#### **CRANFIELD UNIVERSITY**

#### MISHAL M. ALOTAIBI

Evaluation of "AIRQUAL" scale for measuring airline service quality and its effect on customer satisfaction and loyalty

School of Aerospace, Transport and Manufacturing

Centre for Air Transport Management

PhD Thesis

Academic Year: 2010 - 2015

Supervisor: Dr. Keith John Mason

April 2015

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This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

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#### **ABSTRACT**

Globalisation and stiff competition have changed the landscape of doing business. Decrease in customer loyalty and increase in customer expectations have challenged businesses to come up with unique methods of enhancing their quality of service. The same is true for airlines industry too. As a result, many airlines have transformed their marketing strategies, especially with regard to service quality, in order to compete efficiently in the global market. The marketing literature has introduced models of service quality, e.g.: SERVQUAL and AIRQUAL to help organisations measure and enhance customer experiences. SERVQUAL has been extensively researched and applied in many industries. Similarly, AIRQUAL, a model for the airline industry, has been developed but applied only in Cyprus. Moreover, the AIRQUAL scale lacks validity, as its development process is incomplete. This research, therefore, adapted 30-items of AIRQUAL and assessed and validated this revised scale. The validated scale was then applied to the airline industry of Saudi Arabia. Further, a comprehensive model is proposed, where the impact of the validated scale of service quality is tested with its impact on customer satisfaction, attitudinal loyalty, word of mouth, repurchase intentions and complaining behaviour. The assessment and validation process is divided into two main stages: first, qualitative; where four focus group interviews were undertaken that generated 46 items for the adapted scale. These items describe the perceptions of airline customers regarding service quality and were classified on the bases of the scheme proposed by Parasuraman et al. (1988). Second, a three-phase two sample, quantitative,

research was performed to derive a validated 30-item scale comprising five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Further, the improved scale was tested in a new market (Saudi market) in order to assess the service quality of Saudi Airlines. A total of 500 self-administered questionnaires were distributed among airline customers. The returned questionnaires underwent thorough screening and cleaning. The reliability of the scale was tested through Cronbach's Alpha, followed by exploratory factor analysis (EFA), which emerged with five dimensions. The content, convergent and discriminant validities were established. Further scale confirmation was conducted on a sample of US airline passengers. Finally, the proposed model with nine hypotheses was tested, which resulted in statistically significant results for all the proposed hypotheses

#### Keywords:

Service quality, AIRQUAL, airlines, customer satisfaction, attitudinal loyalty, word of mouth, repurchase intentions, complaining behaviour, Kingdom of Saudi Arabia.

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# **CHAPTER 1**

#### Introduction

Customers are the lifeblood of any business. Those businesses that fail to satisfy and retain customers usually end up with a decline in the overall profit, and demonstrate a limited prospective for growth. This is the reason that many researchers have shown a keen interest in exploring the antecedents to better financial performance (Babakus, Bienstock, & Van Scotter, 2004; Fornell, 1992; Ittner & Larcker, 1998). These studies found that improving service quality and customer satisfaction result in better financial performance. Should methodologies of best practice be evidenced, the ramifications for businesses are potentially enormous. As a result, the present study also attempts to investigate service quality and customer satisfaction with their impact on customer loyalty, specifically within the airline sector.

# 1.1 Subject of study

This thesis is related to airline service quality (AIRQUAL scale) and its effect on customer satisfaction and customer loyalty. The reason for selecting this study is to assess the extent to which this model overcomes the limitations of the SERVQUAL scale, particularly with regards to its applicability in the airline industry. The present study will, therefore, contribute to the knowledge by the confirmation, assessment and validation of AIRQUAL scale. This is based upon second stage of validity procedures, as proposed by Parasuraman et al. (1988).

Furthermore, the validated scale will be applied to a new market (Saudi Arabia) in order to empirically test its strength from a different contextual perspective.

#### 1.2 Problem statement

Almost three decades ago Parasuraman and colleagues developed their famous scale for service quality, named SERVQUAL. This scale has been widely applied in various industries in numerous countries. There are, however, a number of inconsistencies within the scale. For example, the five original service quality dimensions proposed by Parasuraman et al. (1988) have been criticised by many due to the lack of consistency across industries. This is the reason, researchers began to both add and delete dimensions in the original service quality scale (SERVQUAL), and gave it names based on the respective industry, e.g., in airlines industry the service quality scale proposed is called AIRQUAL (Bari et al., 2001). The scale developed and proposed by Bari et al. (2001) based on the Cypriot market lacked validity, as it did not follow all the required steps necessary for the validation of an instrument. Due to this problem the AIRQUAL scale could not be applied in other countries, the opposite problem presented by the original SERVQUAL scale. In order to address this problem, this study considered the same AIRQUAL scale and followed all the steps proposed by Parasuraman et al. (1988) to confirm and validate an instrument. This is a unique hybrid scale, which will provide a more rigorous academic assessment of the perceptions of service quality in practice. Further, the validated scale was tested in the airline industry of the Kingdom of Saudi Arabia.

In addition to the main problem addressed by the present study, another issue considered was the positive correlation between the impact of airline service quality and customer satisfaction and loyalty. With the objective of improving customer loyalty and increasing profitability, many airlines introduced loyalty schemes in the 1980s and 1990s. The common name given to these schemes were frequent flyer programs (FFP). The objective of these was to reward passengers for flights taken with a given airline and encourage loyalty. While these programmes attract a large number of customers, it is still unclear if they really ensure customer satisfaction and loyalty. Researchers proposed many antecedents of customer satisfaction and loyalty with enhanced service quality as being most important. Investigating the relationship among service quality, customer satisfaction and customer loyalty is imperative in the airline industry, as many other options are available with airlines to ensure repeat purchase by customers (e.g., FFP). Exploring the link between service quality, customer satisfaction and customer loyalty has not been explored in a country like Saudi Arabia. This research therefore, attempts to assess both the validity of the hybrid AIRQUAL model in practice, and also to establish the contextual impact of service quality of customer satisfaction and loyalty in a Saudi Arabian context.

# 1.3 Research questions

- What are the main dimensions of service quality (AIRQUAL) in the airline industry after validation
- What is the impact of airline service quality on customer satisfaction in the airline industry

- 3. What is the impact of airline service quality on attitudinal loyalty in the airline industry
- 4. What is the impact of airline service quality on repurchase intention in the airline industry
- What is the impact airline service quality on word of mouth in the airline industry
- 6. What is the impact of airline service quality on complaining behaviour in the airline industry
- 7. What is the effect of customer satisfaction on attitudinal loyalty in the airline industry
- 8. What is the effect of customer satisfaction on repurchase intention in the airline industry
- What is the effect of customer satisfaction on word of mouth in the airline industry
- 10. What is the effect of customer satisfaction on complaining behaviour in the airline industry

#### 1.4 Aim

The aim of this research is to reassess the AIRQUAL scale for measuring service quality, customer satisfaction and loyalty in airline Industry.

