

Measuring Customer Expectations of Service Quality: case Airline Industry

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ABSTRACT

Objectives of the Study

The first theoretical objective of this study is to discuss the concept of service quality and find out the different approaches to measure service quality. The second objective is to define a process model for measuring service quality in air transportation based on literature review.

Empirical objectives are to test the process model on selected customer group. Then, the results are used to investigate what services customers consider as the cornerstones of their flight experience, and if there are any differences in service quality preferences between respondent groups (such as male/female travelers, as well as business/leisure travelers).

Academic background and methodology

This study provides an overview of the services and service quality literature, taking airline industry as a subject for a case study. Airline industry is reviewed as well, and the importance of services, new service development as well as service quality is discussed. The academic literature is used to build up a service process model, which is tested to find out most important service quality attributes for the customers. A survey is chosen as a primary method of data collection. The target group includes young professionals with completed or about to be completed university education.

Findings and conclusions

The research concluded that the customers value basic services in service process such as information on tickets and flight schedule, communication in case of flight delay as well as no delays in baggage delivery. No significant differences were found between male and female passengers, except for one case: male respondents evaluated employees' appearance and attitude as more important compared to female respondents. Finally, from close correlations between some of the attributes, the conclusion can be made that the respondents do not differentiate between in-flight or ground services, and view the air travel experience as a whole.

Key words: services, service quality, airline industry, processes

Number of pages (including appendices): 95

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1. INTRODUCTION

Airline industry has always been famous for its continuous struggle: cutting costs, managing fluctuating demand, keeping up with tight quality requirements while trying to maintain superior services and satisfy needs of various customer groups. Customer satisfaction has been on very low levels for decades, and e.g. according to American Customer Satisfaction Index, airline industry scores lowest out of 47 other industries (CNN.com, Airlines score lowest in customer satisfaction, 2011). However, the demand for air transportation has been stable and despite current economic crisis and such events as September 11, the growth reached 7.8% in 2011 (Datamonitor, 2011).

In this struggling environment, airlines are forced to shift their focus towards customer oriented service quality (Chang & Yeh, 2002). It is extremely important for carriers not only to understand the perception of passengers of their service offerings, but as well find out what customers expect from the services (Chen & Chang, 2005) and what kind of services customers consider most important. In the airline industry, services are composed of very complex mix of intangibles as the airlines sell not physical objects but performances and experiences (Gursoy et al., 2005). Thus, service quality is a key to attract and keep loyal customers (Liou & Tzang, 2007; Chang & Yeh, 2002).

This thesis views service experience as a process, starting with a search for a ticket and ending with post-flight services. All the steps a customer is taking during air transportation are listed and discussed. Service quality is created on each step of the process, and it is important to understand the customer preferences and expectations from the services. Evaluation of customer expectations based on two to five key quality requirements and analyzed using statistical methods to understand its relative importance to a target customer group chosen for a survey.

1.1. Research Objectives and Methodology

The theoretical objective of the thesis is first to discuss and investigate a concept of service quality through such models as SERVQUAL model by Parasumaran et al. (1985) and Gronroos's Perceived Service Quality model. The discussion then continues to service quality applied in case of airline industry and completed with discussion on customer expectations and experience management. The second theoretical objective of the thesis is to define a service process model that leads a customer through his/her experience during air transportation and to identify service quality attributes that can measure what is important for the customer, and how satisfied the customer is. Service quality attributes, which belong to one of service quality dimensions identified by Parasumaran et al. (1991), are assigned to each service process step.

The practical objectives are based on service the process model where process attributes are tested on selected customer group via online survey. The aim is to find out the most important features of air transportation the respondents and find out linkages between the attributes, dimensions and customer groups. For example, differences in male and female travelers' perception of importance will be compared, to find out if the discussion in the article by Westwood et al. (2000) that there is a difference in gender-related perception of air travel and service quality applies to target group.

To sum up, the theoretical objectives of the thesis are:

- To discuss the concept of service quality and related models;
- To define a service process model of the generic service steps that shape the client experience in the airline industry and identify service key attributes for each step;

The practical objectives are:

- To test service process model on the selected customer group using a survey and find out the key service quality attributes for this customer group;
- To find out whether there are differences in male and female travelers' as well as business and leisure travelers' perceptions of service quality.

The research scope of the thesis is limited to young professionals who have recently entered or are about to enter full-time professional life. Survey has been chosen as a primary method of gathering empirical data as the most suitable method to reach as many respondents belonging to the target group as possible.

The data collection lasted for two weeks in early May of 2012. The survey was distributed online, WebropolSurveys.com was used to build the survey and gather the data, and ten survey answers were collected using printed survey. The analysis of the data was performed with Microsoft Excel and Webropol analysis tools.

1.2. Limitations

The research scope was limited to a certain demographical group and only flights within geographical Europe were addressed in the survey. The nationalities of respondents varied, with majority being Finnish or from Finland (however, nationality was not asked in the survey).

Next, only flights with mid-range full network carriers and low cost airlines have been taken into consideration in the survey (airline classification is further discussed in the Chapter 2.1). Luxury airlines and long haul flights were taken out of the scope in order to limit a number of attributes and balance service expectations. Normally, service expectations are different and more complex when flying on longer flight in business or first class (which is not offered within European flights).

Such key service quality dimensions as safety, flight frequency, reliability etc. were considered on generic level only, with the analysis focusing on service attributes such as speed of check-in, entertainment and catering on board as well as employees' attitude (the detailed list of attributes can be found in Chapter 3.4.2). Finally, the research does not make much difference between ground and in-flight services though the possible differences and complications related to such distinction are discussed in the later chapters.

1.3. Research Structure

This study is divided into six chapters. First chapter gives an brief introduction to this study, briefly discussing the background information for the selected topic as well as lists research objectives and study limitations. In addition, research structure is described in this chapter.

The second chapter presents an overview of the airline industry, providing the background information, classification of airlines as well as overview of strategic alliances that have expended the service offering for the customers. Furthermore, customer segmentation specific to airline industry and new services development and service innovation are briefly discussed. Third chapter, Services and Service Quality discusses the concepts of services and service quality as well as introduces the relevant model. Service quality then is discussed in the context of airline industry. Furthermore, in this chapter, service process model is introduced and the basis for empirical research is prepared. Fourth chapter summarizes the method used to carry out the research: data collection process, target group as well as scales chosen for the survey.

In the fifth chapter research results is summarized, and discussed. Service process is revised based on empirical findings. Finally, chapter six concentrates on the key deliveries of this study, summarizing theoretical and practical contributions as well as presenting the recommendations for airline industry management. Limitations of this study are discussed again and suggestions for further research are introduced.

2. CASE AIRLINE INDUSTRY

This chapter presents an overview of the airline industry, first discussing the current situation the industry is in as well as the challenges that the industry has been experiencing. Next, airlines are classified based on service levels and provides an overview of customer segmentation. New services development is an important topic to airlines, so some new ideas and service development approaches are discussed as well.

2.1. Industry Profile

Airline industry is essential to global world as without airline transportation, such industries as leisure and tourism would suffer and international business activities would become much harder to conduct (Tiernan et al., 2008/1). It is one of the biggest industries in the world, reaching turnover of 501.2\$ billion (Datamonitor, 2011) and 18\$ billion in profits as of 2010 (IATA, 2011) and hence providing significant amount of work places as well as taxation revenues to governments. The industry is expected to grow up to 713.6\$ billion within next few years. The market is divided between domestic (64% of all flights) and international (36%) (Datamonitor, 2011). Americas account for 44.4% of all flights and Europe accounts for 33.1%.

The worldwide demand for air transportation has been relatively stable, though such events as September 11 terrorist attacks in New York in 2001, SARS pandemics in Asia in 2002/2003 and current financial crisis etc. have had temporary impact on it, causing fear in using air transportation or avoiding certain geographical locations. Seasonality is also common, as the demand for leisure flights increase heavily during holiday seasons (such as Christmas or summer). In addition, demand fluctuates depending on the time of the day and day of the week (Tiernan et al. 2008). Nevertheless, the industry has been continuously operating on extremely thin margins (IATA, 2011; Tiernan et al., 2008/1) with high operational costs (Airline Trends and Ancillary Revenue Report, 2010). Thus, the volume is crucial for the industry to stay profitable and thus the differences in prices for one flight can be large. Furthermore, the actual

product of the airline industry (airline seat) is extremely perishable. Once the aircraft took off, the opportunity to sell a seat is lost.

Currently two major issues affect profitability of airlines (Kostama & Toivonen, 2012): firstly, whereas demand has been stable for last decade, terrorism threat and financial crisis slowed down the industry growth (11.9% industry growth in 2010 and 7.8% in 2011 (Datamonitor, 2011)). The expected recovery is slow, with growth projected to reach only 7.4% in 2015 (Datamonitor, 2011). Second, deregulation of European airline industry in 1990s allowed *low-cost carriers* (LLCs) to enter the market with new, revolutionary business model, thus driving the customers away from regular full-service airlines. Deregulation as well enabled introduction of new services and more competition within the industry, as well as gave customers more power over their flight experience. In 2009, LLCs accounted for 32% of total seats in Europe. In addition to appearance of LLCs, airline industry experienced major makeovers during the last few years, such as elimination of paper tickets, introduction of self-service check-in kiosks etc. (IATA, 2011). Another challenge the airline industry is facing is a competition coming from other modes of transportation (Tiernan et al., 2008/1), such as high-speed trains. Thus, some routes, e.g. Paris-Brussels, have become unfeasible to carriers.

Nevertheless, current economic crises highlighted the industry's strength as it survived the crises without major support by governments (Airline Trends and Ancillary Revenue Report, 2010). It is due to the airlines' ability to react to low demand environment fast as well as willingness to challenge old business models and implement new ones. However, the industry as a whole failed to manage fuel costs and customer expectations effectively. Due to challenges in oil industry, fuel price fluctuations and growth will be continuous source of problems and further reduce already thin margins. Thus, whereas fuel prices are out of control for the carriers, services and customer management are something airlines can improve and develop.

2.1.1. Airline classification

Airlines can be divided into two groups based on their core activity: passenger airlines and freight airlines (Airline Business Models, 2008). Freight airlines are out of the scope of this

thesis, and classification of passenger airlines can be found from Table 1 and is further discussed below (classification is based on Analyses of European Air Transport Market: Airline business models, 2008; and an article by Tiernan et al., 2008/1).

Table 1 Passenger airlines classification

Carrier type	Example	Service level	Characteristics	Benefits	Downsides
Full Service Network Carrier / Legacy carrier	Finnair, Lufthansa	Full range: pre-flight, onboard, different service classes, connecting flights	Different aircraft types, wide network range, hub-and-spoke network, wide range of O&D, number of service classes, yield management	Economies of density/scale/scope, competitiveness, reduction of hub premiums	Complexity of connecting flights, high capacity utilization, flight delays
Low Cost Carrier	Ryanair, easyJet	Low service level due to price leadership strategy	Medium sized aircraft, severe cost-cutting strategies, smaller airports, point-to-point connections instead of hub-and-spoke network	Lower operational costs, lower ticket prices	Low service level, no connecting flights
Holiday Carrier (Charter Airline)	Thomas Cook Airlines	Full onboard services, limited network	Direct point-to-point flights, full tourist class onboard services	Demand concentration	Dependency on holiday seasons
Regional Carrier	Cimber Sterling	Full onboard services, limited network	Geographically limited network, independent or feeder, decentralized flights between smaller airports	Access to smaller airports, allows FNCs to complement their network	Limited coverage
Hybrid Carrier	Air Baltic	Depends on the carrier	Depends on the carrier (combines characteristics of two or more other types)	Adaptation to dynamic industry, revenue streams from more than one source	Same as in initial business models

According to Jones & Sasser (1995), there are two differentiation strategies: price differentiation and services differentiation. Full network carriers (FNCs) are airlines that execute full service differentiation strategy, emphasizing hub and spoke networks, primary airports, and frequent flyer programs. Full network carriers often belong to a strategic alliance such as Star Alliance (Tiernan et al., 2008/1) to expand their network and increase a number of customers. Full

network carriers represent a traditional model of airline business, they also have broadest scope of operations, targeting both leisure and business customers as well as serving long and short haul routes. Low cost carriers (LLCs) are competing based on price and use secondary, smaller airports, providing minimum services and maximizing seating capacity of the aircraft, among other methods. Nevertheless, on short haul routes FNCs successfully compete with LLCs based on cost as well (Tiernan et al., 2008/1).

Thus, low cost airlines differentiate by offering very low prices with minimal services (which often require extra payment), and full network carriers differentiate based on their wide range of services. Within full network carriers, further differentiation can be based on travel classes a carrier is offering (each travel class differs on services and flexibility it offers). Airlines such as Finnair and Lufthansa offer business and economy classes only (on some flights only economy). Other carriers such as Emirates and Qatar offer first, business and economy classes with a number of additional services such as on-board spa, shower facilities, bar etc. on long-haul flights, and they can be called 'luxury carriers'. Such airlines are still classified as FNCs, but from the service offering perspective, they should be discussed differently. Luxury airlines are rarely members of any strategic alliance, though tactical alliances are more common. To limit the research, only on 'mid-range' type of airlines will be discussed in this thesis, 'mid-range' being the airlines that offer more services compared to low cost airlines, but services are not as varied as on 'luxury' airlines. However, it is worth mentioning that most of the airlines offer different services based on the length of the flight: e.g. flights within European Union usually have limited services, as the flight length is not more than 4 hours. However, on the long-haul flights carriers use bigger aircraft with more services, better seats, food service and entertainment systems.

A focused strategy business model in airline industry ceased to exist during the current financial crisis (Examiner.com, 2009) due to increasing competition and high operating cost. Airlines applying such business model were called boutique carriers (Fiorino, 2006). Boutique carriers were concentrating on few (one to three) long haul routes and offered all-business seating configuration and upscale service offerings (Tiernan et al., 2008/1), providing business travelers with more service oriented alternative to FNCs.

The volatile industry makes it challenging for the carriers to find a balance between providing high class services for customers while keeping the costs low. Different business models have been tried out, with LLCs trying to phase out most services completely, leaving only the basic ones. Nevertheless, the services remain as a cornerstone of air transportation, and profitability of an airline depends on what kind of services it has to and how well they are deliver them to keep its customers satisfied.

2.1.2. Strategic alliances

The expansion of the services and customer benefits in air transportation happened with the development of airline alliances. Nowadays several global airline alliances currently exist. First airline alliance emerged in late 1980s, and more alliances came to existence after that. Their size and number has been growing since then (Fan et al., 2001; Shaw, 2007). Researchers define two types of alliances: tactical (low-risk, no major resource commitments, marketing benefits only) and strategic (Bennett, 1997). Strategic alliances tend to have longer time span, wider scope, higher level of commitment (Weber, 2005) as well as joint marketing efforts and network-wide cooperation (Fan et al., 2001). Antitrust immunity is a key in strategic alliance. Moreover, code-sharing, joint marketing and fares, frequent flyer benefits, baggage handling, shared use of hangars and various services are parts of strategic alliance (Weber, 2005). Three largest and most known strategic alliances nowadays are Star Alliance (25 member airlines), SkyTeam (15 members) and Oneworld (11 members). However, not all airlines pursue membership in strategic alliances, some prefer to operate on their own, sometimes benefiting through tactical alliances with selected partners.

When pursuing membership in airline alliance, carriers aim on expanding their network beyond their current markets (Iatrou & Alamdari, 2005). Due to regulations restricting market access, ownership and control, alliances are a legal way to airlines to grow. Another reason behind alliance membership is improving revenues, cutting costs down as well as improving customer benefits (Iatrou & Alamdari, 2005). Alliance membership increases passenger traffic (primarily on hub-to-hub routes and less on hub to no hub); increase is caused by joint frequent flyer programs, among other factors. Subsequently, load factor increases as well. However, negative

performance of one airline may have negative impact on the perception of other airlines within an alliance by customers (Weber & Sparks, 2004). Also, as Tiernan et al. (2008/2) discovered, currently all the alliances' service performance is approximately on the same level.

From the customers' perspective, airline alliances offer such benefits as increased frequency of services as well as expanded route network (Weber, 2005). However, the levels of benefits awareness may vary. Mostly, customers are aware of greater network access as well as ability to collect frequent flyer points. However, customers seem to be more concerned with the factors related to passenger convenience (the actual performance of the airline during the flying experience) as well as basic factors such as security and quality of the aircraft; whereas access to such benefits as frequent flyer program is less significant (Weber, 2005). Hence, when customers choose to fly an airline that is a member of the alliance, service quality is a major attraction, whereas network and frequent flyer miles are less significant factors in the decision-making (Tiernan et al., 2008/2).

Frequent flyer programs have developed with the expansion of the alliances. The objective of a frequent flyer program is to maintain customer loyalty as well as provide a more solid revenue stream (Matrin et al., 2011). Frequent flyer program rewards frequently travelling passengers with additional benefits such as upgrades in travel class (from economy to business), priority check-in, ability to collect miles and pay with them for new tickets etc. (Martin et al., 2011). Texas International Airlines introduced the first frequent flyer program in 1979 (Wikipedia.org, 2012). However, Jones & Sasser (1995) claim that loyalty that is based on frequent flyer program is false loyalty, and when customers use their miles, they can easily switch to another carrier in case loyalty is not supported by high levels of customer satisfaction. Until the miles are used, transition costs may be rather high for a customer. Overall, it can be said that the research of benefits related to airline alliances has been limited so far, and better understanding of customers' perceptions and satisfaction should be studied.

2.2. Customer Segmentation

Customer segmentation has become particularly important after industry deregulation (Teichert et al., 2008). With a competition coming from low cost carriers, it is important for the airlines to know their customer preferences and thus better target their marketing campaigns. Also, Jones and Sasser (1995) state that serving wrong customers may be very expensive, especially in a long run as they do not bring any profit to the company. Excellent example of clear understanding of customer segmentation and its connection to profitability is SAS (Carlzon, 1989): when the company underwent a complete transformation, it discontinued any targeted marketing to leisure travelers, concentrating all its efforts on business customers only. The company turned profitable within two years after the transformation efforts begun.

