevo Airport	383	217	1	5	3.63	1.11	30.65	5
Internet access /wireless	380	205	1	5	3.45	1.40	40.76	4
Availability of monitors with flight information	392	25	1	5	3.91	0.91	23.23	5
Content of information on monitors	320	30	1	5	4.00	0.85	21.28	4
Average mark for terminal services				Sta	3,9 ndard dev		.73	

Namely, there is a very interesting data that passengers of Sarajevo Airport were not aware that the Airport provides Internet/wireless service, and, at the same time, that is the only reason as to why this service was given the lowest mark. In that regard, it is very important that passengers get informed adequately about all the services provided by the Airport, which shall certainly contribute to bigger satisfaction of passengers when it comes to the terminal services, and after all, it will contribute to overall satisfaction of passengers, as well as better perception of Sarajevo Airport itself.

We have also analyzed terminal services and a need for them through different specific needs of clients and we obtained the following results:

- In response to a question "Would you use the services of Internet box?" 374 respondents answered, and out of that number, 51.87% responded positively.
- In response to a question "Do you need a table for laptop?" 368 respondents answered and out of that number, 51.63% of them responded positively.

- In response to a question ,,is there a sufficient number of plug boxes for electronic devices?" 280 respondents answered, and out of this number, 57.88% answered positively.
- In response to a question "Do you require a service of luggage packaging with the see-through foil?" 405 respondents answered and out of this number 21.97% answered positively. Given that 21.97% passengers answered positively to this question, it is certain that a lot of consideration should be given to introducing this service in the future period, however, it is surely not top priority. In response "Do you have a child younger than age of 5?" 408 respondents answered, and out of this number, 14.46% answered positively.
- In response to a question "Do you require a space for changing the children's clothes" 389 respondents answered, and out of this number, 19.54% of them answered positively. The Sarajevo Airport should also certainly consider introduction of this service, and not such a significant percentage of respondents who answered that they would use the space for changing children's clothes, is a result of the fact that only 14.46% respondents had a child below the age of 5.

In general, when it comes to the first three questions which relate to internet boxes, table for laptop and availability of plug boxes for electronic devices, we should note that passengers to all three questions with over 50% provided a positive response, which is certainly in accordance with the development of Internet and rising application of various informatics devices. Taking into account the opinion of passengers on the mentioned services, as well as the fact that Internet and Informatics equipment in the coming period will become even more significant, management of Sarajevo Airport, should consider these responses /proposals, as well as introduction, that is, enhancement of the mentioned services.

Following the analysis of all the Airport services, according to the previously defined dimensions, the following services, which passengers perceive as the most important are:

- 1. "Check-in"
- 2. Internet WIFI
- 3. Security
- 4. Toilet
- 5. Staff hospitality

CONCLUSION

Based on the results of the conducted research, as well as with the analysis of available scientific and professional literature, rising significance of airport service quality and passengers' satisfaction management was confirmed, as key determinants of airport success in long run.

The results of conducted research at the Sarajevo Airport, also indicate that it is possible to define services which, according to the opinion of passengers, significantly influence the level of satisfaction and perceived quality of provided services and those are the following: "Check-in", Internet WIFI, airport security, restaurant services, cleanness of passenger terminal and staff hospitality. Therefore, the recommendation to the Sarajevo Airport management would be to give these categories of services in the future period high consideration and continuously work on their further improvement and enhancement. Also, it is very important that data on passenger profile are taken into account when creating future strategic plans.

Given that researches like this and other similar researches require continuity in their implementation, we are proposing that Sarajevo Airport joins AETRA – ASQ programs, in order to provide as efficient and as effective as possible service quality management and customers' satisfaction.

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