# 1.5 Objectives

#### 1.5.1 General objectives

The general objective of the study is to confirm, assess and validate the AIRQUAL scale, through assessment in different contexts. Furthermore, this study investigates the impact of the validated AIRQUAL scale on customer satisfaction and customer loyalty in the airline industry of Saudi Arabia.

## 1.5.2 General objectives

This research has the following objectives:

- To confirm, assess and validate the AIRQUAL scale with identification of its dimensions
- 2. To investigate the impact of service quality on customer satisfaction in the airline industry
- To examine the impact of service quality on attitudinal loyalty in the airline industry
- 4. To investigate the impact of service quality on repurchase intention in the airline industry
- To examine the impact of service quality on word of mouth in the airline industry
- 6. To examine the impact of service quality on complaining behaviour in the airline industry
- To investigate the influence of customer satisfaction on attitudinal loyalty in the airline industry

- 8. To investigate the influence of customer satisfaction on repurchase intention in the airline industry
- To investigate the influence of customer satisfaction on word of mouth in the airline industry
- 10. To investigate the influence of customer satisfaction on complaining behaviour in the airline industry

# 1.6 Hypotheses

The following hypotheses are devised for the present study:

H1: Airline service quality has a positive impact on customer satisfaction in airline industry

H2: Airline service quality has a positive impact on attitudinal loyalty in airline industry

H3: Airline service quality has a positive impact on repurchase intention in airline industry

H4: Airline service quality has a positive impact on word of mouth in airline industry

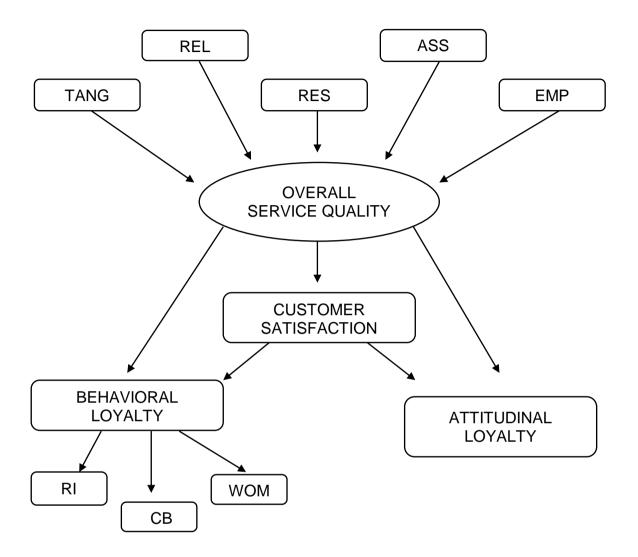
H5: Airline service quality has a negative impact on complaining behaviour in airline industry

H6: Customer satisfaction has a positive impact on attitudinal loyalty in the airline industry

H7: Customer satisfaction has a positive impact on repurchase intention in the airline industry

H8: Customer satisfaction has a positive impact on word of mouth in the airline industry

H9: Customer satisfaction has a negative impact on complaining behaviour in the airline industry



**Note:** (TANG) Tangible, (REL) Reliability, (PER) Responsiveness, (ASS) Assurance, (EMP) Empathy, (PSQ) Perceived Service Quality, (CSAT) Customer Satisfaction, (BL) Behavioural Loyalty, (RI) Repurchase Intention. (CB) Complaining behaviour, (WOM) Word of Mouth and (AL) Attitudinal Loyalty.

# 1.7 Contributions to knowledge

This research has manifold significance for the extant body of modern service quality research. Firstly, it attempts to confirm and validate the AIRQUAL scale, which is based on the SERVQUAL scale. The validation is crucial as the original developers of the AIRQUAL scale, (Bari et al., 2001), did not complete all the steps required for its validation in practice. Secondly, the validated scale was empirically tested in the airline industry of Saudi Arabia. This is unique as it is the first time this scale has been applied in a Saudi Arabian context. Thirdly, the final AIRQUAL scale is also tested with its impact on customer satisfaction and customer lovalty. The result of the present study would be equally significant for policy-makers and practitioners of the services industry in general and airline industry in particular. The correlated results will re-affirm the relationship between quality and loyalty, with recommendations for future notions of strategic best practice management in the industry. Lastly, this study will also add to the literature of service quality by enhancing the understanding of the dimensions explored, which may be applied by airlines to improve their service quality, resulting in enhance a customer satisfaction and increased customer loyalty.

#### 1.5 Structure of the thesis

This thesis is designed in six chapters. The first chapter represents the overview of the topic, and describes why this area of research has been chosen. The aim, objectives, research questions, problem statement, hypothesis and the structure of this thesis are also presented in chapter one. The second chapter contains an extensive review of the literature on the given topic. The development of

hypotheses and framework of the study is also based on the literature review and is explained in this chapter. The third chapter highlights the methodology of the study. It presents and describes information regarding what, how, where, and when data are sourced for using it in the present research. The fourth and the fifth chapter present the analyses and results from the qualitative, as well as, the quantitative research. Finally, discussion on the results, contribution of the present study, suggestions for future research and conclusion are explained in the sixth chapter.

## **CHAPTER 2**

## Literature review

This chapter provides a detailed review of current academic literature pertaining to airline service quality, customer satisfaction and consumer loyalty. Initially, therefore, it is important to establish the evolution, roots, and foundations of knowledge (Moller & Halinen, 2000) that underpin 21st century notions of 'service quality' in order to develop a robust framework for assessing customer loyalty in the Airline industry, This literature review examines current established academic opinion and debates surrounding our understanding of service quality, and the metrics by which this is currently quantified. The chapter will then examine the interrelationships between AIRQUAL, customer satisfaction, and customer loyalty to illuminate propositions based on the extant literature. From this assessment a model for customer loyalty in the airline industry is proposed based on the theoretical foundations that have emerged from the literature.

#### 2.1 Characteristics of service

A number of essential characteristics of the determining factors of 'services' need establishing before an assessment of their quality can be made. Firstly, it is important to note that services are distinct from goods, as they are not physical things (Schneider & White, 2004) but processes (McLuhan, 1964). For example, we say "airline" when we mean "air transportation", we say "movie" when we mean "entertainment services", we say "hotel" when we mean "lodging rental", and so on (McLuhan, 1964, p.34). Based on these characteristics, Schneider and White (2004)

highlighted that pure services cannot be seen, touched, held, or stored because they have no physical manifestation, but are considered part of a process or interaction. Berry (1980, pp. 24-29) distinguished between services and goods and argued that, services are acts, deeds, performances, or efforts, whereas, goods are articles, devices, materials, objects, or things. That is why, when a customer buys a physical good, they acquire its title and transfer of ownership takes place. In contrast, a service consumer receives only the right to a service for a specified amount of time (Kandampully, 2002). Services are characterized by the following elements: intangibility, heterogeneity, inseparability (Zeithaml et al., 1985) and in some cases perishability (Hartman & Lindgren, 1993), although this is not a pre-determinate factor constituting a service.