The simplest way to segment the customers is by trip purpose or gender. Differences between business and leisure customers have been widely discussed and the segmentation has advanced beyond simple business vs. leisure differentiation (Shaw, 2007). Most airlines serve more or less equally (depending on route and season) both types of customers. However, some airlines such as SAS concentrate their efforts purely on business customers, and some operate only on leisure routes (e.g. Thomas Cook Airlines). This implies that an improved understanding of their needs is required in a continuous strive to improve service quality as e.g. Weber (2005) argues that differences in service expectations between travelers with different national background or travel frequency can be significant. As well, Gilbert & Wong (2003), in their research, have noted nationality/ethnicity related differentiation, as they found differences in service expectations between North American, West European, Chinese and Japanese ethnic groups. This type of differentiation is not discussed in this study.

2.2.1. Business vs. leisure customers

Airlines most commonly divide their customers into business and leisure travelers (Shaw, 2007; Teichert et al., 2008). Thus, carriers are able to align their product strategy and provide

flexibility that is needed by business travelers, as well as cheap economy tickets for other passengers, e.g. leisure travelers (Teichert et al., 2008).

The decision-making for business and leisure customers is also much more complicated as it may seem at first. According to Shaw (2007), business travelers are usually not the ones to make purchasing decision as the activity in the companies is often performed by a secretary or is outsourced to a travel agency. Shaw (2007) argues that even in the case when actual customer is not choosing the ticket, there are certain needs that have to be met to influence the decision. For example, people prefer easier solutions, and if one option requires calling an airline and another is online booking, the decision maker will most likely go the easier way: book a ticket online. Another motivator behind decision-making is greed. Hence, many airlines have executive secretary clubs, to offer discounts and corporate entertainment in return for loyalty. Furthermore, to create incentives to everyone in the business travel market, airlines use frequent flyer programs for individual travelers as well as corporate discounts for companies. As for leisure customers, the decision maker is a traveler him-/herself (or a group of travelers, such as family which this makes decision-making a complex process (Shaw, 2007). Another difference is that in the business segment, people tend to travel a lot – one person making tens of trips per year. In leisure segment, trips can be rare, some travelers making only one trip in their lifetime. In addition, in leisure segment wholesale market is still widely present (in a form of tour operators), and many airlines (especially those that provide purely leisure flights to holiday destinations) have to consider tour operators as very important group of customers.

Teichert et al. (2008) argue that as clear market segmentation to business and leisure customers is becoming obsolete, there is a need to discover new customer segments and target the customers that the airline is willing to serve. The authors suggest that more business customer segments can be identified based on product and demographic data:

- *Efficiency / Punctuality* – mostly male, such customers fly very often (few times per week) and are travelling for business reasons. Decision making on ticket purchase is outsourced.
- *Comfort* – elderly business customers in high-rank positions. Fly several times per month. Decision making is outsourced.

- *Price* – lower management, no leadership responsibilities. While highly educated (as previous two segments), they fly few times a year, and decision making is done by travel agents in order to minimize costs.
- *Price / Performance* – entrepreneurs are largely represented in this segment, as they are concerned with price, but performance is more important than in *Price* –segment. This segment also includes most women compared to other segments and business trainees. It is youngest segment among all of them.
- *Catch all / Flexibility* – this segment includes managers in important positions, flying few times per month and outsourcing their decision. This segment is the most complex due to its highly differentiated preferences.

Such detailed segmentation provides an opportunity to airlines to better understand their customers and identify their value and preferences. Marketing efforts then can become more efficient as targeted to adequately chosen group as well as distinct product packages can be created for different groups (Teichert et al., 2008).

In addition to business and leisure segments, commuting customers have appeared with increasing globalization and growth of air transportation, which are likely to travel on the same destination due to personal reasons, work, etc. Not much has been discussed about such customers in the literature yet.

Business segment, though considered not very price sensitive, has also benefited from low prices of LLCs, as shown in the survey by Mason (2002) 40% of business travelers are price-elastic. Furthermore, more passengers in general tend to choose economy tickets (Mason, 2005) and such price sensitivity destroys carriers' already low margins. Teichert et al. (2008) say that with such market changes, full network carriers has started to compete on costs, thus sabotaging quality. This has inevitably led to dissatisfaction of business segment that is not satisfied with the quality, and leisure segment receives higher quality levels but is not yet satisfied with the price.

Chang & Yeh (2002) argue that the service quality defines the choice of an airline for both business and leisure customers. An airline should differentiate its service offering based on which both business and leisure customers value, and the services must be delivered smoothly

and consistently on high levels. According to the authors this would lead to high customer satisfaction.

2.2.2. Male vs. female customers

An interesting aspect concerning differences in male and female service values was brought up by Westwood et al. (2000). According to the article, travel is widely associated with masculine values such as adventure and pleasure, and numerous researchers do not recognize gender-specific concerns and incorporate gender-neutral values into travel. Many women feel discriminated and perceive airlines as masculine organizations. Thus, there is a need to understand and satisfy the needs of female travelers. And, as roles of women in business and hence business travel grow constantly, it is dangerous customer segment to overlook nowadays. Furthermore, customer retention is important, as keeping an old customer is less expensive than acquiring a new one, and female travelers who are not satisfied with the services, may switch to another carrier. However, as authors claim, the airlines keep seeing air travel as a gender-neutral experience and despite the research on the subject of female travelers, refuse to cater to women's needs.

Another issue, which rose up in the surveys conducted by Westwood et al. (2000), is the attitude of flight attendants that tend to pay more attention to men and assume that women are not travelling on business. Furthermore, the research criticizes design of lounges and aircraft, and this leads to higher level of dissatisfaction in air travel and mostly would push female customers to try other carriers. As the article shows, females value such things as comfort, safety, and staff attitude more than male travelers. Another important point brought up in the article, is that the end of flight experience should not end at the aircraft door. Female travelers are keen on receiving more help upon arrival from a carrier, as they may feel less secure at the destination country. Male/female and business/leisure/commuting customer segmentation is used for the purposes of this study.

2.3. Service Development and Innovation in Airline Industry

Today, the competitive advantage that services bring to a company cannot be underestimated (Kandampully, 2002). Service innovation is capable to open new markets, especially when technology is developing fast and constantly providing new opportunities to develop new service. Service innovation also happens through networks and knowledge development (Kandampully, 2002). As discussed previously, one of the examples of such innovation is airline industry alliances. With joint efforts, alliance can offer its customers greatly extended network of flights and wider range of services and benefits, compared to what a single airline is able to offer (for example, Star Alliance has 26 member airlines and reaches 1290 airports in 189 countries). Airline offering contains both service and product components (Kostama & Toivonen, 2012). Here, airline seats are product component and an airline chooses seat modification and level of comfort when purchasing aircraft. Once the cabin design is chosen, it cannot be changed easily, so the decision making here affects the total offering quite heavily. Kostama & Toivonen also give an example of how an airline approached the seat selection by installing a test area at the airport and chose 38 customers to test it and give their comments.

Some service innovations have become more of commodity nowadays, e.g. electronic ticketing and self-service check-in. In 2004, IATA launched a project to implement such innovations as electronic ticketing, common-use self-service kiosks (CUSS), bar-coded boarding passes and RFID-enabled baggage handling (IATA.org, 2004). Now, those innovations have transformed the industry, making processes faster, cheaper and more efficient.

Furthermore, customers themselves play a central part in service innovation. According to Kostama & Toivonen (2012) there are three ways to involve users in service design: listening to users, understanding users and having a dialogue between a service provider and a user. An excellent example of user-based innovation is Quality Hunters project by Finnair (Finnavia, 2011/1). The airline selected a number of participants, who were travelling the world on Finnair (and Oneworld alliance's flights) to discover what constitutes quality and how to improve customer satisfaction. Based on their research, Finnavia introduced picture gallery and book swap at Helsinki-Vantaa airport in Finland (Finnavia, 2001/2). In addition, social media is

widely used in service innovation. Such example is KLM Meet & Seat (KLM.com, 2012/2). The idea of the service is to allow the passengers on long-haul flights to check the other passengers' social media profiles (such as Facebook and LinkedIn) and choose their seat next to people they seem to like based on this data. KLM offers an option to manage what kind of information a passenger wants others to see as well as removes all data 48 hours after the flight. Very recently, AirBaltic introduced similar program, called SeatBuddy (Simpliflying.com, 2012). Instead of sharing social media profiles of passengers, SeatBuddy offers to choose whether you would like to take a rest during the flight, have a business talk or concentrate on working. Moreover, the program takes a step further, asking whether a neighbor should speak the same language, work in the same industry or share the same hobby. Furthermore, a passenger can save a profile of his or her preferences and use it on another frequent flyer programs, given that they have implemented similar system. Such programs may also bring airlines extra revenue if made paid program, but in any case they will make airline travelling a completely new social experience.

Another example of social media in services was introduced by Lufthansa, when the company decided to use social media in its brand new service called FlightGreetings (Flight-Greetings.com, 2012), enabling passengers to share destination their trip destination and get advice from their friends in e.g. Facebook about the interesting places to visit or good restaurants at one's destination directly onboard.

However, not all service innovations succeed. An example of failed service innovation was Finnair's Spa& Saunas service at Helsinki-Vantaa airport, Finland. Spa opened in the end of 2009, being a unique service offering worldwide. However, due to its unprofitability and lack of customer interest, it was closed in March 2012 (TicketCorporateTravel.fi, 2012).

These new services represent new generation of service innovation and their impact on customer satisfaction and service quality is yet to be discovered. In this research, such services are not taken into account due to very limited media as well as scientific community coverage. According to Teichert et al. (2008), service innovation is a key for airlines to succeed in their market. Price-quality preferences of all customers should be known and services tailored to deliver superior service and achieve loyalty.

3. SERVICES AND SERVICE QUALITY

Plenty of research exists on services and service quality. This chapter aims to provide an overview of the literature in this field. Firstly, services and various service characteristics are discussed. Next, several service quality models are discussed and summarized, showing different perspectives on the subject. After this a concept of perceived service quality is reviewed. Discussion on customer satisfaction and expectations adds to understanding of importance of customer satisfaction and explains service elements. Next, service quality in airline industry is discussed, connecting the theoretical models to the case industry, and details relevant to airline business are added. Finally, service process model is introduced, and service quality attributes and dimensions are discussed. The literature review serves as a basis for the model, which takes customer perspective on the air transportation.

3.1. Defining Services

Service is an activity that is intangible (as opposed to physical products) and cannot be stored. An example of service is a visit to a bank, where a customer receives an information he or she needs. For example, American Marketing Association defines service as intangible products or as activities that accompany the sale of a product. Quinn, Baruch and Paquette (1987) provide a definition that is more detailed (quote): services are *economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provides added value in forms (such as convenience, amusement, timeliness, comfort or health) that are essentially intangible concerns of its first purchaser*. However, nowadays the borderline between products and services has become vague and most of the offerings of any company include some components of both. E.g. Cusumano et al. (2006) claim that services offered by a manufacturing company, are usually complimentary to its products, assisting in promoting adoption of a product or enhancing a product. Moreover, many companies have adopted such concept as *solution* – a complete package that includes products, services, best practices etc. and is aimed to solve a

customer's problem. Such concept originates from sales and marketing operations (Temple, 2009).

Parasuraman et al. (1985) suggest that service has the following characteristics that also influence the understanding and measurement of service quality:

- *Intangibility* – as service is an intangible performance, it is hard to measure it the same way as a product quality.
- *Heterogeneity* – services vary from time to time, from customer to customer and from producer to producer. Thus, consistency of service delivery is hard to achieve;
- *Inseparability* – production and consumption of a service cannot be separated. Thus, the quality occurs while a service is delivered, which reduces managerial control over it and makes a consumer's input crucial to ensure service quality.

In addition to Parasuraman et al. (1985) characteristics, Teboul (1991) argues that:

- A service cannot be stored (no inventory of services can be accumulated) and it has to be consumed immediately, i.e. is perishable. This applies to e.g. an airline seat, which perishes as soon as a plane takes off.
- A customer is present at the service production site as well as can participate in service delivery. Thus, the outcome of a service depends on customer among other factors.

Babbar & Koufteros (2008) agree with Parasuraman et al. (1985) and Teboul (1991) that services are intangible and require extensive customer contact. Moreover, they add that customer contact is an important determinant of service quality and it should be a key consideration in design and delivery of services. In addition to service characteristics, Lehtinen & Lehtinen (1982) reveal three dimensions of service: physical, corporate and interactive quality. *Physical quality* involves the buildings and equipment that are used in service delivery. *Corporate quality* is an image of a company that delivers a service. *Interactive quality* is an interaction between contact personnel and customers, as well as between a customer and other customers. The authors also differentiate between a quality that occurs during the process of service delivery and a quality of the service outcome. However, some researchers (e.g. Gliatis & Minis, 2007) say that some characteristics of service have been under debate due to their degree of applicability to manufacturing as well as

the impact that technology progress has had on them (development of Internet and self-service technologies).

Albeit for the purposes of this thesis, the definition of services by Gronroos (2001) suits best (quote): *a service is a process that leads to an outcome during partly simultaneous production and consumption processes*. This definition depicts well the service characteristics of the case industry because it emphasizes the services as a process, i.e. series of activities that happen after each other.

In addition, the partly simultaneous production and consumption of a service is evident in the airline industry. An example of this in the airline industry is that an aircraft is prepared well before the client takes his/her flight and the client is using in-flight services the production and consumption of the service happens simultaneously. It is noteworthy that depending on the point of contact, the customer can start to use the service provided by the airline company well before the actual flight takes place. This process view of airline services will be further discussed in the following chapters.

Based on this discussion, the conclusion is that services have various characteristics and dimensions. These aspects make it difficult to understand and define service quality as opposed to product quality. For example, in the case of services the customer experience is affected by how the customer is engaged and how the customer is treated e.g. after a flight. For example, based on the definition of Lehtinen & Lehtinen (1982) a physical part of the airline service could be e.g. the lunch that the client enjoys onboard. However, Gummesson (1991) claims that service characteristics do not make service quality hard to define, but rather make it different from product quality. In addition, Gummesson (1991) adds that controllability causes such perception: a control that a manufacturer has over product quality is different from the control, which a provider has over a service.

3.2. Discussing and Measuring Service Quality

Quality is a driving force for improved competitiveness, customer satisfaction and profitability (Edvardsson, 1992). As for service quality, e.g. American Marketing Organization defines it in two ways: first, it is an area of study that defines and describes how services are delivered so that the service recipient is satisfied; second, high quality service is a delivery of service that meets and exceeds the expectations of the customers. Parasumaran et al. (1985) state that service quality is defined by the customer evaluation of service outcome and service process as well as a comparison of customer expectations with service performance. Hence, service quality can be thought as the fit between current service level and customer expectations. Park et al. (2004) define service quality as a consumer's overall impression of efficiency of an organization and its services. Thus, customer satisfaction is a judgment made based on a specific service encounter. Chen & Chang (2005) suggest that service quality is a process, and in case of airline industry, the authors divide the process into ground and in-flight services and state that passengers' expectations are different for each of the processes.

Measuring service quality has proven to be challenging for both the researchers and companies due to its characteristics (Tiernan et al., 2008; Parasumaran et al., 1985; Johnson et al., 1995). Different from product quality, a set of specifications or by physical aspects such as defects cannot be applied to service quality due to service intangibility and simultaneous production and consumption (Tiernan et al., 2008). In addition, service quality cannot be measured by evaluating outcomes of service process only (Johnson et al., 1995), but as well has to consider service production process – e.g. employee training and customer-employee interaction. Hence, measuring all aspects of service production is essential to understand the quality of a service. Researchers have developed a number of measurement instruments, and some of them will be discussed below.

Probably the most famous service quality model is SERVQUAL, developed by Parasumaran et al. in 1985. The researchers say that quality is a comparison between expectations and performance, i.e. how well the service that is delivered matches customers' expectations. Gronroos (1982), whose model will be discussed later, also made similar conclusions. The

SERVQUAL-model measures discrepancy between what customers expect from the service and how customer perceives it. Parasumaran et al. (1985) identifies five gaps:

- Gap 1: consumer expectation – management perception gap,
- Gap 2: management perception – service quality specifications gap,
- Gap 3: service quality specifications – service delivery gap,
- Gap 4: service delivery – external communications gap,
- Gap 5: expected service – perceived service gap.

Service quality, according to this model, depends on the size of Gap 5 (expected service – perceived service gap), which in its turn depends on previous four gaps, i.e.

$$\text{Gap5} = f(\text{Gap1}, \text{Gap2}, \text{Gap3}, \text{Gap4}).$$

To measure perceived service, Parasumaran et al. (1985) identifies ten key determinants of service quality, which impact both expected and perceived services, and through those, perceived service quality (Figure 1). Expected service is also influenced by word of mouth, personal needs as well as past experience.

