Tourism service quality begins at the airport

Roberto Rendeiro Martín-Cejas*

Departamento de Análisis Económico Aplicado, Universidad de Las Palmas de Gran Canaria, Campus Universitario de Tafira, Edificio Departamental de CC.EE.Y EE.-Módulo D, 35017 Las Palmas de Gran Canaria, Spain

Received 17 November 2004; accepted 13 May 2005

Abstract

This work analyses the level of service of Gran Canaria airport facilities as an approximation to evaluate the service quality given to tourism. Through a linear programming model we will determine the level of service established in a check-in service at this airport. The relevance of this parameter is related to the leisure time available for tourists in the airport terminal building. Therefore, it gives us an indirect measure of their perceived satisfaction of the service.

Keywords: Quality; Airport; Tourism; Level of service

1. Introduction

Tourism service is a commodity whose quality depends on the aspects that are intrinsic attributes of several activities related with this kind of service: activities that happen from tourists’ arrival till their departure. Airport infrastructure is the first and last point of tourists’ contact in their holiday destination; thus, it constitutes the mobility axe of tourists. These activities have to be “processed” through airport in an efficient way to minimize travel time and to enjoy shopping and leisure time in the commercial area of the airport at the end of their holidays. Because of that, it is relevant to evaluate airport facilities quality as a factor of tourism service commodity.

Section 2 points out the influencing airport quality service factors. Next, through a simple queues analysis, the level of service for a check-in mechanism at Gran Canaria airport is estimated. The last section presents the conclusions of this work.

2. Quality perception of tourism service

Tourist satisfaction is crucial in the sense that it affects expectations and intentions for the next destination purchasing decision. Thus, tourist destination considers customer satisfaction as one of the most important sources of their competitive advantage (Fuchs & Weiermair, 2004). Some authors suggest that service quality is a vital antecedent of customer satisfaction and, concretely, some relevant aspects of quality perception as promptness of service and on-time programming (Getz, O’Neill, & Carlsen, 2001).

Several activities related to tourism service like, for instance, transport infrastructure have to be provided in an efficient way to guarantee a high level of tourism service quality. For transport services, reliability becomes the core of service quality.

Airport infrastructures are the first contact point for tourists when they arrive at their holiday destination. Therefore, airport facilities give them the first impression they will have about the expected quality of their holiday time. When passengers are processed by airports they use several services such as, check-in, passport and security controls in departure, and baggage claim service and passport control when arriving.
If an airport cannot attend to all these services efficiently, airport service quality will be low and tourist perception of the airport facilities becomes negative. For instance, in departure, once the process has ended, passengers go to a boarding area where they can enjoy a leisure area, do last-minute shopping and use some other services like restaurants. Time spent by passengers at ticket counters and other controls limits their time to enjoy airport leisure areas. If the level of service is low and passengers spend too much time in these controls, their perception of the airport service quality will perhaps decline.

There are several methodologies to evaluate the quality of tourism services. Research instruments have been developed over the years to evaluate the concept of quality and consumer satisfaction (Hudson, Hudson, & Miller, 2004). Some of them are based on questionnaires that ask people about some attributes of these services. These results are subjective and may be used as an approximation to estimate customer satisfaction; however, there is a need to make valuations about the level of airport services through a more objective approach according to normally accepted standard parameters. This can be done using mathematical techniques (Muller & Gosling, 1991).

The next section develops a valuation of the check-in mechanism at Gran Canaria airport using the queues theory, and the results will be compared with the international standards established by IATA. If the satisfaction perceived by tourists keeps within the interval considered, the level of service can be considered satisfactory.

3. Evaluating check-in service level for Gran Canaria airport

The quality and conditions of a functional component or group of functional components, as experienced by passengers in an airport, constitute the service level. Factors such as waiting time, processing time, crowding and availability of passenger amenities for comfort and convenience are measures of the service level components. Many of these factors can be evaluated in a subjective manner or remain difficult to measure; however, there are mathematical techniques that can be used to evaluate some of these factors. A simple queues theory to measure waiting time and level of crowding, as a proxy to evaluate service level, in an airport is used.

3.1. Check-in process and mechanism design

As long as passengers arrive at the ticket counter, handled by a single agent, at a rate no greater than the rate at which they can be served, there will be no queue and no waiting for a service. However, if more passengers arrive, the queue may begin to grow and if the rate of arrivals stays higher than the service rate, the queue can keep growing and the service level can decline because of the increase in waiting time and crowding. Many services inside the airport building can be modeled by queuing theory. Some hypothesis about the components of the process is required.

Assume that there is a single ticket counter handled by one agent. The ticket counter has a 60 m² queue waiting area and is equipped to handle baggage and full ticketing of passengers. Let us suppose that passengers arrive alone at the counter area so that only passengers with a few pieces of luggage are keeping queue. The number of passengers who arrive to require service is infinite and the first to arrive are the first to leave. The mechanism is shown in Fig. 1.