# 2.1.1 Intangibility

As services are defined as an intangible process, customers can only measure its quality through their own subjective perception (Mackey and Crompton, 1998; Kandampully, 2002). Lovelock and Gummenson (2004) went a step further by filtering this conception of a service through three dimensions of intangibility, namely, physical intangibility, mental intangibility, and generality. Physical intangibility dimension refers to the untouchability, mental intangibility refers to the degree of visualisation, and generality dimension of intangibility refers to the accessibility or inaccessibility (Lovelock & Gummesson 2004). Insofar as research found that the more tangible parts of the service experience can serve as a proxy (Berry, 1983; Zeithaml, 1988), service providers should manage those tangible parts to optimize

the consumer's perception of service quality (Berry, 1983). Intangibility, therefore, necessitates a subjective engagement of the consumer in evaluating the process.

## 2.1.2 Heterogeneity

Another element central to understanding and quantifying a 'service' is to note that they are heterogeneous. The service delivery is itself totally dependent on the staff member's skill level. For this reason, firms have the extra challenge maintaining unwavering standards of quality (Zeithaml, 1985; Bitner et al., 1994). Airline management is especially challenged insofar as air travellers have direct interaction with the airline staff, which may diminish the level of service quality, especially the service perceived by its customers (Zeithaml et al., 1993). The limited access to other staff members means that these staff also need to be excellent problem solvers, often improvising to provide the best quality of service possible. For example, successful companies must therefore do their utmost to ensure their customer contact staff are highly trained in people skills and public relations, compared to the non-customer contact staff (Zeithaml et al., 1993).

Heterogeneity in this sense, therefore indicates the varying demands and expectations of customers that staff or managers in the services production have to meet. This is due to the fact that service production and delivery involves the interaction of service personnel and customers that make delivery of services non-identical in nature (Schneider and White, 2004). For instance, an insurance company might be receiving customers each with different demands, or even if the demand is similar, the expectation in terms of delivery differs. Thus the personnel have to continually adjust to the heterogeneous environment in which they work.

# 2.1.3 Inseparability

As a process that is intangible then, service is experienced the moment it is delivered (Kotler, 2003, Gronroos, 1990). One important feature therefore is the inseparability of services. This means that an organization must strive hard to ensure maximization of consumption of output by customers when service is readily available as no further storage can be made (Schneider and White, 2004). Airline managers must work hard to leave no empty seat exists as it cannot be inventoried for later use (Schneider and White, 2004). Similarly, a hotel management must try to fill vacant rooms as much as possible as the unfilled room's revenue cannot be recovered.

#### 2.1.4 Perishability

Services are perishable, which means that they cannot be saved, stored for reuse at a later date, resold, or returned in the same sense as a product (Lovelock & Gummesson, 2004). The issue of perishability is also of prime concern for the producers (Hartman & Lindgren, 1993). This dimension of service comes to play especially, when an organisation can't fully meet the demands of the consumers (Hartman & Lindgren, 1993). In the case of airlines, if the customers wait for the registration process in long queues or wait in the boarding area for long hours, service perishability is resulted (Hartman & Lindgren, 1993).

# 2.2 Service quality

In marketing, the focus of service performance has been on the quality of service, or the evaluation of the performance of service. For decades, the definition and measurement of service quality has occupied a significant position in services marketing literature (see Appendix A). Lewis and Booms (1983) define service quality as "a measure of how well the service delivered matches customer expectations. Delivering service quality means conforming to customer expectations on a consistent basis." It has also been defined as the difference between customers' expectations and the service delivered (Parasuraman et al., 1985).

Service quality can therefore be quantified by the degree of discrepancy between customers' desired, as opposed to predicted, expectations and their perceptions of service performance (Parasuraman et al., 1985). Service quality levels are higher when the gap between perceptions of performance and desired expectations is non-existent or small; the levels of satisfactory service quality exist when perceived performance exceeds predicted expectations (Parasuraman et al., 1988).

Service quality evaluation takes place when the customer's perceptions of the service experienced are compared with the service expected. In contrast, product quality results from a comparison of customer's perceptions of product performance with the expected level of product performance. A Service quality gap results when service perceptions fall below expected levels. The gap that exists between the service provider's perception of quality and the customer's perception of quality is the perception gap (Oliver, 1999).

The difference between customers' expectations and the service delivered is termed the service quality (Parasuraman et al., 1985). Despite some definitional nuances, researchers generally agree that service quality is concerned with whether service perceptions meet, exceed or fall short of customer expectations (Babakus & Boller, 1992; Bolton & Drew, 1991; Boulding et al., 1993; Cronin & Taylor, 1992, 1994;

Gronroos, 1983a, 1983b; Oliver, 1993; Parasuraman et al., 1985; Zeithaml et al., 1993). Understanding the service quality expectations of customers would give marketers the opportunity to close the gap between expectations and perceptions of service quality levels.

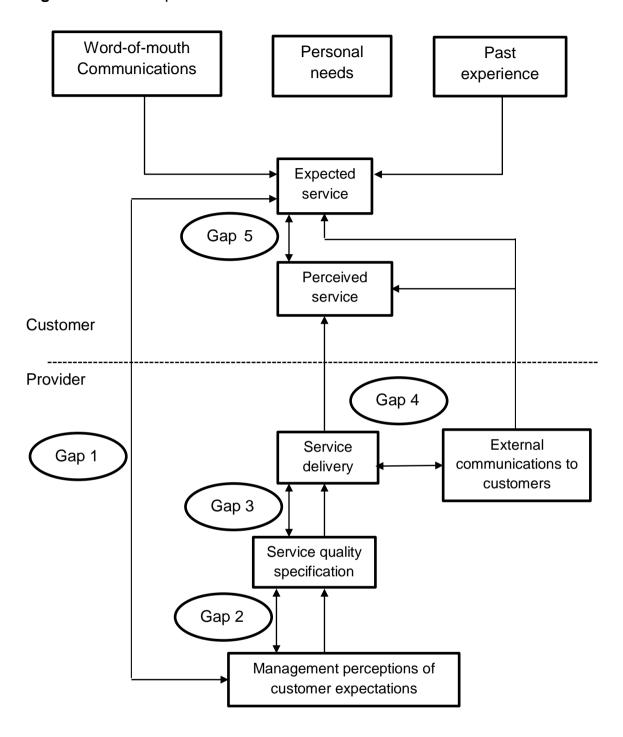
While academic researchers have long studied service quality and customer satisfaction constructs, they differ on the nature of that research (Parasuraman et al., 1988; Teas, 1993; Bitner & Mohr, 1995; Boulding, 1993; Oliver, 1993). Most researchers argue that customer satisfaction and service quality are not the same concepts (Parasuraman et al., 1988; Bitner & Mohr, 1995; Boulding, 1993; Oliver, 1993). Notwithstanding detractors, researchers are of two schools, that customer satisfaction leads to service quality or the quality leads to satisfaction (Zeithaml et al., 1993).