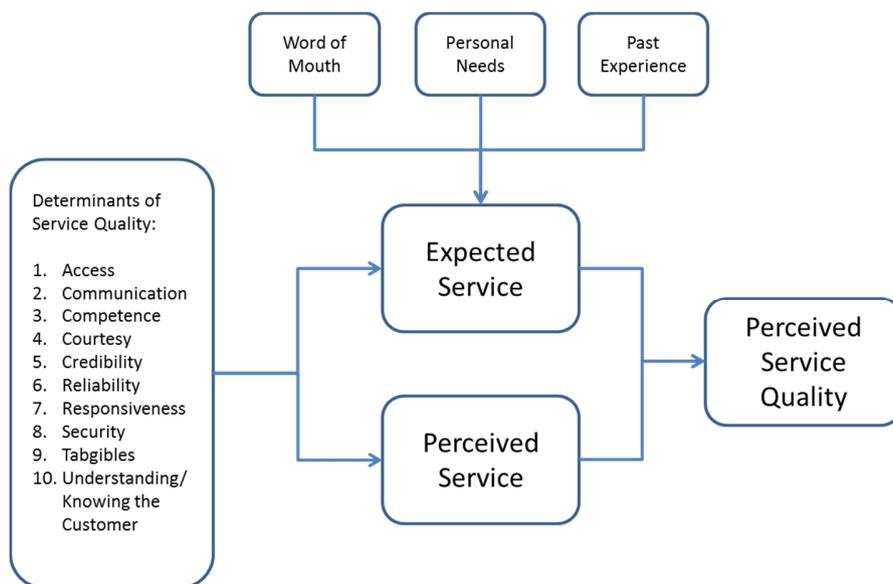


Figure 1 Determinants of perceived service quality (Parasumaran et al., 1985)

Next, Gronroos presented another famous service quality model in 1982. He defined two types of service quality: technical and functional. *Technical quality* is what a customer is receiving from a service. He adds that the customer is interested not only in the result of service process, but also in a process itself. Thus, *functional quality* is a manner in which the service is delivered, or how a customer receives technical quality. In addition, there is *image quality*, i.e. corporate image (for example, an image of a local office, how the customers perceive the service provider). Both technical and functional quality aspects contribute to image quality. In addition, such factors as word-of-mouth, ideology as well as marketing activities influence image quality. These types of service quality are identical to ones Lehtinen & Lehtinen (1982) suggested. Based on these, Gronroos (1982) presents the following model (Figure 2):

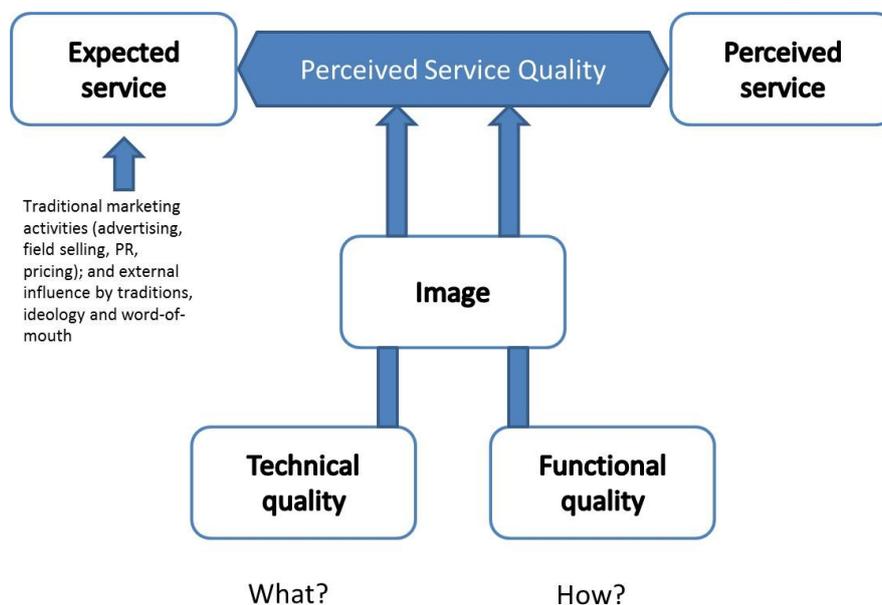


Figure 2 Perceived service quality model (Gronroos, 1982)

In the model, Gronroos (1982) defines perceived quality of a service as *the outcome of an evaluation process, where the consumer compares his/her expectations with the service he/she perceives he/she has received* (quote). Furthermore, in his later study Gronroos (1993) suggests that measuring customer experiences provides close approximation of service quality. In 2001, Gronroos criticizes his own concept of perceived service quality by insisting that he has never meant for service quality to be measured, and it should not be measured at all. Instead, he claims that in his model word *service* should be replaced with the word *feature*, i.e. there would be

technical and functional features of service, which would help to avoid a discussion about the relationship between service quality and customer satisfaction.

Another approach to measuring service quality is systems approach by Johnson et al. (1995). Here, a measure of overall service quality should include judgments of all dimensions of service: inputs, processes and outputs (Figure 3), all of which play important roles in a company's operations. Evaluating services with systems approach is different from evaluating products as because of service characteristics, then, in addition to outputs, a customer is exposed to and is affected by a company's inputs and processes.

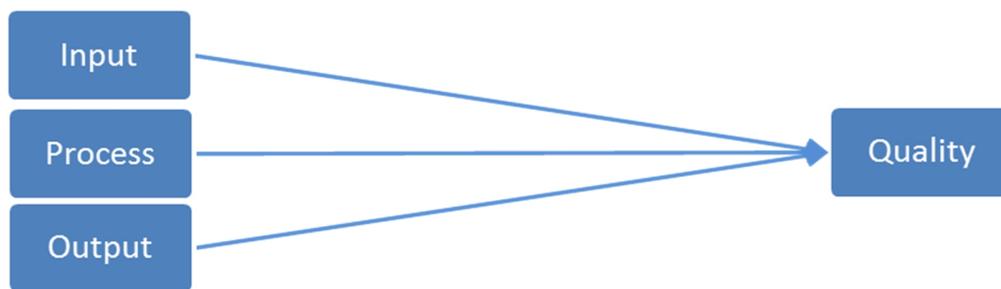


Figure 3 Systems approach to service quality (Johnson et al., 1995)

Johnson et al. (1995) suggest that service quality depends on quality of each three dimensions: quality of inputs, quality of processes and quality of outputs. Input quality refers to e.g. equipment that is up-to-date, waiting areas are clean and comfortable, service personnel has skills and knowledge and is appropriately attired. Next, process quality is a quality of interaction between provider and customer. Often, customers are directly affected by service production process; thus, accessibility, availability and service provider's willingness to help are parts of process quality. Output quality refers to the result of service provision and includes both tangible results and intangible benefits; it means changes in the customer's physical/mental state or a change in something that the customer possesses. By testing systems approach, Johnson et al. (1995) conclude that the consumers evaluate quality by considering various aspects of output, process and input, with output being most important and input almost insignificant. Process was important in e.g. transportation industry.

The three above-mentioned models have been revised for the purposes of this study. Moreover, such models as SERVPERF (a variation of SERVQUAL) and Service Attribute-Process Matrix by Gliatis and Minis (2007) were considered but are not included to this research. All the models present a different view to service quality; however, Gronroos's model and SERVQUAL possess some similarities. Both of them claim that expected quality depends on a variety of factors such as prior experiences, personal needs, word of mouth, and marketing campaigns. Moreover, both identify perceived service quality as a gap or a difference between expected service and perceived service. Systems approach views service quality differently, by claiming that inputs, outputs as well as service process affect the service quality. It adds an understanding of the importance of service components in the delivery of services. To some extent, service expectations can be managed by a company, which will be discussed in the next chapter. All three models is that they view service as multidimensional concept.

The perception of service quality greatly depends on the expectations the user has of the services. Despite that several models on service quality exist, subjectivity is the bottom dimension of service quality. Although the discussed models can offer structure to the concept of service quality by dividing it into components and identifying the gaps between how the service is perceived by the supplier and the customer, as such the models do not offer clear guidance in how service quality can be measured. However, as Chang & Yeh (2002) suggest, one way to measure service quality is to define a number of distinctive attributes to measure expected and perceived service separately and thus identify the gap between them (expected service – perceived service gap, according to Parasumaran et al., 1985). This approach will be used in this study.

3.3. Managing Customer Satisfaction and Expectations

The key aspect of customer satisfaction is to know customer expectations. Thus, Parasumaran et al. (1991) claim that all the customers expect is the basic service that service provider is promising to deliver, i.e. fundamental service. For example, hotel visitors expect a clean and secure room and polite staff. Airline customers want to travel to their destination safely and

without delays. Price often raises customer expectations, and if the customers pay more than average price, they want more and better services, so as the authors discuss, the price should match the level of service that is delivered.

Furthermore, Parasumaran et al. (1991) categorize customer service expectations into five service dimensions: *reliability*, *tangibles*, *responsiveness*, *assurance* and *empathy*. Reliability is concerned with an outcome of a service, whereas the rest of dimensions are concerned with service process. The authors note that while reliability is a key in meeting customer expectations (i.e. deliver the result as promised, such as clean hotel room or timely flight to destination), process dimensions are a key in exceeding customer expectations. Here, it can be argued that whereas such carriers like Finnair and Ryanair provide the same service (air transportation) and the same service outcome is expected (a customer reaches final destination), the process of delivering a service is completely different. Finnair balances higher price with more and better services (as a full-network carrier, as discussed in chapter 2.2.1), whereas Ryanair charges significantly less but provides only the minimum number of services, balancing the expectations with the price (low cost carrier). Service quality in those airlines will be perceived differently as well as the customer expectations and perceptions will differ. Such dual nature of service quality can influence its understanding and management.

Service experience is perception of reality, with prior experiences being essential (Chang & Yeh, 2002, also Gronroos, 1982 and Parasumaran et al., 1985). Thus, customer attitude towards the services depends on the following (Chang & Yeh, 2002):

- Their beliefs about the features (or attributes) that they associate with the service (previous experiences, beliefs),
- Weight of attributes (relative importance of each attribute).

In addition, Jones & Sasser (1995) identify the following service quality elements:

- basic elements of a product or a service (core element, what customers expect to be delivered from all service providers),
- basic support services (e.g. customer assistance or tracking of an order),

- a recovery process from bad experiences (such as compensations after cancelled or overbooked flight, lost baggage),
- extraordinary services (services that excel in meeting customer preferences or solving the problems so that the service seems customized).

This classification could help understanding a service in question to see its core elements, and finding out where customer satisfaction may be created. For example, customers expect that basic elements and basic support processes work on continuously good basis, and excelling in them will not increase customer satisfaction, but will keep it as it is. Extraordinary services would put customer satisfaction on completely new level, adding value in meeting customer needs and expectations. Recovery processes could be most important as even if all other services have been provided on superior level, bad experience can destroy customer satisfaction if not handled properly.

Another way to handle customer satisfaction and service quality is to find out where customer satisfaction lays. Silvestro & Johnston (1990) identified the following *service quality factors*:

- *hygiene factors*, or dissatisfiers (what is expected by customer, but will not be a source of satisfaction, e.g. clean service facilities)
- *enhancing factors*, or satisfiers – (factors that leads to customer satisfaction but failure to deliver does not cause dissatisfaction)
- *dual threshold factors* (if such factors are failed to deliver, will cause customer dissatisfaction. However, if delivered above the specific level will cause satisfaction)

Cadotte and Turgeon (1988) also added *neutral factors*, factors that are least sensitive to changes in performance, i.e. have no impact on service quality perception. Also, Gummesson (1991) adds the factor that he considers to be missing from all service quality research: *love factor*. It constitutes the willingness to serve the customer, genuine empathy, caring personality. According to Gummesson (1991), emotional ties can appear e.g. between a nurse and a patient, a teacher and a student, thus adding to quality of interaction.

Jones & Sasser (1995) argue that only full customer satisfaction secures customer loyalty as well as ensures long-term profitability. Especially it is important on markets with intense competition.

However, there is a difference between true long-term loyalty and false loyalty. The authors argue that false loyalty is empowered by such factors as governmental regulations on competition, high switching costs, proprietary technology or strong loyalty promotion programs such as frequent flyer programs. They say that the customers remain loyal only when they are completely satisfied. Therefore, when the customer uses up his frequent flyer miles, he or she may not remain loyal and switch to another carrier, in case loyalty is false. However, if the carrier keeps the customer happy not by only frequent flyer miles program, but by providing superior services consistently, the loyalty is true, and customer will stay with the carrier. The authors conclude that it is crucial for a company to excel in defining its target customers, and deliver exactly the product that corresponds to their needs. Heskett et al. (1994) argued the same. According to them, profit and growth are simulated by customer loyalty and loyalty in its turn is driven by customer satisfaction, and customer satisfaction depends on the value customers receive from the service.

Understanding importance and sources of customer satisfaction is important for any company in any industry to grow and remain profitable, but in airline industry customers are carriers' only assets (Carlzon, 1987). Hence understanding and managing satisfaction through service quality is essential, and requires greater attention from carriers nowadays, in struggling and challenging environment. In the next chapter, service quality applied to airline industry will be discussed and a process model as well as measurement criteria introduced.

3.4. Service Quality in Airline Industry

Delivering superior service quality by understanding customer expectations is a key for success and survival in very hectic and competitive environment of airline industry (Gilbert & Wong, 2003; Chen & Chang, 2005). High level of service quality is vital to acquire and retain loyal customers (Chang & Yeh, 2002). Nevertheless, service quality in airline industry is widely discussed and bad performance is often criticized publicly. The rate of mishandled baggage reached 6.5 per 1000 passengers in 2006 and on-time arrival rates dropped significantly (Tiernan et al., 2008/1) in US. In EU, several measures have been taken to improve service quality and

industry deregulation gave EU passengers more rights in case of delayed or cancelled flights to compensate for failure of an airline to deliver good service. Since then, the number of complaints has increased as the customers have felt more power over their own flight experience (Tieman et al., 2008/1).

Deregulation of the industry in Europe in 1990s and in US in the end of 1970s has changed the view on service quality. Prior to it, service quality was seen as such managerial variable as flight frequency, load factors, and aircraft type (Tieman et al., 2008/1). Nevertheless, in today's liberalized industry, a focus of service quality has shifted towards customer satisfaction and loyalty, which leads to improved competitive advantage. As service quality is more visible, passengers may use it as a basis for judging the overall quality of an airline (Rhoades & Waguespack, 1999).

According to Carlzon (1987), the only true assets of the airlines are their customers. Jon Carlzon, former CEO of SAS, who led the company from near bankruptcy to profitable and successful customer-oriented carrier within just two years, speaks about the importance of customer orientation as a prerequisite for business development and profitability. Being successful in what Carlzon calls 'moment of truth' (i.e. a first contact of a customer with an airline, remote or personal, which forms customer impression of the airline) that defines customer experience as well as creates customer loyalty. Furthermore, he states that the quality of services depend on this first encounter greatly, and highlights the power of front line employees in creating and shaping customer experience and perception. Babbar & Koufteros (2008) agree with Carlzon, stating that the most visible service to the customers is the service that contact employees provide. As Zomerdijk & Vries (2007) definite it, customer contact is a direct encounter between a customer and a service provider that takes place at the same time, but not necessarily in the same place, and has an opportunity for interaction.

The researchers define a number of key service quality attributes in airline industry that affect customer's perception of a service delivered and thus create the image of a carrier. The attributes are summarized in Table 2 below.

Table 2 Service quality aspects in airline industry (multiple sources)

Service quality aspects	Researcher(s)
Price, safety, timelines, baggage transportation, food quality, seat comfort, check-in process and on-board services	Gourdin (1998); Elliot and Roach (1993)
Seat comfort, safety, courtesy of staff	Tsaur, Chang & Yen (2002)
Airlines reliability (safety)	Fick & Ritchie (1991)
Aircraft type	Truitt & Haynes (1994)
First customer contact / interaction with contact employees	Carlzon (1987); Bitner, Booms & Tetreault (1990)
Airline brand, price, sleep comfort	Boetsch et al. (2011)
Frequency and timings, punctuality, airport location and access, seat accessibility/ticket flexibility, frequent flyer benefits, airport services, in-flight services	Shaw (2007)
Employee's service, safety & reliability, on board service, schedule, on time performance, frequent flyer program	Liou & Tzeng (2007)
Flight schedule, total fare, flexibility, frequent flyer program, punctuality, catering, ground services	Teichert et al. (2008)
Level of concern and civility, listening and understanding, individual attention, cheerfulness, friendliness, courtesy	Babbar & Koufteros (2008)
Willingness to correct errors, task proficiency, courtesy, friendliness, tolerance	Mersha & Adlakha (1992)
On-time performance, overbooking, mishandled baggage, customer complaints	Tieman et al. (2008/2)

The importance of such attributes as safety, frequency, reliability, responsiveness, employee's appearance and attitude, facilities as well as customization will be tested in the empirical part of

this thesis. Based on the above table, service quality attributes can be roughly divided into performance-related attributes (such as punctuality and safety), service-related attributes (on board service, courtesy of staff, baggage transportation) and basic product attributes (seat comfort, flight schedule etc.). In this study, service- and performance-related attributes will be addressed. Service quality is a cornerstone to efficiency and through efficiency to profitability (Carlzon, 1987). According to Parasumaran et al. (1991), continuously providing consistent, reliable and fair services is a key to achieve customer loyalty.

3.4.1. Service process in airline industry

As Gliatis & Minis (2007) say, a service is a sequence of processes; and each of those processes generates a different value for a service in question. The value of each service process depends on service attributes (characteristics) as well as the way the process accounts for these attributes. Similarly, Chen & Chang (2005) define airline service experience as a chain of services, each service is made of a series of processes. Here, a service process is divided into ground and in-flight services (sub-processes), and whereas Chen and Chang (2005) suggest that both have to be evaluated separately (which they do in their article), a customer is not very likely to differentiate between them. Thus, in this study, a service process is a descriptive service process from a customer's perspective, a process that converts inputs to outputs through service steps that each customer takes when using air transportation. Service process consists of sub-processes, each of sub-processes contributing towards a service in question.

Furthermore, from the models introduced in Chapter 3.2, the following can be concluded:

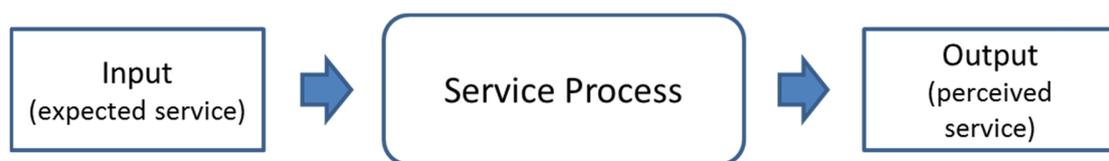


Figure 4 Service process model

Here, the customer enters to a service process with certain expectations, created by e.g. word of mouth, prior experiences, marketing campaigns etc. (as discussed by Gronroos, 1982 and Parasumaran et al., 1985). The expectations (or expected service) have an impact on the process itself as well as the output of the process, i.e. perceived service. As in Parasumaran's (1985) gap model, here, perceived service quality is a difference between expected and perceived services.

The service process steps are based on the airline passenger lifecycle suggested by Kelley (2012), which consists of five stages (Figure 5).



Figure 5 Airline passenger lifecycle (Kelley, 2012)

The idea of airline passenger lifecycle is to evaluate the opportunities for value creation. The author suggests that an airline has an opportunity to create value for the customer in between each stage in this lifecycle. However, the cycle seems rather generalized and misses such value creation aspects like interaction with airline staff (Carlzon, 1989). Kelley (2012) does not make a difference between services provided by an airline, and services provided by an airport/third party as e.g. Chen & Chang (2005) do it.

The service process consists of a process steps and attributes (taken from literature and put in a form of statements of questions) which define what is key service delivery of the step in question.