3.2. Queue model for check-in service

Passengers who arrive at some known rate “λ” are given service at some rate “μ”, generally assumed to be fixed at some average time, and move to the next element of the system. Queues are formed if arrival rate exceeds service rate. The queue length, expected total service time, including any waiting in a queue, and time for queues to clear may be calculated. These parameters depend on the underlying mathematical distribution of arrival and service times assumed to be applied.

If passenger arrivals are assumed to be random, the Poisson process may be used. With service times assumed to be described by an exponential model, average waiting time at the processing point, total time in commercial area and average number of people waiting for service (queue length) are calculated as follows:

\[
T_c = \text{average waiting time: } T_c = \frac{\lambda}{2\mu(\mu - \lambda)} \\
T_F = \text{time of check-in service: } T_F = \frac{1}{\mu} \\
L_c = \text{average number of passengers waiting (queue length): } L_c = \frac{\lambda^2}{\mu(\mu - \lambda)}
\]

The hypothesis of a finite size of population generates many analytic complications because the number of passengers in a queue determines the potential number of passengers out of the system.
Tₕ, total time in leisure area: \( T_L = T_1 - T_c - T_F \)

\( T_c \) is the length of time the check-in desk is opened. 2 h for an international flight and 1 h for a national flight).

We have to keep in mind that charter flights follow a different arrivals discipline than regular flights. In this case, most passengers do not verify a Poisson process of arrivals at the airport because they come to it by coach. Arrivals can be considered by groups of fixed size \( L \), which depend on the aircraft load factor. In this case, an instantaneous queue of the size \( L \) will be formed. Check-in service time is \( 1/\mu \) per passenger and the total time to give service to all passengers is \( L/\mu \). The average waiting time at the check-in desk will be \( T_c = L/2\mu \).

Average service time \( \mu \) at a check-in desk for Gran Canaria airport was 857 passengers/h. Suppose that the passenger arrives at the airport 1 h earlier for a national flight (\( T_i = 1 \)) and 2 h earlier for an international flight (\( T_i = 2 \)). Crowding level was measured by the ratio between service area (see Fig. 1) and queue length (\( L_c \)). Table 1 shows the results of queues model distinguishing both kinds of flights.

Just for one counter desk, the used factor (\( \rho = \lambda / s\mu \)) is 0.85 and 0.81 for regular international and national flights, respectively. These values mean that the system becomes stable. In contrast, charter flights need to open an additional counter desk to guarantee stability in a queues system. In that case, the waiting time for check-in facilities would be 33.5 min. Probably, for this kind of flight air companies use more than two counter desks and, because of this, waiting time declines faster.

From the passenger point of view, a reasonable waiting time for regular flight has to be equal to or less than 7.5 min. For charter flights, this limit has to be between 11 and 21 min. In general terms, a tolerable time of service does not go beyond 12 min (Mumayiz & Ashford, 1987). According to this reference value, the waiting time shown in Table 1, for regular flights (with only one counter desk), should be considered as excellent. In contrast, if we want to improve the time of service for charter flights, we will have to open more than two counter desks.

In summary, according to parameters estimated, the level of service for check-in facilities at Gran Canaria airport can be considered reasonable and, probably, a tourist enjoys, before leaving, enough time in leisure areas inside the airport. The total time in leisure area per passenger for charter and international flights was, respectively, 52.18 and 115.4 min.² Keeping in mind that millions of passengers per year circulate through an airport terminal building, the potential commercial development could be extraordinaire.

IATA’s standard for crowding level establishes 1.8 m²/passerger in check-in service as an excellent level of service. Less than that, service level declines. According to this, the crowding level for check-in facilities for regular flights was excellent; however, it is the same for charter flights even if several counter desks are opened. Crowding level for these flights becomes below the tolerable level.

4. Summary and conclusions

The first and last perception of quality in a tourist destination takes place at the airport. This essential service has to be provided at a reasonable standard; otherwise, its poor quality will detract from overall experience. Average waiting time and crowding level for airport facilities are two relevant aspects in quality perception of tourists when arriving at their destination. For regular flights, Gran Canaria airport showed an excellent check-in facility service level; however, for

²Charter flights: \( T_L = T_1 - T_c - T_F = 120 - 67.12 - 0.7 = 52.18 \) min; international regular flights: \( T_L = T_1 - T_c - T_F = 120 - 3.9 - 0.7 = 115.4 \) min.
charter flights the level of service has to be improved. This aspect becomes very important for Gran Canaria airport because charter flights here account for more than 60% as an average.

Gran Canaria airport facilities service quality improvement is crucial for the health of the touristic sector in the island. It has at least two relevant consequences. Firstly, tourists should have enough time to do last-minute shopping in a commercial area of the airport. This, perhaps, influences the perception of their satisfaction in a positive way. Secondly, developing leisure and commercial areas at airports creates opportunities to generate enough commercial revenue to cross-subsidize operating cost. Consequently, users may perhaps pay a non-monopoly price for airport facilities.

References