As such, researchers have become increasingly interested in exploring the conceptual relationship between service quality and customer satisfaction (Oliver, 1993; Parasuraman et al., 1994). The evidence from the literature suggests that quality precedes satisfaction, and more importantly, service quality, service value, and satisfaction all lead to consumer loyalty (Cronin et al., 2000),(see Appendix B). Ham (2003) also concluded that in most cases, customer satisfaction and customer loyalty are the outcomes of service quality. Based on the previous research and arguments of different scholars, Parasuraman et al. (1985) developed a scale for assessing customer perceptions of service quality in service and retailing organisations, named, SERVQUAL.

#### 2.2.1 SERVQUAL model

In discussing service quality, Berry (1983) and Parasuraman et al. (1985, 1988, 1990. and 1991) posited that both scholars and business professionals should not measure quality directly. Indeed, Alotaibi (1992) stated that they should decompose the word quality into manageable components or dimensions, which can in turn be quantified and processed. Parasuraman et al. (1985) developed a procedure for quantifying customers' perceptions of service quality. SERVQUAL determines customers' quality perceptions as influenced by a series of five distinct gaps that can interfere with delivery of high quality service. Each gap measures the difference. Gap 1 assesses the difference between actual customer expectations and management's perceptions of customer expectation. Gap 2 measures the difference between management's perception of customer expectations and service quality expectations. Gap 3 addresses the difference between service quality specifications and the service actually delivered. Gap 4 assesses the difference between service delivered and what is communicated about the service to customers. Gap 5 arguably is the most important; it occurs between customer expectations and perceptions, and gauges perceived service quality (Parasuraman et al., 1985). (See figure 2.1)

Figure 2.1: The Gap Model



Source: Parasuraman, A., Zeithaml V., Berry, L.L. (1985, p.44).

Further, Parasuraman et al. (1990, 1991) refined their conceptual model to operationalise and measure the gaps in their earlier conceptual service quality model. They viewed SERVQUAL scores along the dimension indicators of the construct of the perceived service quality.

One of the first items of research to be conducted on airline service quality was by Gourdin (1988). Interestingly Gourdin (1988) did not use SERVQUAL. However, Gourdin along with Kloppenborg in 1991 used the Parasuraman et al.'s (1985) conceptual gaps model to find out the gaps between passenger expectations and management perceptions of these gaps that might result in customer dissatisfaction in the airline industry. The service quality gaps approach using SERVQUAL scale to measure perceived service quality has also been applied by many other researchers in various service industries (Fick & Ritchie, 1991).

The methodology of Fick and Ritchie (1991) was criticised by Cunningham et al. (2004) who mentioned that, "they simply reported the mean scores of consumer expectation and perception of service performance measures and failed to determine the relative impact of various SERVQUAL items on overall service quality and satisfaction" (p. 3). They further mentioned that SERVQUAL can result in better findings if data analyses of individual items are done by means of multivariate statistical techniques.

When developing SERVQUAL, Parasuraman et al. (1985) noted that both focus group and in-depth interviews methods were adopted in the beginning with senior management of different service firms, including; banks, telecommunication, securities brokerages, appliance repair and maintenance shops, and credit card companies. Further, empirical research was undertaken where they (Parasuraman

et al., 1985) proved that the criteria used by consumers in evaluating and assessing service quality consists of ten dimensions which was later refined to five main dimensions (Parasuraman et al., 1988). Customers' responses to their perceptions and expectations are measured on a 7-point Likert scale at (perception - expectation) gap scores.

The refined version of SERVQUAL, (Parasuraman et al., 1988) replaced communication, credibility, security, competence, and courtesy with one main dimension of assurance. This consists of a number of dimensions, including:

- 1. Customers should be able to trust employees of these firms,
- 2. Customers should be able to feel safe in their transactions with these firms' employees.
- 3. A firm's employees should be polite, their employees should get adequate support from these firms to do their jobs well.

Further, understanding /knowing the customers, and access was replaced by empathy. The items they used for empathy (expectation and perception) are:

- 1. Firms should not be expected to give customers individual attention,
- 2. Employees of these firms cannot be expected to give customers personal attention.
- 3. It is unrealistic to expect employees to know what the needs of their customers are
- 4. It is unrealistic to expect these firms to have their customers' best interests at heart.

5. They shouldn't be expected to have operating hours convenient to all their customers.

This scale purification process resulted in the new refined instrument of SERVQUAL with 22 items and five dimensions, namely; tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). (See appendix C)

#### 2.2.2 Criticism of SERVQUAL

Research on service quality is a volatile area of research, with fierce debate from many theorists adopting a number of wide and conflicting stances. This is owed in part to the subjective and qualitative nature of service quality perception. According to Buttle (1996), in the period January 1992 to April 1994 articles published in various journals on service quality and SERVQUAL differs dramatically in number. The Global edition (September 1994) reported service quality to be a keyword in around 1447 articles compared to only 41 articles mentioning SERVQUAL (Buttle, 1996). This huge gap in the number of articles published in various journals is due to the criticism of SERVQUAL.

Buttle (1996) mentioned a number of criticisms of SERVQUAL. A principle criticism of SERVQUAL is that the main focus is on the process of service delivery and not the outcomes of the service encounter. As a means of determining 'quality' therefore, it focusses not on the perceived receipt of service quality from the consumer, (whose perceptions can change depending on culture, context, and personal subjectivity), but on the quality of the service process itself. Further, the five dimensions of SERVQUAL (Tangibles, Reliability, Responsiveness, Assurance and Empathy) are not universal because during the principal component analysis, the 22 items were

found not to load on their respective factors and there is a high degree of correlation between the five dimensions.

Buttle (1996) also explained that SERVQUAL cannot measure absolute service quality expectations. He argued that only four or five items are not sufficient to capture the variability within each service quality dimension. SERVQUAL also causes confusion and raises the chances of respondents' error because of the reversed polarity of some items in the scale (see appendix C). In a similar manner, the seven-point Likert scale used in SERVQUAL has also been criticised by numerous studies.

In fact, these criticisms are not specific to the applications of SERVQUAL. Lewis (1993) has criticised the scale for its lack of verbal labelling for points two to six which may cause the respondents to overuse the extreme ends of the scale and imply that could be avoided by labelling all points. Another problem the interpretation of the meaning of the midpoint of the scale (e.g. is it "don't know" or "do not feel strongly in either direction" or a "do not understand the statement").

Lewis (1993) has also noted that there is a gap in responses. For example, the expectation of the customer is perhaps 5.4, on the other hand may have 4.6 of perception (a gap of 0.8) however by completing SERVQUAL; they may evaluated each one as 5, the close to potential answer. Babakus and Mangold (1992) also suggested using a five-point Likert scale instead because the seven-point Likert may cause frustration and decrease both response rate and response quality. Finally, two different sets of questions (expectation and perception) of the SERVQUAL instrument can cause boredom and confusion (Buttle, 1996).