Similarly to Kelley's (2012) lifecycle model, the process model is evaluating what are the customer expectations of the service process, and where the value is created. Due to high variation between carriers, perceived quality is not being measured, leaving opportunities for further, more carrier-specific research. Next, each step of the service process is discussed in more details and two to five service quality attributes are assigned to evaluate the step in question. According to Johnson et al. (1995), such approach is helpful for identifying areas of improvement in a service.

The service process (Figure 6) was reconstructed based on the experience of booking process and Finnair flights AY0715 / AY0718 (Helsinki-Prague-Helsinki) in April 2012 as well as discussions with some of target group members and their experiences. Decision making concerning the trip is not taking into account, as even though it is part of the entire experience, it has nothing to do with actual services that the customer faces.

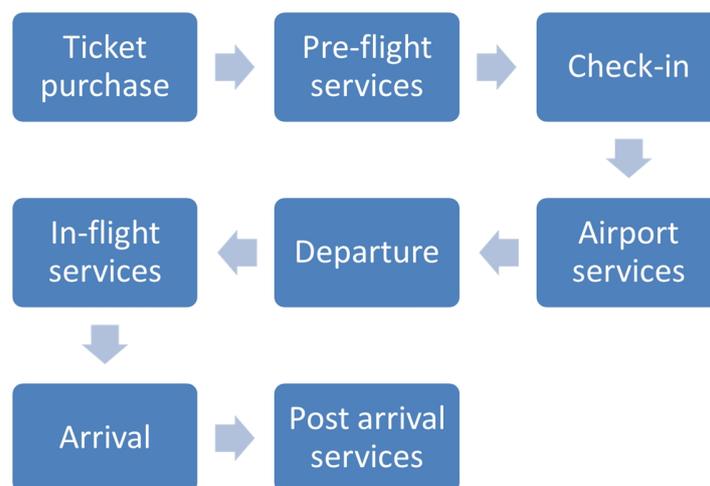


Figure 6 Service process

When it comes to airline transportation, it is important to remember that the services are provided not by only carrier itself, but also by a number of other service companies. The airline provides actual transportation as well as tickets sales (although not in all cases, as will be discussed further) and onboard services, an airport offers shopping services, check-in services (not in all cases) as well as baggage handling services. A subcontractor chosen by the airport often provides baggage handling, catering and technical services. In this environment, so heavily

relying on outsourcing the services, it is often hard for an airline to keep service quality in control. In some cases (e.g. in hubs of big airlines), an airline has more power in selection of suppliers as well as service quality improvements. For example, Lufthansa may be able to improve baggage-handling services at Frankfurt International Airport, its biggest hub. However, in another airport, such as, for example, Dallas Airport, it can do nothing about baggage services and has to use whatever services are provided by the airport. The same case is for Finnair – being Finland’s largest airline, it has a degree of control over Helsinki-Vantaa Airport (or other Finnish airports where Finnair flies). However, in most European airports where Finnair is one of the smallest airlines, operating one or two flights per day at maximum, it has to use the services managed by an airport, and initiating service quality improvement is not under its control. Thus, when it comes to service quality, such services may heavily harm an image of a carrier, as the customer is most likely to perceive its service experience as one whole process and be unaware of the actual service provider.

As Chang & Yeh (2002) suggested that one way to measure service quality is to define a number of distinctive attributes. Hence, here service process is divided into eight steps, each step representing a point where a customer may experience different types of services (which are grouped based on their location in the service process). Each step is assigned service quality attributes, which are borrowed directly from one of these articles: either Chen & Chang (2005), Chang & Yeh (2002), Park et al. (2004), Gilbert & Wong (2003) or modified based on similar attributes found in those articles. Service process can be found from Figure 6.

3.4.2. Service process attributes

Ticket Purchase

Nowadays tickets purchasing happens mostly online or through travel agencies. However, call centers still exist, and often it is possible to purchase the ticket or at least ask questions there. For the purposes of this research, it can be assumed that the ticket purchase happens without direct contact with the airline and the first contact with a carrier happens at the check-in.

Even a decade or two ago this was completely different. According to Carlzon (1987) the key aspect of service experience, called 'moment of truth' was the first encounter of the customer with the company's front line employees (or, more precisely, first 15 seconds of it) – in case of ticket purchase, it was a phone call to make a booking. With the introduction of online booking process became much easier: information is available 24/7 and the customer is able to freely choose between a variety of offers with different prices, timings, etc. Thus, now it becomes harder for an airline to compete with the others when it is so easy to compare various offers.

Ticket purchase consists of several steps: searching for information, ticket selection and purchase process. Currently a number of intermediaries exist to provide a single source of information for travelers, such as www.momondo.com, www.ebookers.fi, www.vertaa.fi/lentoliput/ etc. Some of such websites provide only information, with ticket purchasing happening on other websites/airline own home pages, and some provide direct purchasing. The following attributes are chosen for *ticket purchase* step:

- Easily available information on ticket prices, flight schedule etc.
- Ease, accuracy and speed of reservation and ticketing.

Pre-flight Services

Nowadays there are a number of services offered before the flight; however, they vary greatly by the airline. For example, email or text message reminder has become rather common to be sent a day before the flight or when the online check-in is open (usually 36 or 24 hours before the flight).

In addition, in many cases airlines offer their clients the opportunity to bring their luggage a day in advance, e.g. Finnair (Taloussanommat.fi, 2012). Though arguable service in its value and necessity, it may prove useful in some cases.

Furthermore, such services as parking facilities are important. It should be easy for a passenger to find parking lot and conveniently get to the airport from there. Ease of other transportation options is also valuable. A great example of convenient transportation services to/from the

airport is Vienna International Airport, where a passenger can get by two types of trains, buses to a number of locations in Vienna as well as extensive taxi services (ViennaAirport.com, 2012).

The key attributes for *pre-flight services* step are as follows:

- Availability of pre-flight services (early baggage check-in, email reminder etc.).
- Airport is conveniently located / parking facilities are easily accessible and close to the airport.

Check-in

Check-in services have witnessed major makeovers over the last decade – from what has started as over-the-counter face-to-face interaction, now is almost fully enabled by technology. Whilst in many places regular check-in is still available (smaller airports, leisure destinations), there are options to check-in online, via text message or via check-in machines at the airport. For example, Finnair has phased out traditional check-in completely on economy and leisure flights (HS.fi, February 2012), which may create complications for not-so-frequent flyers. However, such changes in infrastructure affect service quality perceptions as well as change expectations of service performance (Chang & Yang, 2008).

Other airlines have found another ways to simplify check-in for their customers. Austrian Airlines provides its own and Star Alliances' customers with an opportunity to check-in directly at city center. At Vienna City Terminal, passengers can check-in, drop their luggage and take a speed train to the airport, reaching it in only 16 minutes (Austrian.com, 2012).

The attributes for *check-in* step are as follows:

- Ease, accuracy and speed of check-in.
- Availability of more than one check-in option
- Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.

Airport Services

As Rendeiro & Cejas (2006) state, airport infrastructure affects customer perception of service quality. Airport services are services that occur after check-in and end at the boarding. Airport provides such services as security check, duty free shopping, meal services etc. There may or may not be airline lounge or only airport own lounges. Airport services may also include such services as tourist information, currency exchange kiosks, connections to nearby hotels, etc. Also, communication via such channels as email or Facebook to inform the customers about the delays or potential queues can be done by the airports.

Normally, passengers do not spend much time at the airport; however, in some cases such as on transit intercontinental flights, passengers may have to spend several hours at the airport. In such event, range of services needed by passengers is broader, and, in addition to such basic things as toilets, cafeterias and shops, travelers may need showers, places to take a nap, use their computer etc. Naturally, smaller local airports have much more limited services, compared to international airports with lots of traffic.

As it was discussed in Chapter 1.3, airports tend to get more creative in developing new services, examples being spa in Helsinki-Vantaa airport (discontinued due to low profitability), picture gallery at the same airport etc. The value added by such services is an interesting topic to discuss; however, it is out of scope of this research. Thus, the most important attributes for *airport services* step are:

- The airline has comfortable waiting lounges.
- The airport has all necessary facilities and is clean and up-to-date.
- Airport staff is courteous and helpful.

Departure

As punctuality is one of the most important service quality aspects, the key for success here is *on-time departure/arrival* (Tiernan et al., 2008; Gilbert & Wong, 2003). According to Carlzon (1987), passengers judge punctuality not by a time of arriving, but by a time of departure. Thus,

it can be said that leaving and arriving on time is a key component of service quality of an airline (Gilbert & Wong, 2003), but as commonly known, delays happen, and in many cases these are not under direct control of a carrier (e.g. bad weather). The attributes are as follows:

- The flight departs and arrives at a time it promises.
- In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).

Onboard Services

Services onboard have evolved recently, with introduction of in-flight shopping and developing technology that led to introduction of interactive audio and video entertainment system. For example, KLM offers broad entertainment opportunities such as music, TV programs, language courses, books, games on its intercontinental flights (KLM.com, 2012/1). In short haul flights entertainment possibilities are usually limited and some airlines provide e.g. free newspapers, own magazines, online shopping etc.

- The airline has in-flight entertainment facilities/programs.
- The airline offers good quality food and beverages.
- The airline offers onboard shopping with wide selection of products.
- Employees of the airline are courteous and helpful during the flight.
- The aircraft has clean and comfortable facilities and seats.

Arrival

As mentioned before, on-time arrival is a key component of customer's perception of a good service quality. The questions at the *Departure*-step are covering the importance of timely arrival.

Post-arrival Services

Another factor at arrival stage is post-arrival services such as lost luggage services, help upon arrival (Westwood et al., 2000), etc. The key component here is mishandled luggage (lost, broken, missing, or delayed) (Gilbert & Wong, 2003). However, it is worth noting that often airlines outsource their luggage handling to third party supplier (may be local airport services, or a company providing service personnel on leasing base) and thus are not directly delivery the service themselves. In case of the airport providing baggage services, the delivery of baggage can be affected by a variety of factors such as holiday seasons, peak day times, etc. Nevertheless, the carriers should understand that from the customer point of view, it is still an airline giving those services, and thus it is important to make sure that the service is high on this stage too. The attributes are:

- Promptness and accuracy of baggage delivery.
- The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.

To summarize, please see below service process steps and related attributes (Figure 7). To simplify the model, attributes were limited; however, the number of attributes varies depending on the step. More attributes could be added to research relative importance of service process step significance and customer satisfaction.



Figure 7 Service process attributes

Furthermore, researchers and practitioners identify key service quality dimensions (Gilbert & Wong, 2003; IATA, 2011). Each service quality attribute belongs to one of service quality dimensions. These dimensions will be tested in the survey of this thesis and the results are compared with Gilbert & Wong (2003). The dimensions are *reliability* (punctuality, consistent service levels), *assurance* (safety), *facilities* (check-in, airport facilities, and aircraft), *employees* (their appearance and attitude), *flight patterns* (schedule and frequency), *customization* (individual attention to customers, anticipation of customer needs) and *responsiveness* (efficient service).

4. RESEARCH METHOD

The previous chapters have provided a scientific background for the empirical research. In this chapter, the data collection method, target group as well as scales are identified.

4.1. Data Collection

An online survey is the data collection method for this study. The survey consists of four parts. Part 1 profiles the survey respondents by questioning their age and gender. Part 2 creates a profile of a respondent as a user of airline services: how often a respondent uses airline as a transportation mean, which airlines are used more often, what is a main motive and habits in air transportation in general. In addition, frequent flyer programs and their usage is investigated in this part. Next, part 3 lists selected service quality attributes. The respondent has to evaluate them on seven-step scale. In addition, respondents have to rate key general air travel attributes, such as safety or flight schedule, in an order of importance. Finally, Part 4 contains two open questions asking the respondent to elaborate on his/her experiences of service quality and share ideas for service improvement. Finally, the respondent is able to participate in a lottery by giving his or her email, and the prize being two movie tickets (respondents located in Finland) or a gift card to Amazon.com (respondents in other European countries). The survey can be found in Appendix 1 and the primary sources for it are the following articles: Chen & Chang (2005), Chang & Yeh (2002), Park et al. (2004) and Gilbert & Wong (2003). The survey uses similar structure as the surveys described in the articles.

4.2. Target Group

The target group chosen for this thesis is young, recently graduated (or about to graduate), internationally oriented business professionals, currently at the early stage of their careers. This target group represents up and coming generation of travelers, traveling a lot both on business

and for leisure. Moreover, the target group is very likely to travel extensively during their 40+ years careers. Understanding needs of this target group would help carriers to tailor their services for this new generation and thus ensure customer satisfaction and loyalty in a longer run as well. Hence, this survey aims to help a carrier to understand one of the customer groups and to make sure that it attracts and retains only profitable customers, which the company is capable of serving well. The survey will show what this particular customer segment values in service.

Majority of the respondents were or are studying at Aalto University School of Economics or/and are members of CEMS Master International Management double degree program. In other cases, the respondents are studying at or have graduated from other Finnish/European universities. However, the survey did not make any distinction of the respondents' nationality. However, nationality may affect perception of service quality (as found by Gilbert & Wong in 2003), which could be taken into consideration in further research.

4.3. Survey Scales

Seven-point Likert scale is used to measure service quality attributes in the survey. Seven-point scale is the maximum scale to make it easy for people to identify their opinion (Likert Scale & Surveys, Best Practices, 2007). On the other hand, five-point scale is considered the simplest, but in this case, it is insufficient for mapping the results on Marilla and James's (1977) scale. Furthermore, Matell & Jacoby (1972) state that if the number of scale steps decreases, the use of mid-point category decreases as well. The authors recommend to use either no neutral scale at all or to use a scale with many points. However, Garland (1991) argues that whether or not neutral point is used, the results will be distorted, and also Worcester & Burns (1975) suggest that in case of not using neutral point, the results will be distorted towards positive side of scale.

Based on this, the scale used for the survey is balanced, i.e. neutral point is used for the importance scale (measuring service quality attributes, found in part 2 of the survey) and the scale points are taken from Vagias (2006). Agreement and frequency scale (questions 7 and 8 respectively) were kept at four points for simplicity (Dataguru.org). The summary of the survey scales can be found in Table 3:

Table 3 Scales used in the survey

Agreement scale	Frequency Scale	Importance scale
<ul style="list-style-type: none">• Strongly Agree• Agree• Disagree• Strongly Disagree	<ul style="list-style-type: none">• Often• Sometimes• Seldom• Never	<ul style="list-style-type: none">• Extremely Important• Very Important• Moderately Important• Neutral• Slightly Important• Low Importance• Not At All Important

5. RESEARCH RESULTS

This chapter focuses on presenting empirical findings of the survey. The objective of the empirical research is to test the service quality attributes and dimensions on a defined target group and to assess what features of airline service process are most important for the target group.

The survey was available for answering for two weeks, and 79 answers were received. In the analysis, firstly, the respondents were profiled based on their gender and age as well as on their profile as airline passengers. Second, the attributes of service quality were discussed and analyzed. Last, the most interesting information from open questions was summarized. The empirical research was carried out with an online survey using www.WebropolSurveys.com. Some of the answers were collected using a printed version of the survey during the Logistics Master's Thesis Seminar at Aalto University School of Economics, to increase a response rate. Out of many methods of collecting the information, a survey was chosen due to its relative simplicity, the ability to collect qualitative data and ease of access to wide audience located in different countries.

An analysis of the survey data was performed with Microsoft Excel as well as with Webropol Insight statistical analysis tool. Spearman correlation was used in analysis, as it is more appropriate for measures that are taken from ordinal scales such as Likert scale (discussed in more details in chapter 4.3). Spearman correlation coefficient shows statistical dependence of two variables, and statistical correlation is significant if coefficient is more than 0.5. Moreover, if p -value is low (under 0.05), it means that the correlation actually exists. In case p -value is high, it cannot be determined that the correlation actually exists. Furthermore, to measure differences between respondent groups (such as female vs. male respondent group), Chi² test was chosen as this test is best suited since it compares differences between the answers of two or more independent groups (The Chi Squared Statistics, 2012). In Chi² test, the results with p -value less than 0.05 were considered statistically significant. In these cases the probability that the differences were caused by chance alone are small. However, it is important to note that mathematical correlation does not necessarily indicate any cause-and-effect relationship.

5.1. Respondents Profiling

Out of 79 respondents, 34 were male and 45 female. The age groups were distributed as follows (Figure 8):

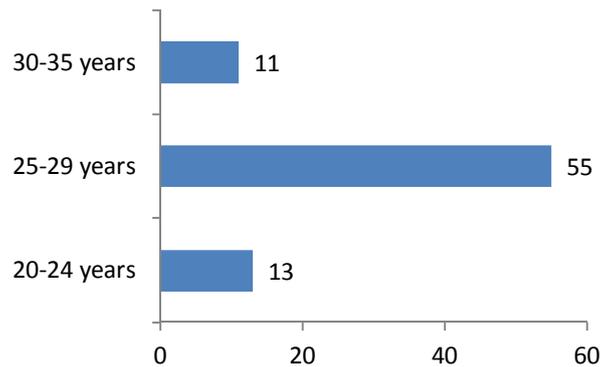


Figure 8 Respondents profiling: age groups

As it can be seen from Figure 8, majority of the respondents (55, or 70%) were from 25-29 years age group. That well corresponds to the target group to be young professionals/graduate students on their last years of study. As the majority of the respondents are Finns, average starting age for university education is 21 years old (HS.fi, 2008), and Master of Science level education normally takes five years. However, 30% of respondents belong to other age groups.

Furthermore, Figure 9 shows that the main reason to use air transportation for the survey respondents is leisure flights. However, it does not deny the fact that 85% of respondents (or 67 out of 79) who chose leisure or personal reasons/commuting do not fly on business at all. Most of them are very likely to combine more than one reason to use air transportation to some extent.