Carman (1990) highlighted the limitations of SERVQUAL instrument and stated that the 22 items were never completely applicable, therefore, the robustness of the instrument. He further objected to the nine items of the instrument which were stated in negative format (see appendix C). These negatively stated items may lead the respondents to misconstrue the questions resulting in unexpected outcomes (Carman, 1990). Many other researchers also reported SERVQUAL to be cumbersome and unsatisfactory based on the number of items it has for one field study (Fick & Ritchie, 1991).

SERVQUAL has also been criticised on several other grounds. For example, Cronin and Taylor (1992) argued that expectations cannot remain constant over time, which attest to the inability of SERVQUAL to provide management with sufficient information for strategy implementation and resource allocation for the purpose of customer satisfaction (Hemmasi et al., 1997). Further, Jayasundara et al. (2009) and Al-alak (2009) indicated that SERVQUAL cannot be used to measure customer satisfaction to any great extent because of its relevance to measuring service quality. Another criticism of SERVQUAL dimensions is its inability to measure service quality consistently across different cultures, countries, and ethnicities (Furer et al., 2000).

Finally, the criticism of the inapplicability of the SERVQUAL model to all service industry(Bekhet & Al-alak, 2011), which resulted in many modified versions of SERVQUAL model over time (Bekhet & Al-alak, 2011; Eastman et al., 2011; Beecham, 2009; Micuda & crucern, 2010; Kanning & Bergmann, 2009; Munteanu et al., 2010; Maditinos & Theodoridis, 2010). Based on the above mentioned criticism of SERVQUAL, scholars (Bekhet & Al-alak, 2011) recommended developing a more realistic model specific to a particular culture, country, ethnicity, or service sector.

Bekhet and Al-alak (2011) also recommended that researchers in different emerging economies should propose models that suit their country's, culture, and service sectors, because merely replicating a model may result in false outcomes which ultimately will lead to the failure of organisational strategies.

#### 2.2.3 Emergence of AIRQUAL

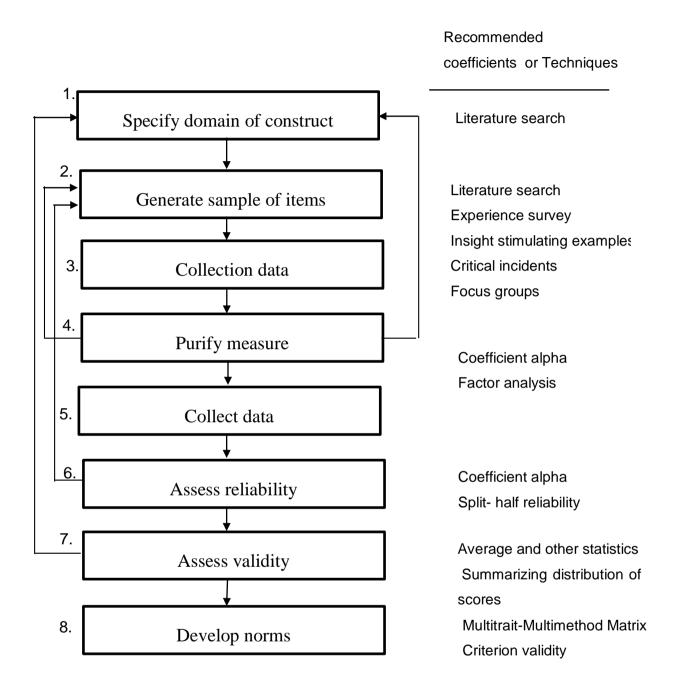
Given the wide criticisms of SERVQUAL as a process-based assessment of service quality, a new measurement scale was developed by Bari et al. (2001): AIRQUAL. This scale was used to measure airline service quality in The Turkish Republic of Northern Cyprus (TRNC). The main reason behind the development of AIRQUAL was that the existing scales of service quality were developed and evaluated in different countries and were not psychometrically eligible to measures of service quality in TRNC. This returns to our understanding of culture and context as being essential to the process of quantifying consumer notions of 'service quality'.

AIRQUAL was important as many researchers argued that the dimensions and nature of the SERVQUAL construct may be industry specific (Ekiz et al., 2006; Nadiri et al., 2005; Nadiri et al., 2008; Babakus & Mangold, 1992). Further, many studies have tried to replicate the five-dimensions of SERVQUAL, but have resulted in a principal components analysis (PCA) in which only one dimension was found to be significant (Angur et al., 1999; Babakus & Mangold, 1992; Babakus & Boller, 1992). Occasionally this was the result of the exploratory factor analysis with eigenvalues greater than one emerged with even ten dimensions, hence Carman (1990) described the SERVQUAL dimensions as not being totally generic.

Nadiri and Hussain (2005), Karatepe and Avci (2002), Ekinci et al. (2003) found the same scale to be two-dimensional. In a similar manner, researchers found performance-only (SERVPERF) to be a better of exploring variance in an overall measure of service quality compared to SERVQUAL instrument (Cronin & Taylor, 1994). These arguments in SERVQUAL made researchers develop scales which are more industry specific.

Other objectives were to prove the efficiency of the newly designed AIRQUAL scale compare to others, SERVQUAL scale and SERVPERF scale. Bari and her colleagues carried out fieldwork in the form of an exploratory study, where quantitative research was undertaken. To achieve their goal they followed two important methods, first one was the sequence of 8 steps (specify domain of construct, generate sample of items, collect data, purify the measure, assess reliability with new data, assess construct validity and developing norms) presented by Churchill (1979) (see Figure 2.2). The reason for choosing this method was to ensure that their research is reliable on the subject and that the use of this framework could be in order to gather information necessary to develop improved measures as well as to evaluate the quality of measures which have been developed. The second was SERVQUAL Instrument revealed by Parasuraman et al. (1988) that was based on perceptions – Expectations which is known as a disconfirmation Paradigm.

Figure 2.2: suggested procedure for developing a better measurement



Source: Churchill (1979, p.66)

Bari et al. (2001) collected data by using both qualitative and quantitative techniques using probability and non-probability sampling techniques. Their study was focusing on Turkish customers who travelled with Turkish Airlines. In the qualitative research, they selected tourists who are customers of ETS (Ersoy Touristic Services). They undertook in-depth interviews of 50 respondents who were either Turkish or Cypriot. The outcomes of the exploratory study were used to form a pilot questionnaire. Then the final questionnaire was driven from the pilot study. 200 customers of ETS travel agency answered the final questionnaire.