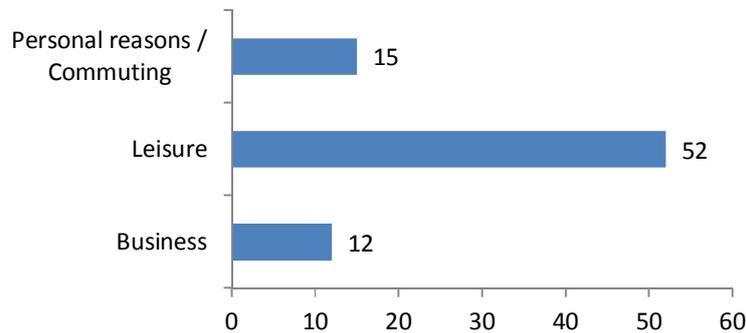


Figure 9 Respondents profiling: main reason to fly

Out of 12 respondents who mostly fly on business, 11 were male (32.35% of all male respondents) and only one was female (2.22% of all female respondents). On leisure flights, differences were significant as well: 50% of male respondents and 77.78% of female respondents fly mostly on leisure (data can be found in Appendix 3).

Somewhat predictable were the results of the question which airline the respondents use the most (respondents could select up to three options). Finnair and Blue1 were the leaders, with 32 and 27 answers respectively, due to the survey was carried out in Finland. Low cost airlines tend to be popular as well, though geographical access and a number of destinations (using smaller airports and point-to-point transit system, which limits its reach) limit them. Ryanair scored 19 answers and Norwegian 20 answers (though Norwegian cannot be classified as pure low cost airline as it actively implements hub-and-spoke model with major national airports; Ryanair on the other hand is a pure example of low cost carrier).

Furthermore, the survey shows that 24 out of 79 respondents (or 30%) are not members of any frequent flyer program. Finnair Plus again had the largest number of respondents (29, or 37%), which well corresponds to Finnair being the most popular among the respondents. Only 19 respondents (24%) indicated that the membership affects their selection of a carrier. It is especially common in business travelers as it was found out from discussions with some of survey respondents.

The travel frequency among the respondents was divided rather equally (Figure 10): 41 respondents (52%) travel from 1 to 5 times a year, whereas 38 respondents (48%) travel more than 6 times a year, and can be considered frequent flyers.

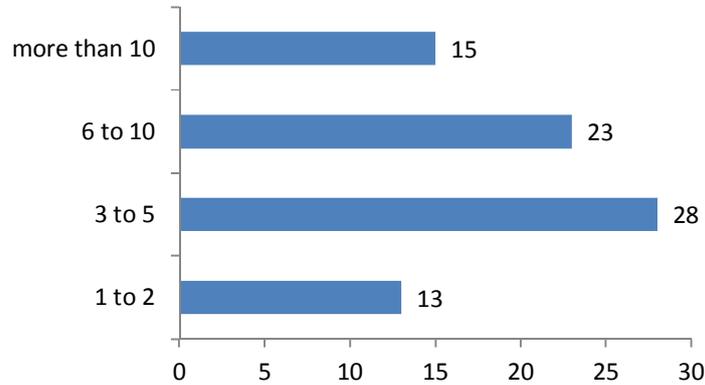


Figure 10 Respondents profiling: travel frequency

Vast majority of the respondents (92%) said that they perform the selection and purchase of air transportation tickets by themselves, via different channels, and only six respondents (8%) marked that in majority of the cases someone else makes the decision for them (Figure 11). This however, may change overtime in this particular customer group, as the respondents start to progress in their careers and business travelling becomes more common for them. Travel search engines are most common way to search for tickets; however, online travel agencies are not much far behind. Moreover, it is highly likely for people to use several search methods at the same time as well.

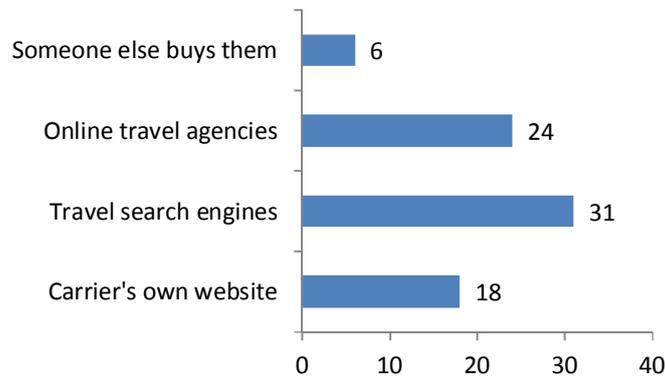


Figure 11 Respondents profiling: tickets purchase

This discussion provides a picture of the respondents’ profiles and their air transportation behavior. As mentioned earlier, this group represents a new generation of travelers who use air transportation extensively for different reasons, and will continue using it during their 40+ years careers. Thus, this summary is able to show an overall picture of this group, however, due to rather small number of respondents, some of the observations may not be accurate in general.

5.2. Analysis and Discussion

First, the results of the survey are summarized and analyzed on a process step level (Figure 12). Here, it can be seen that *Ticket Purchase* and *Arrival/Departure* steps are most important for the customers with almost equal results (90% and 88% of respondents respectively have marked the attributes related to each step as ‘extremely important’ or ‘very important’, and none of the respondents reported these steps as ‘not at all important’). On the other hand, *Pre-flight Services* and *Airport Services* scored lowest in the importance (26% and 24% of respondents respectively have marked the attributes related to each step as ‘extremely important’ or ‘very important’).

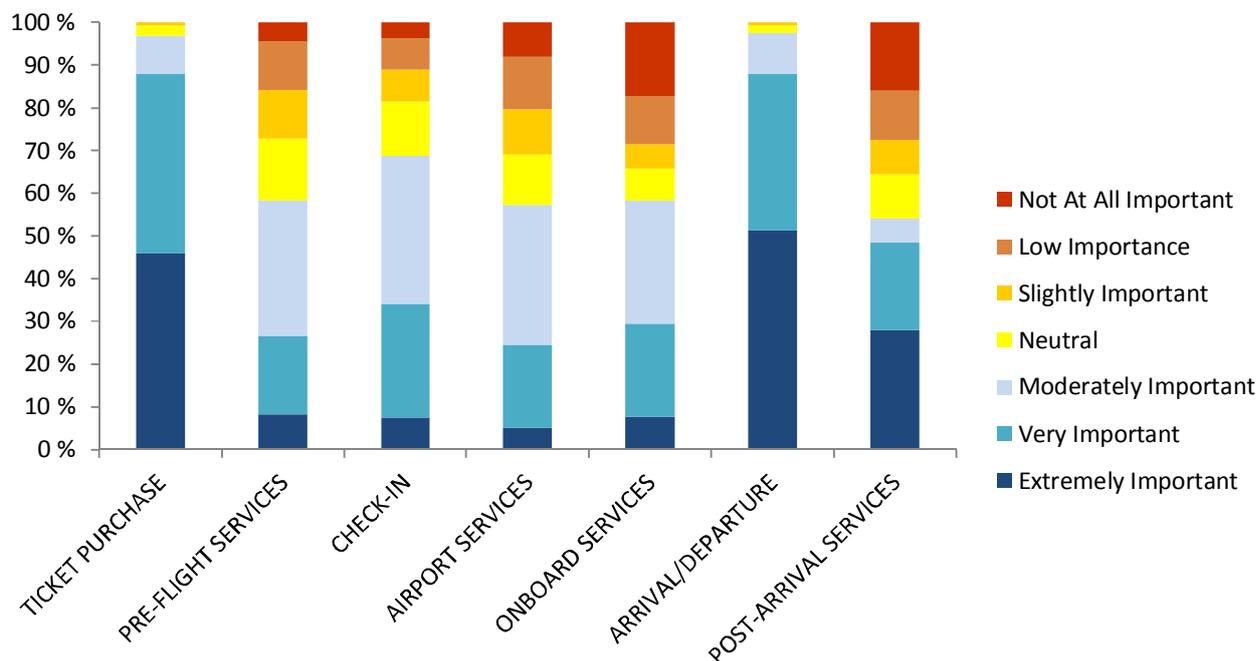


Figure 12 Results on service process step level

Next, Figure 13 summarizes the results of analysis by service quality attributes. From here, several relevant groups can be identified by their importance: first, attributes that are of key importance to travelers (highlighted with solid dark blue line), attributes that are nice to have, but they are not key to superior flight experience (dotted blue line), and attributes that are not important for majority of the respondents (dotted orange line). The categorization is somewhat in line with Silvestro & Johnston’s (1990) service quality factors (discussed in Chapter 3.2). For example, attributes that are most important to customers can be either hygiene or enhancing factors. Factors that are not important can be neutral factors – the customers do not really need them, but it is still good to have them.

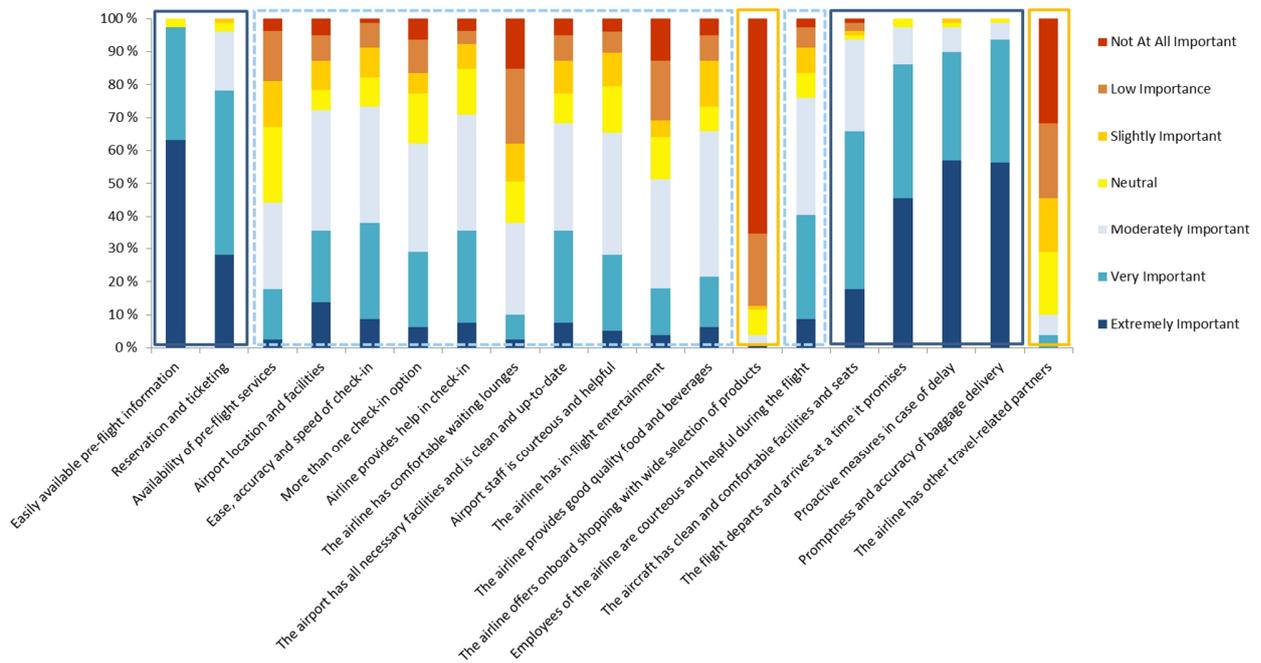


Figure 13 Results on service quality attribute level

The most important attributes are grouped in the beginning of the service process, and at its end (*Ticket Reservation, Arrival/Departure and Post-arrival Services* steps of the process). An interesting observation is that the proactive measures in case of flight delay are considered more important than timely departure/arrival in general (57% vs. 45% indicated this attribute as ‘extremely important’). This demonstrates that communication with the customer is more or at the very least as important as performing the basic features of airline service right. The most important service quality attribute is ‘*Easily available information on ticket prices, flight schedule etc.*’ 63% of the respondents marked it as extremely important and 34% as very important. This makes it clear that ease of decision-making process is significant factor in the service process and customer satisfaction and may define overall journey experience.

Furthermore, according to Figure 13, the least important attributes were:

- ‘*The airline offers onboard shopping with wide selection of products*’ (65% of respondents chose ‘not at all important’), and

- *'The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles'* (32% of respondents rated this as 'not at all important', and 22% as 'low importance').

These results show that the respondents value basic services, essential to air transportation (such as quick baggage handling) and information availability (information on available flights as well as prompt communication in case of delay). The success of low cost carriers as well supports this conclusion – low cost carriers provide only basic services on low price, but their growth has been tremendous. Nevertheless, low cost carriers have received some criticism from the survey respondents due to their pricing model where the customer is charged separately for every service used. Services that are aimed on improving customer experience and satisfaction such as onboard shopping and an opportunity to get frequent flyer miles from travel-related partners did not cause much interest in the respondents.

The results are very much in line with Parasumaran et al. (1991) statement that the customers expect service providers to do exactly what they are supposed to do. The customers do not need fancy services, nor do they need empty promises. Therefore, the survey results proved that in the case of airline industry, customers expect to reach their final destination easily and without delays. However, it is interesting to note that whereas attributes analysis does not show the importance of such attributes as meal quality, courteousness of staff, entertainment systems, whereas in open questions all these features were indicated as ones that make an airline superior to others in terms of service quality. The subsequent conclusion here is that basic features such as on time arrival and prompt baggage delivery are extremely important and are a basis for positive service experience. Nevertheless, all other services such as good quality meal and polite and friendly attitude have an important role in making the customer fully satisfied with the services and thus achieve true customer loyalty, as Jones & Sasser (1995) discussed.

To continue with attributes analysis, Spearman correlation test showed that there is statistically significant correlation between the following attributes (correlation matrix can be found in Appendix 3):

1. Availability of more than one check-in option is correlated with Ease, accuracy and speed of check-in (coefficient 0.62, p-value is 0),

2. Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in is correlated with Availability of more than one check-in option (coefficient 0.52, p-value 0),
3. The airport has all necessary facilities and is clean and up-to-date is correlated with Ease, accuracy and speed of check-in (coefficient 0.53, p-value is 0),
4. Airport staff is courteous and helpful is correlated with Ease, accuracy and speed of check-in (coefficient 0.53, p-value is 0),
5. The airport has all necessary facilities and is clean and up-to-date is correlated with The airline has comfortable waiting lounges (coefficient 0.52, p-value is 0),
6. Airport staff is courteous and helpful is correlated with Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in (coefficient 0.59, p-value is 0),
7. Airport staff is courteous and helpful is correlated with The airline has comfortable waiting lounges (coefficient 0.58, p-value is 0),
8. Airport staff is courteous and helpful is correlated with The airport has all necessary facilities and is clean and up-to-date (coefficient 0.67, p-value is 0),
9. Employees of the airline are courteous and helpful during the flight is correlated with Airport staff is courteous and helpful (coefficient 0.63, p-value is 0),
10. The aircraft has clean and comfortable facilities and seats is correlated with The airline has comfortable waiting lounges (coefficient 0.54, p-value is 0),
11. The aircraft has clean and comfortable facilities and seats is correlated with The airport has all necessary facilities and is clean and up-to-date (coefficient 0.54, p-value is 0),
12. The aircraft has clean and comfortable facilities and seats is correlated with Airport staff is courteous and helpful (coefficient 0.53, p-value is 0),
13. The aircraft has clean and comfortable facilities and seats is correlated with Employees of the airline are courteous and helpful during the flight (coefficient 0.54, p-value 0).

On the attribute level, the results were somewhat predictable. Four groups can be identified, check-in related correlations (1-4), airport facilities and staff correlations (5-8), airport/airline correlations (9-12) and finally onboard services correlation (13).

The attributes within the same service process step were correlated, for example, there is correlation between an availability of more than one check-in option at the airport and ease of check-in (*Check-in* process step). It is easier for the customers to speed up their check-in if there are several options available, and instead of spending a long time in the queue for check-in stand, use machine check-in that takes only couple of minutes. As well, online or text message check-in can speed up the process greatly as the time spend in queues at the airport in not anymore wasted. Also, other correlations between this step are evident and show that the attributes are likely to be interconnected. Helpful airport staff is important for the respondents during the check-in as two attributes (*Airport staff is courteous and helpful* and *Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in*) were correlated to *Ease, accuracy and speed of check-in* –attribute.

Next, the correlation between airport staff and airport facilities (for example, waiting lounges, and clean airport facilities as well as their general availability) is detected between several attributes. In this case, a customer may think of airport services as a whole experience, and observe a unified image of polite staff, clean airport and comfortable facilities, without separating them. The same happens with onboard services (13): aircraft facilities are correlated to polite and helpful staff onboard, so again, the customer perceive these attributes as a whole part of flying experience.

Interestingly, there is a correlation between how the respondents value the behavior of airport and aircraft staff (9). A possible explanation is that a customer does not differentiate between airport and airline employees and values good attitude in general, which is independent of location or service provider. Next, *The aircraft has clean and comfortable facilities and seats* is correlated to a number of attributes that describe airport facilities and staff (waiting lounges, clean and up-to-date facilities as well as courteous staff). Such correlation may as well show that the respondents did not make much difference between in-flight and ground services (as Chen & Chang (2005) suggest to divide the service process), but viewed them as a single, unified experience.

Chi² test of service quality attributes showed no statistically significant difference between male and female expectations, which does not confirm Westwood's et al. (2000) claim that women value different aspects of air travel compared to men.

Next, service quality attributes and service quality dimensions (Appendix 3) were tested and no statistically significant correlation was found (Spearman test). The results are shown in Table 4, and compared to the results by Gilbert & Wong (2003).

Table 4 Service quality dimensions

Service quality dimension	Results (Gilbert & Wong, 2003), mean*	Results (survey), mean*
Assurance / Safety	1.1098	1.9746
Reliability	2.7165	2.7179
Responsiveness	2.8963	4.1842
Flight patterns / Flight schedule	4.3659	2.9873
Employees appearance and attitude	4.4299	4.900
Facilities	6.0427	4.9220
Customization	6.4543	6.0641

*1 is most important, 7 is least important

From Table 4 it is clear that there are differences in reliability and responsiveness. In Gilbert & Wong's results, *responsiveness* is rated as third most important dimension, however, in survey results it is only fourth. *Flight schedule* is more important for survey respondents (ranked third). *Facilities* are ranked sixth in both cases, but there is difference in importance in general (Gilbert & Wong's mean is 6.0427, whereas survey mean is higher – 4.9220). The comparison also shows that *safety* and *reliability* are the most important dimensions, whereas *customization* in both cases is least important. Differences in target groups, among other factors, can explain the differences between the survey results and results by Gilbert & Wong (2003). In addition, there

have been many changes in airline industry during the last decade, so the expectations and perceptions may have simply changed overtime.