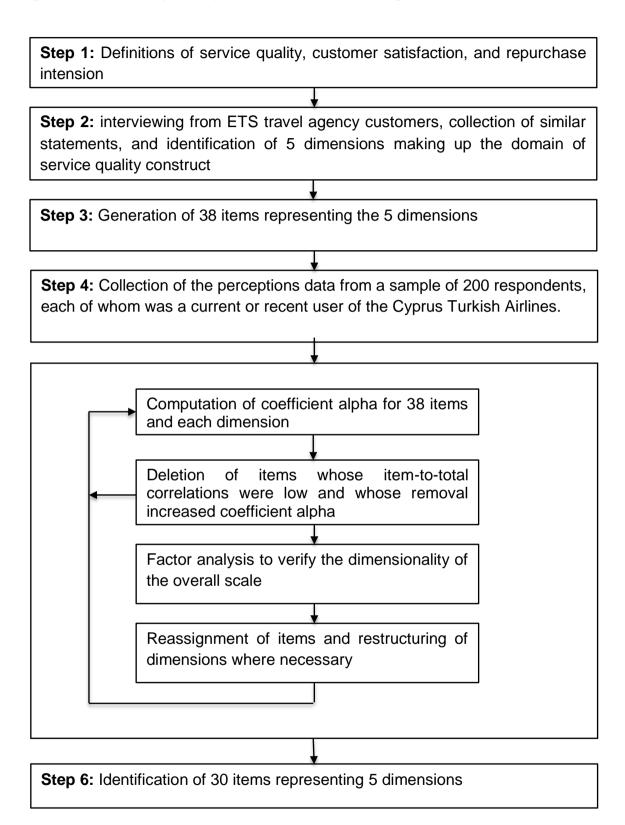
According to Bari et al. (2001) there are two basic approaches to develop a hypothesis. The first of these is a classical approach which requires a concept to be applied to observed data and, the second is a grounded approach which uses observed data to form a concept. In other words, the concept driven approach or data driven approach becomes the central dichotomy of academic theory. The former assesses the validity of an already established concept while the latter perceives there to be no existing concept, but hypotheses are developed following analysis. Bari et al. (2001) illustrated that the concept is developed according to the collected data and the hypothesis related to this concept is improved in their study process. Then the improved hypothesis was tested in their research process as well using collected data.

In developing the AIRQUAL scale, they used a grounded approach and applied the method of Parasuraman et al. (1988) directly. Parasuraman et al. (1988) have used the sequence of steps suggested by Churchill (1979). Moreover they suggested applying 11 steps in developing SERQUAL scale. Among these steps, the first three steps describes the generation of the scale items. Steps 4 to 9 present the data

collection and scale purification procedures. Step 10 provides an evaluation of the scale's reliability and factor structure. Step 11 deals with the assessment of validity of the scale. Bari et al. (2001) followed the same steps of procedure however due to the time limitation they just used 6 steps only (see Figure 2.3) and they suggested that those were enough to fulfil the requirements in order to develop new scale.

For developing a multiple-items scale for measuring customer perceptions about service quality, Parasuraman et al. (1988) suggested that there should be two stages for data collection and refinement. On the other hand, Bari et al. (2001)'s investigation was focusing on two distinct areas. First, by considering the instrument by retaining those items capable of discriminating well across respondents having differing quality perceptions about firms in several categories. Secondly it was used to examine the dimensionality of the scale and establishing the reliability of components. However the second stage of Parasurman's suggestion was not included in their research as well as they recommended further research to test the second stage of AIRQUAL which is primarily confirmatory in nature and involves re-evaluating the condensed scale's dimensionality and reliability by analysing data from some independent samples.

Figure 2.3: Summary of steps employed in developing the AIRQUAL scale



**Source**: Bari et al. (2001, p69)

Nevertheless, the multiple items of AIRQUAL has good reliability and validity in measuring airline service quality which service providers can use to better understand the service expectations and perceptions of customers. As a result, it will enable them to improve their service performance levels. However, these results do illustrate that this scale needs to be refined in the second stage as well as analysis of the questions in detail to ensure those wording/statements are expected to measure the related dimensions.

Further research should therefore consider the convergent validity, for example, as it is a very important issue that means questions should be grouped under corresponding dimensions as expected after exploratory factor analysis. Cronbach Alpha values should be reconsidered and values greater than 0.5 should be used for interpretation. If possible, for more reliable results, probability sampling techniques should be implemented. Bari et al. (2001) mentioned that they have some limitation in their study. The first, was being the shortage of time and be difficulty in finding respondents. So they selected only ETS travel agency customers for their exploratory study with judgmental sampling. In the final study they also used convenience sampling to achieve the required respondent number due to time constraint as well.

#### 2.2.4 AIRQUAL model

In measuring airline service quality, researchers have been conscientious in developing quality dimensions. Research related to investigating the dimensions of airline service quality remains extensive and ongoing (Alotaibi, 1992; Etherington & Var, 1984). In light of the available information on air travellers' preferences, research instrumentation on service quality measures specific to the airline industry were

deemed necessary. For this purpose, Bari et al. (2001) came up with an instrument for measuring service quality in the airline industry, and named it AIRQUAL. The AIRQUAL scale developed by Bari et al. (2001) has five distinct dimensions, namely, airline tangibles, terminal tangibles, personnel, empathy, and image. Their study was conducted in North Cyprus, and they investigated whether AIRQUAL could successfully measure the service quality of perceptions of airline customers. In the AIRQUAL instrument these five dimensions inquire various aspects of the airline product. For example, airline tangibles contain questions related to the interior of aircraft used by airlines, the quality of catering in the plane, the cleanliness of the plane's toilets, the cleanliness of the plane seats, the comfort of the plane seats, and the quality of air-conditioning in the planes (Bari et al., 2001; Ekiz et al., 2006; Nadiri et al., 2008).

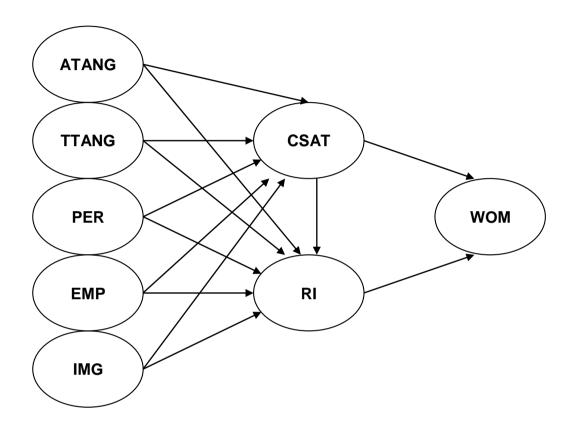
Terminal tangibles, another important dimension of AIRQUAL, contain questions more related to airports. In this dimension respondents are asked about cleanliness of the airport toilets, availability of shop in the airport, parking space availability in airport, size of airport, air-conditioning of the airport, dedicated areas for smokers, effectiveness of sign age in the airport, availability of trolleys in airport, efficiency of security control system in airport, employee's uniforms, and comfort of waiting hall of the airport (Bari et al., 2001; Ekiz et al., 2006; Nadiri et al., 2008).

The third dimension of AIRQUAL, personnel, was designed to evaluate employees working in airlines. Questions included in this dimension are about employees' attitude, knowledge, experience, and level of education, personal care of employees to everyone, dutifulness of employees, and airlines' error-free reservations and ticketing transactions.

The fourth dimension of AIRQUAL is "empathy", which poses questions like; punctuality of the departures and arrivals, transportation between city and airport, compensation schemes in case of loss or hazard, care paid to passengers' luggage, availability of health personnel during the flights, locations of the airline company offices, and number of flights to satisfy passengers' demands (Bari et al., 2001; Ekiz et al., 2006; Nadiri et al., 2008).

The last dimension of AIRQUAL relevant to airline service quality is image (Bari et al., 2001; Ekiz et al., 2006; Nadiri et al., 2008). In this dimension questions on availability of low price ticket offerings, consistency of ticket prices with given service, and image of the airline company is included (Bari et al., 2001; Ekiz et al., 2006; Nadiri et al., 2008). Ekiz et al. (2006) and Nadiri et al. (2008) used the AIRQUAL to investigate whether it could capture customer satisfaction along with some other constructs (see Figures 2.4; 2.5). Both these studies (Ekiz et al., 2006; Nadiri et al., 2008) found that better service quality, as measured by AIRQUAL, has statistically significant impact on customer satisfaction. Nadiri et al. (2008) also found a significant positive impact of service quality as measured by the AIRQUAL scale on customer loyalty behavioural aspects; repurchase intentions and word-of-mouth communication.

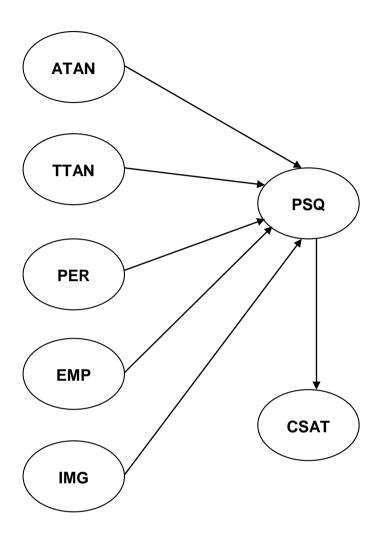
**Figure 2.4:** An investigation on the factors influencing passengers' loyalty in the North Cyprus national airline.



**Note:** Airline Tangible (ATANG), Terminal Tangible (TTANG), Personnel (PER), Empathy (EMP), Image (IMG), Customer Satisfaction (CSAT), Repurchase Intention (RI) and Word of Mouth (WOM)

**Source:** Nadiri et al. (2008, p.272)

Figure 2.5: Perceptions of service quality in North Cyprus National Airline



**Note: PSQ = Perception of service quality** 

**Source:** Ekiz et al. (2006, p788)

Further, Huang (2009) used SERVQUAL to see its impact on service value, customer satisfaction, and to assess the behavioural aspect of customer loyalty. The findings of Huang (2009) revealed that service quality as measured by SERVQUAL has a significant positive impact on service value, customer satisfaction, and behavioural intentions (customer loyalty). These findings are of primary importance to this research, especially in developing the framework for the study. The unique contribution of this research would be the use of AIRQUAL (Bari et al.; Ekiz et al., 2006; Nadiri et al., 2008) instead of SERVQUAL (Parasuraman et al., 1988), this focuses solely on the experiential nature of service quality as an intangible and subjective experience.

Based on this wide field of research Han et al. (2008) has developed a model of customer loyalty. Many antecedents of customer loyalty were used, including, service quality, trust, and customer satisfaction. Their findings revealed a significant positive impact of service quality on trust, customer satisfaction, and customer loyalty. It is worth mentioning that Han et al. (2008) also used items of service quality from Parasuraman et al. (1988).

In this research, however, AIRQUAL was used to measure the impact of some quality on customer satisfaction, and customer loyalty. The differences between Han's, Huang's and this model can be clearly understood through the diagrammatic representation of these models (see Figure 2.6, 2.7, 2.8).

The present study, therefore, take Nadiri et al.'s (2008) study further by incorporating the both constructs of customer loyalty in the model for airline industry.

Based on the above discussion, the following hypotheses was proposed:

H1: Airline service quality has a positive impact on customer satisfaction in the airline industry

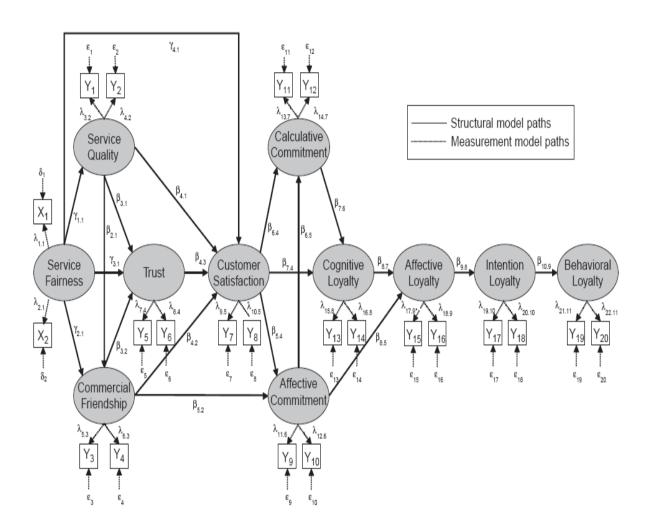
H2: Airline service quality has a positive impact on attitudinal loyalty in the airline industry

H3: Airline service quality has a positive impact on repurchase intention in the airline industry

H4: Airline service quality has a positive impact on word of mouth in the airline industry

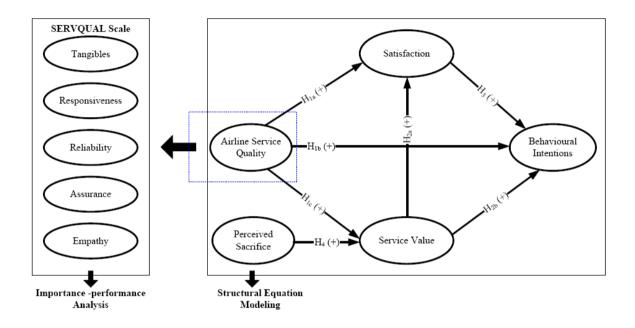
H5: Airline service quality has a negative impact on complaining behaviour in the airline industry

**Figure 2.6:** Service Loyalty "An Integrative Model and Examination across Service Contexts



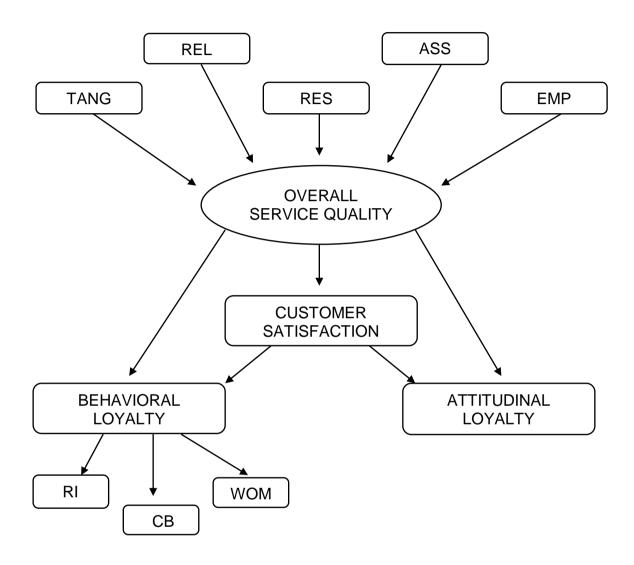
**Source:** Han, X., Kwortnik, R. J., and Wang, C (2008) "A Conceptual Model of Service Loyalty Determinants"