There was no statistically significant correlation between service quality dimensions and the purpose of flying (Appendix 3). Furthermore, Spearman correlation showed that *reliability* and *customization* are negatively correlated (Spearman coefficient has a value of -0.61 and *p*-value is less than 0.001, Appendix 3). A possible interpretation for this is that respondents who value reliability of their air travel do not believe that the customization adds any additional value to already reliable service.

However, Chi² test showed that statistically significant difference between perception of service quality dimensions by male and female respondents exists in only one dimension: *Employees appearance and attitude* –dimension (Appendix 3). Female respondents tend to care less about this dimension compared to male respondents (Figure 14):

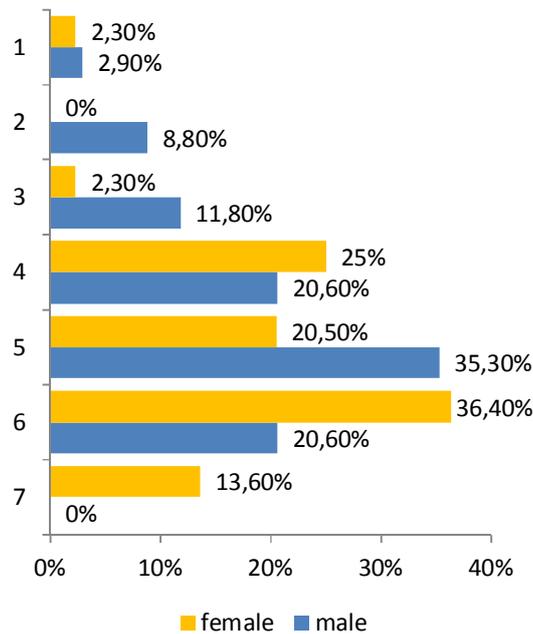


Figure 14 Employees' appearance and attitude: difference in male and female perspective

Westwood et al. (2000) suggested that there is a difference between male and female travelers in terms of expectations and perceptions, however, in this study only one difference was found.

Nevertheless, different target group or nationality could explain this, as Westwood et al. (2000) aimed her research on female business travelers, the segment rather weakly represented in this study's respondent pool.

The last part of the analysis comprises the summary of the open questions answers. Data mining analysis of the open questions was done using Webropol Data Mining tool and the results can be found in the Appendix 2. Not much can be concluded from the results of data mining, most probably due to rather limited number of respondents.

When the respondents were asked to name one airline that they consider superior to others, such words as *service*, *Lufthansa*, *staff* were used by the majority of the respondents. In word cloud analysis, Lufthansa and Norwegian were connected to such words as *reliable*, *schedules* and *staff*. Interestingly, whereas food quality was not considered as extremely important in attributes analysis, it was often indicated in open questions answers as one of the features that can make an airline superior to others. Another features mentioned were courteous staff, on-time arrival, entertainment systems, which were not found significant in attributes analysis.

As for another open question (what services should be improved or recommended to carriers), word cloud analysis confirmed that the information communicated to customers in case of flight delays is essential (words *information*, *changes* and *delays* are grouped and linked to each other). Another group of words indicates importance of aircraft seats and entertainment variety for the respondents. In addition, there is an interesting connection in another group, indicating a degree of customer dissatisfaction with Finnair. As Finnair is the most used airline among survey respondents, it shows that whereas people tend to be unsatisfied by Finnair services and would need an improvement, the lack of competition in Finland's air transportation still pushes dissatisfied customers to use the company repeatedly. Nevertheless, Finnair should not rely on such loyalty, as according to Jones & Sasser (1995), it is false loyalty, and as soon as travelers will have other options, the transition to another carrier is unavoidable.

5.3. Service Process Revised

From the discussion in chapter 5, it can be seen that the attributes in the Post-arrival Services step received significantly different evaluations from the survey respondents (Figure 13):

- Promptness and accuracy of baggage delivery (93.5% of the respondents evaluated this attribute as ‘extremely important’ or ‘very important’)
- The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles (only 3% of respondents evaluated this feature as ‘very important’ and none thought of it as ‘extremely important’)

Such striking difference makes it reasonable to treat these attributes differently also on process step level. Thus, *Post-arrival Services* step can be divided into two new steps a for better understanding of customer expectations: *Baggage Delivery* and *Post Arrival Services* (Figure 15).

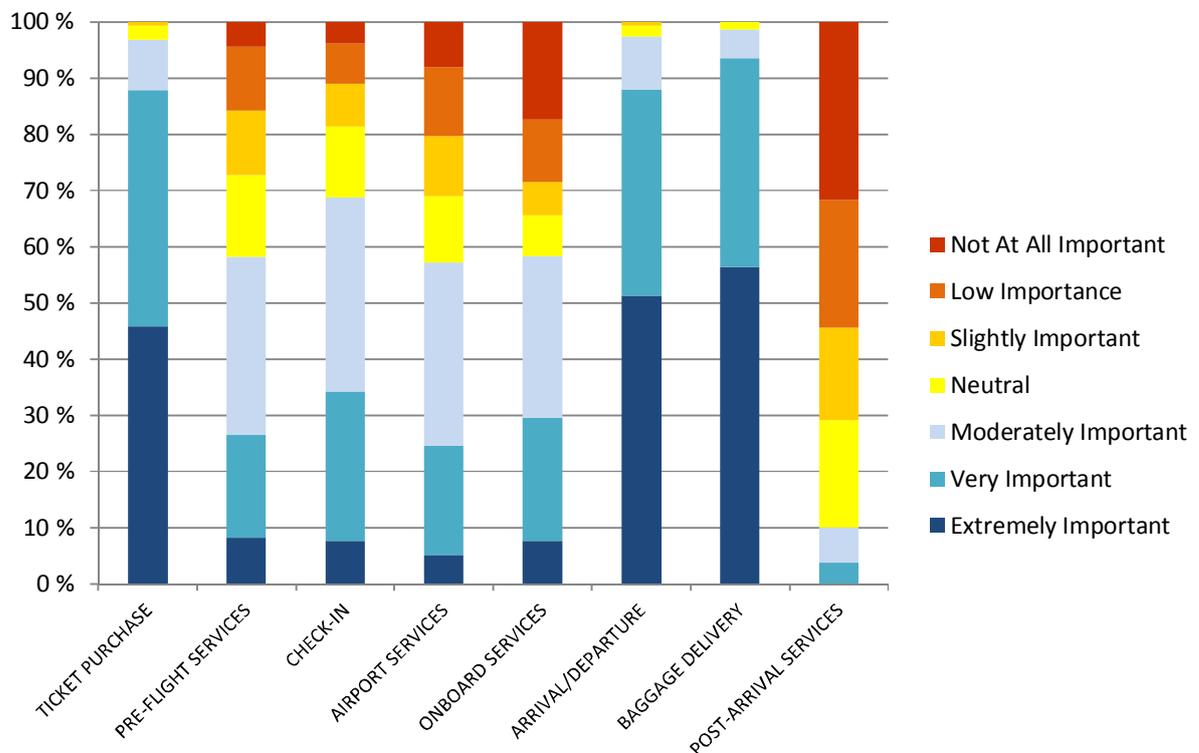


Figure 15 Service process – revised (1)

Thus, there are three most important process steps for the customer, where the value creation happens at its peak: Ticket Purchase, Arrival/Departure as well as Baggage Services. As discussed earlier, this is in line with researchers (such as Parasumaran et al., 1985) who claim that the customers expect basic services to be delivered at high quality levels before the additional services become important.

The revised service process can be seen in Figure 16, and the number of steps in increased to nine:

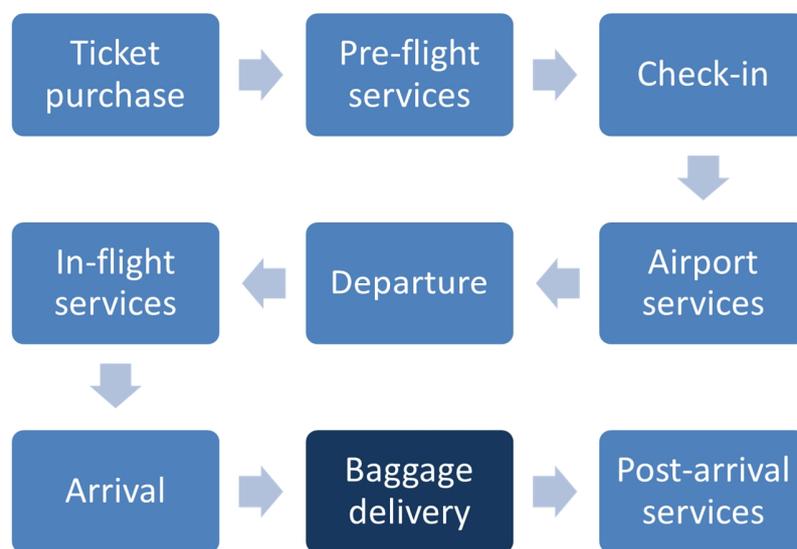


Figure 16 Service process – revised (2)

The modified process provides a better picture of the steps that the customer undertake during their service experience. As well, for the carriers this process view could be helpful in identifying the key value creation steps and thus find improvement opportunities.

6. CONCLUSION

The purpose of this thesis was to investigate customer expectations of service quality in airline industry. The research was based on process model of the services that the customer faces during flight. The process model represented these services as a sequence of steps. Each step had corresponding service quality attributes. The data for the empirical research was collected by using survey method where the respondents were asked to evaluate airline service quality attributes based on their perceived importance.

The theoretical review showed that whereas service quality is more complex to define and measure compared to product quality, a number of researchers developed models that try to provide measurement criteria for service quality. Service quality could be measured by a gap between expected and perceived service quality with attributes used to measure certain aspects of a service in question. Service quality in the case industry has been a subject for many discussions as well, as it is a key driver for profitability and customer loyalty. Airlines have been striving to balance cost cuts and service improvements for a while, and the understanding of customer expectations and customer segmentation has become paramount.

The empirical results pointed out the importance of high expectations on such service quality aspects as information availability, communication as well as timely arrival. Baggage delivery emerged somewhat predictably as a very important part of overall airline service experience. Moreover, research has shown that there is no much difference between male and female expectations of airline service, rather different from what Westwood et al. (2000) claimed.

To conclude the research, it can be said that whereas customers require providing good quality information and communicating promptly when needed, other services such as good quality food, entertainment and simply a polite and helpful staff can help any carrier to go extra mile for customer satisfaction and loyalty.

6.1. Theoretical Contribution

This thesis discusses a process approach to service quality in airline industry, taking a customer's point of view. The process describes steps from ticket purchase to the end of the journey, analyzing each step from service quality perspective and assigning attributes that help to measure customer expectations.

Overall, services and service quality have received a lot of attention from researchers. Overall, the literature on the topic provides numerous views, however, only the most relevant ones were discussed in this thesis. Such models as Parasumaran et al. (1985) gap model and Gronroos's (1982) perceived services model were reviewed. In addition, systems view on services by Johnson et al. (1995) contributed to the discussion as well as to final service process model. The researchers agreed that the services are in a way harder to define or evaluate due to their intangible nature as well as simultaneous production and consumption. Nevertheless, the conclusion was made that it can be measured through the means of service quality attributes (Chang & Yeh, 2002). The same approach was used in this study.

Service quality in airline industry has been in both researchers' and practitioners' view for a while now. Due to industry characteristics, services remain a cornerstone of customer satisfaction and carriers have struggled with delivering superior service experience while keeping the costs low. Numerous attempts on finding out what is important for customers and how do they perceive service quality has been made by e.g. Gilbert & Wong (2003), Park et al. (2004), Chen & Chang (2005) as well as Chang & Yeh (2002). Their studies were used as a basis for the survey.

6.2. Practical Contribution

The thesis introduced a process view on service quality, which can be used as a basis for further investigation. The model process model can be used as a for designing service quality surveys in the airline industry or for designing completely new business models. The process model provides information of the individual service components and pinpoint the service quality gaps that might ruin otherwise acceptable service quality.

This study provides three most important findings. First, the results of the survey showed that the respondents appreciate good quality information on available flights, schedules and prices, prompt communication in situations of flight delay and cancellations as well as they do not want to wait for their baggage to be delivered. These features represent a basic set of services that have to be delivered by an airline. Customer satisfaction will not be complete if these services are not executed well enough.

Second, difference between the expectations of male and female customers was found in only one case. While testing the service quality attributes such as safety and reliability, it was discovered that male travelers tend to pay more attention to employee's appearance and attitude compared to female counterparts.

Third, several correlations between the attributes were found. Here, the major input is that customers do not differentiate between airport and airline staff and see it as a whole. The respondents who like good attitude coming from staff, like it on any step of service process.

The same is with the facilities – correlations were found between airport and airline facilities as well as between the facilities and staff. Thus, the respondents tend to see the experience as a whole, without dividing it into airport and onboard locations. This is important information for the carriers who could pay more attention to excel in their services on both airport and aircraft levels. However, as it was discussed earlier, a number of suppliers deliver the services and though the airline bears the accountability over customer satisfaction from the complete process, it cannot control the services of all suppliers that interact with the customers.

6.3. Managerial Recommendations

Based on this research, the first recommendation for management in airline industry is to have an understanding of who their customers are and what they expect from the airline services. On the one hand, such knowledge would lay a good ground for further internal research on customer expectations and satisfaction and help an airline firstly to target exactly the customers that are profitable and loyal and second to find out what service components the customers value. On the other hand, service expectations research would help to point out the areas of improvement and probably figure out the services that are not so important to the customers. The measurement scale by Martilla & James (1977) can be of a great help for carriers to map their services and choose the ones that actually add value to customer satisfaction.

The most important finding of this research is that the customers care more about very basic aspects of air transportation: provide good information for decision making, be on time and communicate promptly in case a flight is delayed or cancelled. Although the respondents appreciated the previously mentioned steps as more important than on-board services, it appeared from the open questions that business travelers value good quality food and are ready to pay for it, especially when they travel in economy class where the quality of food is often significantly lower compared to business class. The airlines may consider such results as an incentive to deliver key services on consistently high level and carefully reconsider the value of ancillary services.

Also, the airlines should not underestimate the importance of safety for the customers. The survey results showed that safety ranks as the most important service dimension for the respondents; Gilbert & Wong (2003) discussed the same results in their study. However, customization was not of much value to the respondents (same result as in Gilbert & Wong's research), so the carriers could cut some costs, focusing on less customized but high quality services.

All these results are aimed on indicating the right direction for the carriers to research their customer expectations as well as perceptions and thus achieve better understanding of their customer base.

6.4. Limitations and Further Research

According to Jones & Sasser (1995), the results of any customer satisfaction survey can be an important indicator of the current state of the business, but the authors claim that it can be dangerous to rely fully on them. The authors suggest complementing customer surveys with other methods to listen to customers such as market research, feedback, frontline personnel as well as strategic activities (e.g. Southwest Airlines uses its frequent flyers in the selection process of flight attendants). Thus, this survey cannot provide any complete information on behavior of this particular customer group, but more it provides a direction towards complete information and conclusions that can help a carrier to improve its customer satisfaction.

The survey respondents represent Finnish fliers mostly. This imposes limitations such as limited coverage of evaluated airlines. The nationality aspect was not taken into account in data collection although some researchers (Gilbert & Wong, 2003) argue that nationality affects a perception and expectations of service quality. More in-depth study of customer expectations in airline industry would benefit from including nationality factor in their research.

The target group comprises young professionals, who have either recently entered to professional life or are about to graduate from universities and already have vast working experience. Their preferences may change over time and with the development of their careers. Their opinions are mostly based on economy class service as the respondents rarely use business class due to high price sensitivity of this customer segment.

Further research can evaluate both expectations and perception of service quality within a single airline, by measuring the importance of service attributes to customers and then customer satisfaction of an airline performance of each attribute. A scale developed by Martilla & James in 1977 could provide good guidelines for service segmentation by plotting the attribute measurement results into one of four quadrants (Figure 17):

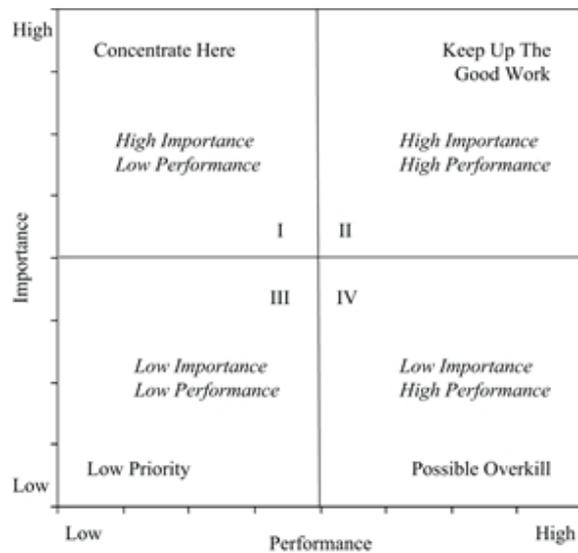


Figure 17 Measurement scale (Martilla & James, 1977)

This would help to create the unified picture of customer perception of service quality and help an airline to develop the services further and discontinue unnecessary ones. Introduction of nationality aspect in service expectations and perception would help to discover potential differences and help, for example, a national carrier to target its marketing efforts towards the expectations of its core customers.

Another opportunity for further investigation is new services development in airline industry, briefly addressed in this study. Social media has offered new opportunities to involve the customer in creation of his or her own travel experience, and more research would help shaping better understanding on how those new services impact customer satisfaction.

Despite the amount of research on services and service quality, there is a room for improving the understanding of the concepts and providing service companies with better measurement ideas. This study attempted to introduce the process model of airline services, and this approach could be further improved and developed as well as applied to other industries.

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Appendix 1 Survey

Please keep in mind that the survey questions concern flights within Europe only.

Part 1.1 Passenger Profile: Basic

1. Please indicate your gender.
 - Male
 - Female

2. Please select your age group.
 - 20-24
 - 25-29
 - 30-35

Part 1.2 Passenger Profile: Airline

3. Your main reason to fly:
 - Business
 - Leisure
 - Personal reasons / Commuting

4. How many return flights have you had during the last 12 months?
 - 1 to 2
 - 3 to 5
 - 6 to 10
 - more than 10

5. Which airlines (please select maximum 3) you use most often?
 - Finnair
 - Blue1
 - SAS
 - Lufthansa
 - KLM/Air France
 - British Airways
 - Ryanair
 - easyJet
 - Norwegian
 - Swiss
 - Other

6. Are you a member of any frequent flyer programs (please select maximum 3)?
 - Finnair Plus (Finnair)
 - Miles and More (Lufthansa, Swiss)

- Flying Blue (KLM/Air France)
 - Eurobonus (SAS, Blue1)
 - BA Executive Club (British Airlines)
 - Other
 - Not a member
7. Does your membership affect your choice of airline (in a form of price promotions, other benefits such as access to executive lounges, collecting miles etc.)?
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
 - Not applicable
8. Have you received any benefits due to your membership (check-in or boarding priority, business class upgrades, access to business lounge etc.)?
- Often
 - Sometimes
 - Seldom
 - Never
 - Not applicable
9. What is your most common way to search for and buy your flight tickets?
- Carrier's own website
 - Travel search engines (such as momondo.com, vertaa.fi)
 - Online travel agencies (ebookers.fi, cheaptickets.com etc.)
 - Someone else searches and buys them for you

Part 2 Service Path

Please evaluate the following statements based on their importance for you.

Attributes	Extremely Important	Very Important	Moderately Important	Neutral	Slightly Important	Low Importance	Not At All Important
Easily available information on ticket prices, flight schedule etc.							
Ease, accuracy and speed of reservation and ticketing							
Availability of pre-flight services (early baggage check-in, email reminder etc.).							
Airport is conveniently located / parking facilities are easily accessible and close to the airport							
Ease, accuracy and speed of check-in.							
Availability of more than one check-in option.							
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.							
The airline has comfortable waiting lounges							
The airport has all necessary facilities and is clean and up-to-date.							
Airport staff is courteous and helpful.							
The airline has in-flight entertainment (newspapers, magazines, etc.).							
The airline provides good quality food and beverages (tasty and fresh).							
The airline offers onboard shopping with wide selection of products.							
Employees of the airline are courteous and helpful during the flight.							
The aircraft has clean and comfortable facilities and seats.							
The flight departs and arrives at a time it promises.							
In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).							
Promptness and accuracy of baggage delivery.							
The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.							

Please prioritize the following service quality attributes in order of importance to you (1 is most important, 7 is least important).

- Safety
- Flight schedule / frequency
- Reliability (punctuality, consistent service)
- Responsiveness (efficient service)
- Employees' appearance and attitude
- Facilities (check-in, in-flight facilities, waiting lounge)
- Customization (individual attention, anticipation of your needs)

Part 3 Open Questions

Please name one airline that you consider superior to others in terms of service quality. Why? (1 to 5 reasons)

What airline services would you improve or recommend to carriers?

Part 4

Please enter your email if you want to win two movie tickets (Finland) or gift card to Amazon.com (other countries):

Thank you very much for your time!

Appendix 2 Survey Data

Part 1 Passenger Profile

	Sample number	Frequency
<i>Gender</i>		
Male	34	43 %
Female	45	57 %
<i>Age group</i>		
20-24 years	13	16 %
25-29 years	55	70 %
30-35 years	11	14 %
<i>Main reason to use air transportation</i>		
Business	12	15 %
Leisure	52	66 %
Personal reasons/Commuting	15	19 %
<i>Return flights within last 12 months</i>		
1 to 2	13	16 %
3 to 5	28	35 %
6 to 10	23	29 %
more than 10	15	19 %
<i>Most frequently used airline</i>		
Finnair	32	16 %
Blue1	27	14 %
Lufthansa	25	13 %
Norwegian	20	10 %
Ryanair	19	10 %
KLM/Air France	15	8 %
SAS	12	6 %
British Airways	8	4 %
easyJet	8	4 %
Swiss	2	1 %
Other	30	15 %
<i>Frequent flyer program</i>		
Finnair Plus (Finnair)	29	24 %
Miles and More (Lufthansa, Swiss)	17	14 %
Flying Blue (KLM/Air France)	12	10 %
Eurobonus (SAS, Blue1)	18	15 %
BA Executive Club (British Airways)	2	2 %
Other	20	16 %
Not a member	24	20 %

<u>Does your membership affects your choice of airline (in a form of price promotions, other benefits such as access to executive lounges, collecting miles etc.)?</u>	Sample number	Frequency
Strongly Agree	4	5 %
Agree	15	19 %
Disagree	24	30 %
Strongly Disagree	11	14 %
Not applicable	25	32 %

<u>Have you received any benefits due to your membership (check-in or boarding priority, higher class upgrades, access to business lounge etc.)?</u>	Sample number	Frequency
Often	4	5 %
Sometimes	12	15 %
Seldom	19	24 %
Never	21	27 %
Not applicable	23	29 %

<u>What is your most common way to search for and buy your flight tickets?</u>	Sample number	Frequency
Carrier's own website	18	23 %
Travel search engines	31	39 %
Online travel agencies	24	30 %
Someone else buys them	6	8 %

Part 2 Service Path

Please evaluate the following statements based on their importance for you.

Attributes	Extremely Important	Very Important	Moderately Important	Neutral	Slightly Important	Low Importance	Not At All Important
Easily available information on ticket prices, flight schedule etc.	50	27	0	2	0	0	0
Ease, accuracy and speed of reservation and ticketing	22	39	14	2	1	0	0
Availability of pre-flight services (early baggage check-in, email reminder etc.).	2	12	21	18	11	12	3
Airport is conveniently located / parking facilities are easily accessible and close to the airport	11	17	29	5	7	6	4
Ease, accuracy and speed of check-in.	7	23	28	7	7	6	1
Availability of more than one check-in option.	5	18	26	12	5	8	5
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.	6	22	28	11	6	3	3
The airline has comfortable waiting lounges	2	6	22	10	9	18	12
The airport has all necessary facilities and is clean and up-to-date.	6	22	26	7	8	6	4
Airport staff is courteous and helpful.	4	18	29	11	8	5	3
The airline has in-flight entertainment (newspapers, magazines, etc.).	3	11	26	10	4	14	10
The airline provides good quality food and beverages (tasty and fresh).	5	12	35	6	11	6	4
The airline offers onboard shopping with wide selection of products.	1	0	2	6	1	17	51
Employees of the airline are courteous and helpful during the flight.	7	25	28	6	6	5	2
The aircraft has clean and comfortable facilities and seats.	14	38	22	1	1	2	1
The flight departs and arrives at a time it promises.	36	32	9	2	0	0	0
In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).	45	26	6	1	1	0	0
Promptness and accuracy of baggage delivery.	44	29	4	1	0	0	0
The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.	0	3	5	15	13	18	25

Part 3

Please prioritize the following service quality attributes in order of importance to you (1 is most important, 7 is least important).

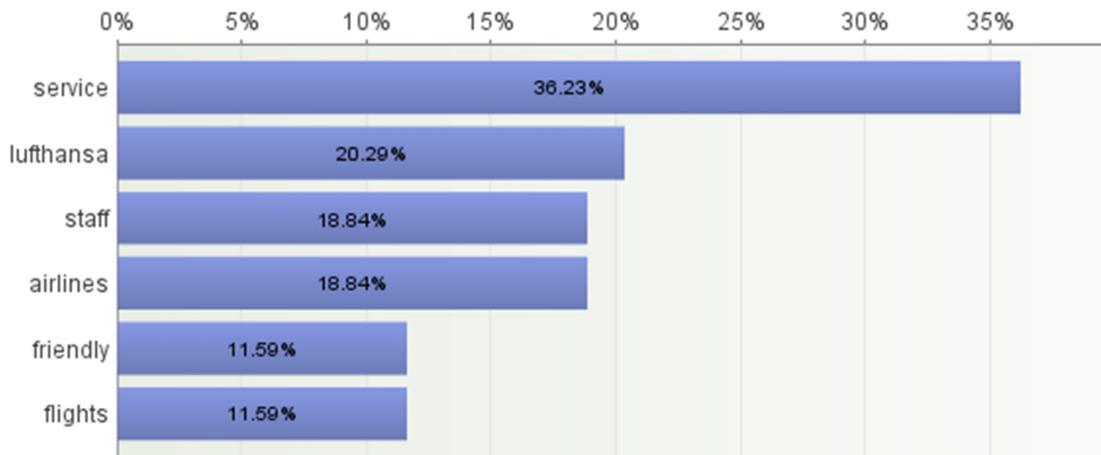
	1	2	3	4	5	6	7
Safety	56	4	5	5	1	4	4
Flight schedule / frequency	9	32	16	5	9	6	2
Reliability (punctuality, consistent service)	6	33	31	1	2	2	3
Responsiveness (efficient service)	2	5	11	34	19	5	3
Employees' appearance and attitude	2	3	6	18	21	23	6
Facilities (check-in, in-flight facilities, waiting lounge)	1	2	9	15	20	23	7
Customization	3	2	3	3	5	14	48

Question: Please name one airline that you consider superior to others in terms of service quality.
 Why? (1 to 5 reasons)

Word cloud

about airberlin airline **airlines** airport airways always appearance around assume attentive because berlin
 better beverages board british business cameras cheap check clean comfortable compared connections
 convenient couple courteous customers delayed distance domestic drinks emirates employees entertainment
 every everything excellent extra finnair flies **flight flights** flying found **friendly** great helpful highly
 important included **lufthansa** magazines massive meals movies **norwegian** offer offers onboard perfect
 personnel planes premium price priced prices **quality** really reasonable receive reliability **reliable**
 responsiveness safety schedule schedules screen seats selection serve **service** services serving short
 singapore smoothly special **staff** standard stressed super their there things which wrong

Words

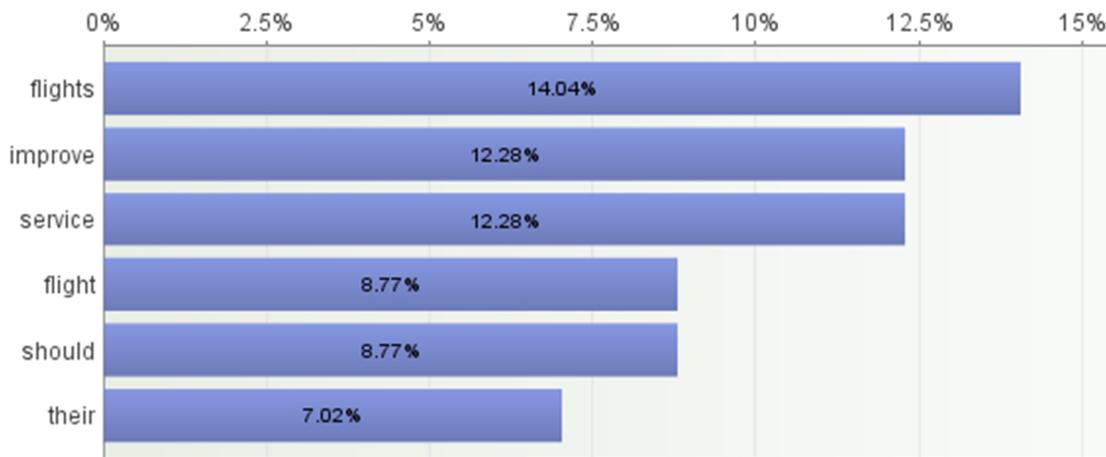


Question: What airline services would you improve or recommend to carriers?

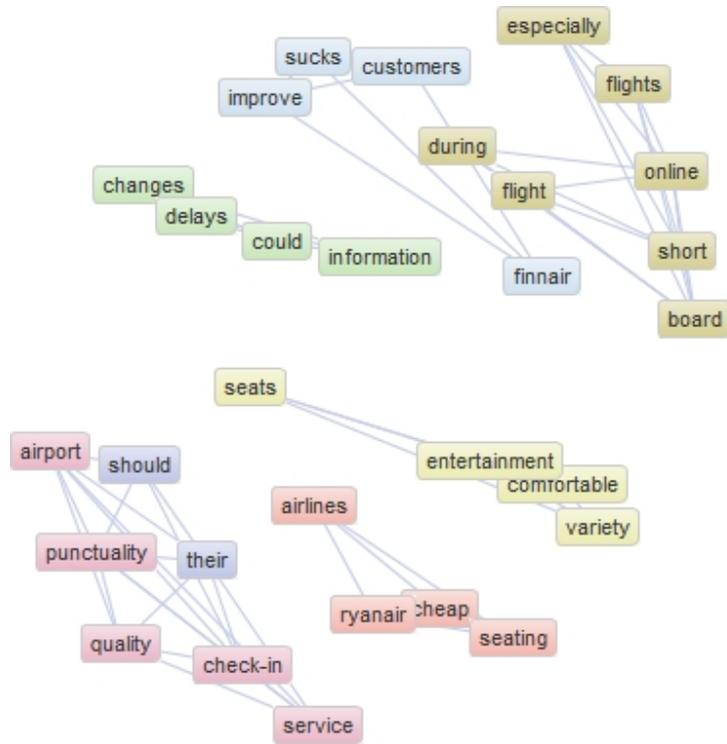
Word cloud

addition affordably after agency airlines airport always appropriately assistants attention availability baggage being board cancellation changes cheap check check-in check-ins comfortable communication could customers delays driven duration during entertainment especially everything experience extra finnair first flight flights friendliness handling hungry important improve improvement information instead least major movies online other popups punctuality quality recommed responsiveness ryanair schedule seating seats service short should small space special sport sucks terms their there those times transcontinental travel travelers variety waiting websites would wrong

Words

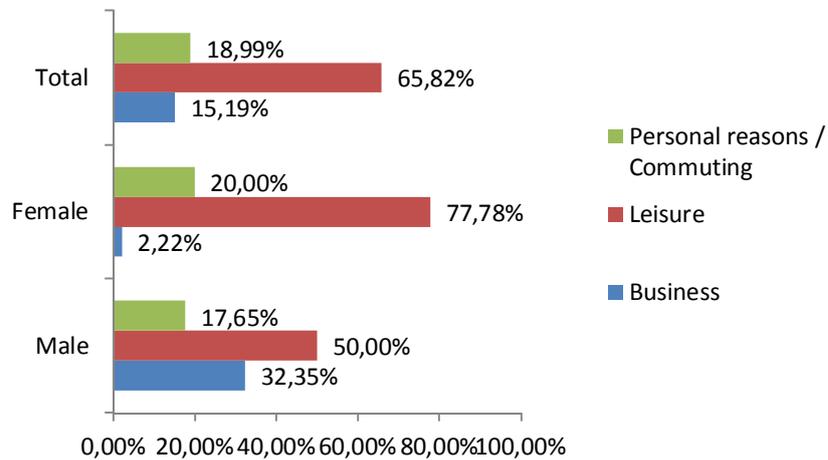


Word map



Appendix 3 Data Analysis

Male and female travelers, trip purpose comparison:



Service quality attributes, Spearman correlation test:

The correlation matrix measures the correlation coefficient between each value pair, that is, how dependent the questions are of each other. Bold values are considered statistically significant (Webropol Insight explanation). The largest coefficient is -0.61, with p value less than 0.001 that proves that negative correlation exists.

	Easily available information on ticket prices, flight schedule etc.		Ease, accuracy and speed of reservation and ticketing		Availability of pre-flight services (early baggage check-in, email reminder etc.)		Airport is conveniently located / parking facilities are easily accessible and close to the airport	
	P-value		P-value		P-value		P-value	
Easily available information on ticket prices, flight schedule etc.	0	0	0,36	0	-0,18	0,1	-0,02	0,83
Ease, accuracy and speed of reservation and ticketing	0,36	0	0	0	0,13	0,25	0,16	0,15
Availability of pre-flight services (early baggage check-in, email reminder etc.)	-0,18	0,11	0,13	0,27	0	0	0,34	0
Airport is conveniently located / parking facilities are easily accessible and close to the airport	-0,02	0,86	0,16	0,16	0,34	0	0	0
Ease, accuracy and speed of check-in	0,03	0,83	0,07	0,53	0,37	0	0,2	0,08
Availability of more than one check-in option	0,03	0,83	0,09	0,43	0,24	0,03	0,14	0,22
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in	0,1	0,41	0,12	0,32	0,16	0,16	0,27	0,02
The airline has comfortable waiting lounges	0,05	0,67	0,22	0,07	0,3	0,01	0,25	0,03
The airport has all necessary facilities and is clean and up-to-date	-0,05	0,66	0,19	0,11	0,34	0	0,29	0,01
Airport staff is courteous and helpful	0,04	0,74	0,12	0,3	0,28	0,01	0,31	0,01
The airline has in-flight entertainment (newspapers, magazines, etc.)	-0,23	0,05	-0,02	0,83	0,2	0,09	0,28	0,01
The airline provides good quality food and beverages (tasty and fresh)	-0,18	0,11	-0,06	0,58	0,24	0,04	0,36	0
The airline offers onboard shopping with wide selection of products	0,01	0,96	-0,06	0,59	0,14	0,22	0,06	0,58
Employees of the airline are courteous and helpful during the flight	-0,03	0,78	0,05	0,69	0,09	0,41	0,26	0,02
The aircraft has clean and comfortable facilities and seats	0,06	0,59	0,13	0,25	0,11	0,3	0,33	0
The flight departs and arrives at a time it promises	0,09	0,42	0,07	0,57	0,18	0,12	0,1	0,36
In case of delay, airline immediately makes an announcement and provides all necessary information	0,31	0,01	0,16	0,16	-0,02	0,85	0,05	0,67
Promptness and accuracy of baggage delivery	0,26	0,03	0,25	0,03	0,01	0,91	0,12	0,28
The airline has other travel-related partners such as car rentals, hotels and travel insurance where	0,1	0,36	-0,11	0,31	0,14	0,25	0,19	0,09

	Ease, accuracy and speed of check-in		Availability of more than one check-in option		Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in		The airline has comfortable waiting lounges	
	P-value		P-value		P-value		P-value	
Easily available information on ticket prices, flight schedule etc.	0,03	0,82	0,03	0,8	0,1	0,39	0,05	0,71
Ease, accuracy and speed of reservation and ticketing	0,07	0,52	0,09	0,43	0,12	0,32	0,22	0,06
Availability of pre-flight services (early baggage check-in, email reminder etc.)	0,37	0	0,24	0,02	0,16	0,15	0,3	0,01
Airport is conveniently located / parking facilities are easily accessible and close to the airport	0,2	0,07	0,14	0,21	0,27	0,02	0,25	0,03
Ease, accuracy and speed of check-in	0	0	0,62	0	0,44	0	0,47	0
Availability of more than one check-in option	0,62	0	0	0	0,52	0	0,29	0,01
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in	0,44	0	0,52	0	0	0	0,43	0
The airline has comfortable waiting lounges	0,47	0	0,29	0,01	0,43	0	0	0
The airport has all necessary facilities and is clean and up-to-date	0,53	0	0,44	0	0,36	0	0,52	0
Airport staff is courteous and helpful	0,53	0	0,37	0	0,59	0	0,58	0
The airline has in-flight entertainment (newspapers, magazines, etc.)	0,42	0	0,37	0	0,15	0,2	0,28	0,01
The airline provides good quality food and beverages (tasty and fresh)	0,23	0,04	0,14	0,22	0,2	0,08	0,29	0,01
The airline offers onboard shopping with wide selection of products	0,3	0,01	0,25	0,03	0,1	0,38	0,23	0,04
Employees of the airline are courteous and helpful during the flight	0,36	0	0,12	0,27	0,42	0	0,46	0
The aircraft has clean and comfortable facilities and seats	0,43	0	0,32	0,01	0,41	0	0,54	0
The flight departs and arrives at a time it promises	0,28	0,02	0,4	0	0,27	0,02	0,22	0,05
In case of delay, airline immediately makes an announcement and provides all necessary information	0,08	0,49	0,13	0,28	0,22	0,06	0,21	0,07
Promptness and accuracy of baggage delivery	0,11	0,34	0,11	0,35	0,3	0,01	0,02	0,84
The airline has other travel-related partners such as car rentals, hotels and travel insurance where	0,23	0,04	0,23	0,05	0,25	0,03	0,24	0,03

	The airport has all necessary facilities and is clean and up-to-date		Airport staff is courteous and helpful		The airline has in-flight entertainment (newspapers, magazines, etc.)		The airline provides good quality food and beverages (tasty and fresh)	
	P-value		P-value		P-value		P-value	
Easily available information on ticket prices, flight schedule etc.	-0,05	0,67	0,04	0,72	-0,23	0,05	-0,18	0,11
Ease, accuracy and speed of reservation and ticketing	0,19	0,09	0,12	0,31	-0,02	0,87	-0,06	0,59
Availability of pre-flight services (early baggage check-in, email reminder etc.)	0,34	0	0,28	0,02	0,2	0,09	0,24	0,04
Airport is conveniently located / parking facilities are easily accessible and close to the airport	0,29	0,01	0,31	0,01	0,28	0,01	0,36	0
Ease, accuracy and speed of check-in	0,53	0	0,53	0	0,42	0	0,23	0,04
Availability of more than one check-in option	0,44	0	0,37	0	0,37	0	0,14	0,21
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in	0,36	0	0,59	0	0,15	0,19	0,2	0,08
The airline has comfortable waiting lounges	0,52	0	0,58	0	0,28	0,01	0,29	0,01
The airport has all necessary facilities and is clean and up-to-date	0	0	0,67	0	0,48	0	0,27	0,01
Airport staff is courteous and helpful	0,67	0	0	0	0,38	0	0,37	0
The airline has in-flight entertainment (newspapers, magazines, etc.)	0,48	0	0,38	0	0	0	0,31	0
The airline provides good quality food and beverages (tasty and fresh)	0,27	0,01	0,37	0	0,31	0,01	0	0
The airline offers onboard shopping with wide selection of products	0,22	0,05	0,31	0	0,37	0	0,19	0,09
Employees of the airline are courteous and helpful during the flight	0,38	0	0,63	0	0,18	0,13	0,41	0
The aircraft has clean and comfortable facilities and seats	0,54	0	0,53	0	0,51	0	0,34	0
The flight departs and arrives at a time it promises	0,32	0	0,31	0,01	0,35	0	0,04	0,74
In case of delay, airline immediately makes an announcement and provides all necessary information	0,22	0,06	0,28	0,01	0,08	0,5	0,09	0,41
Promptness and accuracy of baggage delivery	0,12	0,29	0,26	0,02	0,05	0,67	0,05	0,66
The airline has other travel-related partners such as car rentals, hotels and travel insurance where	0,22	0,05	0,2	0,08	0,11	0,35	0,31	0,01

	The airline offers onboard shopping with wide selection of products.	P-value	Employees of the airline are courteous and helpful during the flight.	P-value	The aircraft has clean and comfortable facilities and seats.	P-value	The flight departs and arrives at a time it promises.	P-value
Easily available information on ticket prices, flight schedule etc.	0,01	0,95	-0,03	0,79	0,06	0,58	0,09	0,42
Ease, accuracy and speed of reservation and ticketing	-0,06	0,59	0,05	0,66	0,13	0,25	0,07	0,52
Availability of pre-flight services (early baggage check-in, email reminder etc.).	0,14	0,24	0,09	0,41	0,11	0,34	0,18	0,12
Airport is conveniently located / parking facilities are easily accessible and close to the airport	0,06	0,6	0,26	0,02	0,33	0	0,1	0,36
Ease, accuracy and speed of check-in.	0,3	0,01	0,36	0	0,43	0	0,28	0,01
Availability of more than one check-in option.	0,25	0,03	0,12	0,27	0,32	0	0,4	0
Employees of the airline are courteous and helpful in case you use traditional check-in or have tro	0,1	0,38	0,42	0	0,41	0	0,27	0,02
The airline has comfortable waiting lounges	0,23	0,04	0,46	0	0,54	0	0,22	0,05
The airport has all necessary facilities and is clean and up-to-date.	0,22	0,06	0,38	0	0,54	0	0,32	0
Airport staff is courteous and helpful.	0,31	0,01	0,63	0	0,53	0	0,31	0
The airline has in-flight entertainment (newspapers, magazines, etc.).	0,37	0	0,18	0,13	0,51	0	0,35	0
The airline provides good quality food and beverages (tasty and fresh).	0,19	0,1	0,41	0	0,34	0	0,04	0,73
The airline offers onboard shopping with wide selection of products.	0	0	0,18	0,11	0,28	0,01	0,13	0,24
Employees of the airline are courteous and helpful during the flight.	0,18	0,12	0	0	0,54	0	0,21	0,07
The aircraft has clean and comfortable facilities and seats.	0,28	0,01	0,54	0	0	0	0,36	0
The flight departs and arrives at a time it promises.	0,13	0,24	0,21	0,07	0,36	0	0	0
In case of delay, airline immediately makes an announcement and provides all necessary informa	0,1	0,38	0,2	0,07	0,33	0	0,46	0
Promptness and accuracy of baggage delivery.	-0,06	0,61	0,16	0,16	0,24	0,03	0,36	0
The airline has other travel-related partners such as car rentals, hotels and travel insurance where	0,42	0	0,22	0,05	0,16	0,15	0,04	0,69

	In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).	P-value	Promptness and accuracy of baggage delivery.	P-value	The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.	P-value
Easily available information on ticket prices, flight schedule etc.	0,31	0,01	0,26	0,03	0,1	0,36
Ease, accuracy and speed of reservation and ticketing	0,16	0,15	0,25	0,03	-0,11	0,33
Availability of pre-flight services (early baggage check-in, email reminder etc.).	-0,02	0,84	0,01	0,93	0,14	0,21
Airport is conveniently located / parking facilities are easily accessible and close to the airport	0,05	0,67	0,12	0,29	0,19	0,09
Ease, accuracy and speed of check-in.	0,08	0,48	0,11	0,34	0,23	0,04
Availability of more than one check-in option.	0,13	0,27	0,11	0,35	0,23	0,05
Employees of the airline are courteous and helpful in case you use traditional check-in or have tro	0,22	0,06	0,3	0,01	0,25	0,03
The airline has comfortable waiting lounges	0,21	0,07	0,02	0,84	0,24	0,03
The airport has all necessary facilities and is clean and up-to-date.	0,22	0,05	0,12	0,3	0,22	0,05
Airport staff is courteous and helpful.	0,28	0,01	0,26	0,03	0,2	0,08
The airline has in-flight entertainment (newspapers, magazines, etc.).	0,08	0,51	0,05	0,69	0,11	0,37
The airline provides good quality food and beverages (tasty and fresh).	0,09	0,41	0,05	0,67	0,31	0,01
The airline offers onboard shopping with wide selection of products.	0,1	0,37	-0,06	0,62	0,42	0
Employees of the airline are courteous and helpful during the flight.	0,2	0,07	0,16	0,17	0,22	0,06
The aircraft has clean and comfortable facilities and seats.	0,33	0	0,24	0,04	0,16	0,14
The flight departs and arrives at a time it promises.	0,46	0	0,36	0	0,04	0,68
In case of delay, airline immediately makes an announcement and provides all necessary informa	0	0	0,45	0	0,08	0,5
Promptness and accuracy of baggage delivery.	0,45	0	0	0	-0,07	0,54
The airline has other travel-related partners such as car rentals, hotels and travel insurance where	0,08	0,49	-0,07	0,55	0	0

Spearman test: no statistically significant correlation between service quality attributes and main reason to fly:

	Your main reason to fly:	P-value
Employees of the airline are courteous and helpful during the flight.	-0.08	0.48
Airport is conveniently located / parking facilities are easily accessible and close to the airport.	-0.07	0.55
Easily available information on ticket prices, flight schedule etc.	-0.05	0.72
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.	-0.04	0.74
Availability of pre-flight services (early baggage check-in, email reminder etc.).	-0.02	0.89
The airline offers onboard shopping with wide selection of products.	-0.02	0.85
The flight departs and arrives at a time it promises.	-0.02	0.89
Promptness and accuracy of baggage delivery.	-0.01	0.95
The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.	-0.01	0.94
The airline has comfortable waiting lounges.	0.02	0.86
Airport staff is courteous and helpful.	0.04	0.75
The aircraft has clean and comfortable facilities and seats.	0.05	0.64
In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).	0.05	0.66
Ease, accuracy and speed of check-in.	0.08	0.46
Ease, accuracy and speed of reservation and ticketing.	0.12	0.3
The airline provides good quality food and beverages (tasty and fresh).	0.16	0.16
Availability of more than one check-in option.	0.18	0.12
The airport has all necessary facilities and is clean and up-to-date.	0.19	0.09
The airline has in-flight entertainment (newspapers, magazines, etc.).	0.2	0.07

Chi² test: no statistically significant difference in service quality attributes between male and female groups.

	P-value	
The airline has in-flight entertainment (newspapers, magazines, etc.).	10,26	0,11
The aircraft has clean and comfortable facilities and seats.	9,55	0,15
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.	7,92	0,24
The airport has all necessary facilities and is clean and up-to-date.	7,88	0,25
Airport staff is courteous and helpful.	7,3	0,29
The airline has comfortable waiting lounges	6,63	0,36
In case of delay, airline immediately makes an announcement and provides all necessary information (length of waiting, possibility to receive food vouchers, stay at the hotel, or rebook a flight).	6,57	0,16
The airline offers onboard shopping with wide selection of products.	6,03	0,3
Availability of pre-flight services (early baggage check-in, email reminder etc.).	5,75	0,45
Employees of the airline are courteous and helpful during the flight.	4,76	0,57
Ease, accuracy and speed of check-in.	3,79	0,71
Availability of more than one check-in option.	3,69	0,72
The flight departs and arrives at a time it promises.	3,1	0,38
Airport is conveniently located / parking facilities are easily accessible and close to the airport	2,82	0,83
The airline has other travel-related partners such as car rentals, hotels and travel insurance where you can get discounts or earn extra miles.	2,26	0,81
Ease, accuracy and speed of reservation and ticketing	1,85	0,76
Promptness and accuracy of baggage delivery.	0,94	0,82
The airline provides good quality food and beverages (tasty and fresh).	0,48	1
Easily available information on ticket prices, flight schedule etc.	0,12	0,94

Correlation between service quality attributes/service quality dimensions, Spearman correlation test:

	Safety	Flight schedule	Reliability	Responsiveness	Employees' appearance and	Facilities	Customization
Easily available information on ticket prices, flight schedule etc.	0,1	0,13	-0,02	0,04	-0,18	-0,08	-0,17
P-value	0,37	0,26	0,83	0,74	0,1	0,46	0,14
Ease, accuracy and speed of reservation and ticketing	0,05	0,19	-0,01	-0,06	-0,2	0,1	-0,11
P-value	0,63	0,1	0,9	0,59	0,08	0,42	0,32
Availability of pre-flight services (early baggage check-in, email reminder etc.).	-0,08	0,12	0,17	-0,15	-0,13	0,03	0,05
P-value	0,51	0,3	0,14	0,18	0,24	0,77	0,71
Airport is conveniently located / parking facilities are easily accessible and close to the airport	0,08	0,05	-0,02	-0,27	-0,21	0,12	-0,02
P-value	0,44	0,68	0,82	0,02	0,07	0,28	0,88
Ease, accuracy and speed of check-in.	0,08	-0,15	0,11	-0,03	0,01	-0,03	-0,09
P-value	0,45	0,18	0,34	0,79	0,93	0,78	0,45
Availability of more than one check-in option.	0,03	-0,14	0,1	0,02	-0,11	0,08	0,05
P-value	0,79	0,22	0,37	0,86	0,34	0,5	0,65
Employees of the airline are courteous and helpful in case you use traditional check-in or have trouble with machine check-in.	0,13	0,04	0,13	-0,05	-0,1	0,07	-0,01
P-value	0,25	0,75	0,25	0,67	0,37	0,55	0,93
The airline has comfortable waiting lounges	0,16	0,03	0,04	-0,2	-0,12	0,07	-0,16
P-value	0,14	0,8	0,72	0,07	0,29	0,52	0,16
The airport has all necessary facilities and is clean and up-to-date.	0,1	-0,04	-0,05	-0,09	-0,08	0,22	-0,05
P-value	0,38	0,73	0,61	0,39	0,49	0,06	0,65
Airport staff is courteous and helpful.	0,26	-0,07	-0,05	-0,12	0,02	-0,01	0
P-value	0,02	0,55	0,68	0,3	0,87	0,89	0,96
The airline has in-flight entertainment (newspapers, magazines, etc.).	0,09	-0,1	0,2	-0,09	-0,17	0,1	0,02
P-value	0,41	0,37	0,09	0,43	0,15	0,44	0,88
The airline provides good quality food and beverages (tasty and fresh).	0,15	-0,06	-0,06	-0,1	-0,03	0,15	-0,18
P-value	0,2	0,61	0,61	0,4	0,77	0,19	0,11
The airline offers onboard shopping with wide selection of products.	0,17	-0,03	0,03	-0,2	0	-0,13	-0,12
P-value	0,13	0,83	0,77	0,08	1	0,25	0,3
Employees of the airline are courteous and helpful during the flight.	0,36	-0,15	0,04	-0,02	0,01	-0,18	-0,2
P-value	0	0,18	0,78	0,88	0,95	0,13	0,09
The aircraft has clean and comfortable facilities and seats.	0,27	-0,12	0,07	-0,29	-0,04	0,05	-0,22
P-value	0,02	0,31	0,55	0,01	0,75	0,7	0,05
The flight departs and arrives at a time it promises.	0,21	-0,19	0,04	-0,05	0,01	-0,15	0,15
P-value	0,06	0,08	0,72	0,7	0,94	0,19	0,2
In case of delay, airline immediately makes an announcement and provides all necessary information	0,19	-0,02	0,01	-0,01	-0,13	0,03	-0,16
P-value	0,08	0,87	0,96	0,93	0,26	0,79	0,17
Promptness and accuracy of baggage delivery.	0,24	-0,06	-0,08	-0,1	0,02	-0,05	-0,06
P-value	0,04	0,58	0,47	0,38	0,85	0,67	0,6
The airline has other travel-related partners	0,13	-0,01	-0,06	-0,04	-0,13	0,08	-0,15
P-value	0,25	0,89	0,6	0,69	0,23	0,46	0,17

Service quality dimensions, Spearman correlation test:

	Safety	Flight schedule / frequency	Reliability	Responsiveness	Employees' appearance and attitude	Facilities	Customization
Safety		-0.11 (p=0.32)	-0.11 (p=0.34)	-0.33 (p=0)	-0.23 (p=0.04)	-0.24 (p=0.03)	-0.26 (p=0.03)
Flight schedule / frequency	-0.11 (p=0.31)		-0.1 (p=0.37)	-0.16 (p=0.18)	-0.4 (p=0)	-0.07 (p=0.54)	-0.33 (p=0)
Reliability	-0.11 (p=0.33)	-0.1 (p=0.36)		0.2 (p=0.08)	-0.13 (p=0.24)	-0.26 (p=0.02)	-0.18 (p=0.12)
Responsiveness	-0.33 (p=0)	-0.16 (p=0.16)	0.2 (p=0.07)		-0.04 (p=0.74)	-0.19 (p=0.1)	-0 (p=1.02)
Employees' appearance and attitude	-0.23 (p=0.04)	-0.4 (p=0)	-0.13 (p=0.24)	-0.04 (p=0.72)		-0.14 (p=0.2)	0.22 (p=0.05)
Facilities	-0.24 (p=0.03)	-0.07 (p=0.56)	-0.26 (p=0.02)	-0.19 (p=0.09)	-0.14 (p=0.23)		0.06 (p=0.63)
Customization	-0.26 (p=0.03)	-0.33 (p=0)	-0.18 (p=0.11)	-0 (p=1)	0.22 (p=0.05)	0.06 (p=0.6)	

Service quality dimensions and main reason to fly, Spearman correlation test: no statistically significant correlation found

	Your main reason to fly:	P-value
Responsiveness	0,15	0,2
Facilities	0,15	0,19
Employees' appearance and attitude	0,11	0,33
Reliability (punctuality, consistent service)	0,04	0,73
Customization	0,03	0,81
Safety	-0,02	0,86
Flight schedule / frequency	-0,18	0,12

Chi² difference analysis: statistically significant difference between male and female perception of service quality dimensions is found in *Employees' appearance and attitude dimension*.

	Chi ²	P-value
Safety	8,13	0,23
Flight schedule / frequency	10,82	0,09
Reliability	4,42	0,62
Responsiveness	8,43	0,21
Employees' appearance and attitude	14,6	0,02
Facilities	3,41	0,76
Customization	10	0,12