**Figure 2.7:** The Effect of Airline Service Quality on Passengers' Behavioural Intentions Using SERVQUAL Scores: A TAIWAN Case Study



**Source**: Yu-Kai HUANG (2009) "factors influencing Airline passengers' Behavioural Intentions"

Figure 2.8: PROPOSED MODEL FOR THE STUDY



**Note:** (TANG) Tangible, (REL) Reliability, (PES) Responsiveness, (ASS) Assurance, (EMP) Empathy, (PSQ) Perceived Service Quality, (CSAT) Customer Satisfaction, (BL) Behavioural Loyalty, (RI) Repurchase Intention, (CB) Complaining Behaviour, (WOM) Word of Mouth and (AL) Attitudinal Loyalty.

#### 2.3 Customer satisfaction

Over recent years marketing researchers have shown an interest in exploring satisfaction (Heitmann et al., 2007) and, more specifically, customer satisfaction (Preis, 2003). This is because the concept of satisfaction can be held responsible for the competitive advantage of an organisation (Anderson et al., 1994; Anderson & Mittal, 2000; Edvardsson et al., 2000; Fornell, 1992; Hallowell, 1996; Reichheld et al., 2000; Soderlund & Vilgon, 1999), resulting in the increasing interest of companies around the world to monitor satisfaction on a continuous basis (Fornell, 1992). Durvasula et al. (2004) made this factor responsible for the investment of companies in improving their customer satisfaction. Fornell (1992) also agreed that companies need to dedicate significant resources for the improvement of customer satisfaction because satisfaction indicates the general health of the organisation.

Scholars defined satisfaction based on Oliver's disconfirmation paradigm, which states that satisfaction is the notion of the consumer comparison between the expectation and performance (Bloemer & Kasper, 1995). If the consumer is able to compare between expectation and performance, it is called manifest satisfaction (Bloemer & Kasper, 1995). However, in some situations it could be quite difficult to compare or the consumers might not be capable of forming expectations, evaluating performance, and comparing the two as independent elements. In that situation, satisfaction is defined as latent satisfaction, which is the result of an implicit evaluation (Bloemer & Kasper, 1995).

The satisfaction response can therefore be broken down into cognitive and affective components (Durvasula et al., 2004; Homburg & Gierin, 2001; Oliver, 1993; Szymanski & Henard, 2001; Yu & Dean, 2001).

When a consumer forms pre-consumption expectations by observing the product or product attribute performance and compares performance with prior expectations, forming perceptions, and compare those perceptions with expectations, cognitive satisfaction takes place (Oliver, 1993). On the other hand, the affective component of satisfaction is based on post-purchase attributes and includes positive effects on consumption and negative effects on consumption (Yu & Dean, 2001). The cognitive element also includes equity and attribution; and whereas the former is consumer perception fair of treatment, the latter is a consumers' attribute towards favourable outcomes to themselves, while unfavourable to others (Oliver, 1993).

Yu and Dean (2001) explained the positive effect on consumption as success, whereas, the negative effect on consumption was determined as failure. These affects also include emotional components such as happiness, surprise or disappointment (Yu & Dean, 2001). Strauss and Neuhaus (1997) amend this assertion noting that one of the major issues in the satisfaction research is that many researchers concentrate on cognitive elements and do not include the affective component of satisfaction.

The current literature in marketing highlights the importance of satisfaction in continuous buyer's relationship (Oliver, 1980; Hellier et al., 2003; Selnes, 1998). In this vein Ganesan (1994) found that a retailer's satisfaction with past outcomes is significantly related to the retailer's long-term orientation. Similarly, in a retail sales setting, Swan and Trawick (1981) found that satisfaction determines a customer's

anticipation of future behaviour to patronise a retail store. Further Ping (1993) found that satisfaction is positively associated with re-purchase intentions in a service setting. Many scholars researched on the impact of customer satisfaction on customer loyalty in different settings. For example, Patterson and Spreng (1997) and Patterson et al. (1997) found a positive relationship between satisfaction and repurchase intentions in a consulting firm, Cronin and Taylor (1992) found a positive relationship between customer satisfaction and customer loyalty in four different service industries, and Taylor and Baker (1994) reported a positive relationship between customer satisfaction and loyalty in a long distance communication context.

After an extensive review of literature, two main schools of thought can be evidenced regarding the causal relationship between satisfaction and loyalty. The first view considers satisfaction as the main driver of customer loyalty (Cronin et al., 2000; Dixon et al., 2005; Fornell, 1992; Genzi & Pelloni, 2004; Hallowell, 1996; Heitmann et al., 2007; Mittal & Kamakura, 2001; Olsen, 2007; Szymanski & Henard, 2001; Zeithaml et al., 1996). This group of scholars think that satisfaction positively affects loyalty, willingness to recommend, and word of mouth. Satisfaction affects future customer's choices, which in turn leads to improved customer's retention and ultimately these customers want to, continue their relationship and stay loyal to the company because they are satisfied (Heitmann et al., 2007).

The second view considers that customer satisfaction may positively influence customer loyalty but it is not sufficient to form loyalty itself (Auh & Johnson, 2005; Balabanis et al., 2006; Johnson et al., 2001; Julander et al., 2003; Kim et al., 2004; Oliver, 1999; Olsen & Johnson, 2003; Olsen, 2007; Reichheld et al., 2000; Suh & Yi, 2006). According to these scholars satisfaction does not universally translate into

loyalty and the direct effect of satisfaction on loyalty varies among industries (Olsen, 2007). It is reported by many researchers (Reichheld et al., 2000; Suh & Yi, 2006) that a loyal satisfied customer is still vulnerable to situational factors such as competitors' coupons or price cuts. As such, satisfaction is not likely to be the sole and reliable predictor of loyalty.

The relationship between customer satisfaction and customer loyalty is by no means straightforward. It is strongly influenced by the characteristics of the customer such as variety seeking, age, and income (Homburg & Gierin, 2001). Oliver (1999) agreed to the complexity of satisfaction-loyalty relationship and demonstrates that loyalty can totally encompass satisfaction or satisfaction and loyalty can overlap or satisfaction does not transform to loyalty and can exist without it. However, overall researchers agree that when customers are completely satisfied, they are less likely to defect or switch, which makes them loyal to the company (Strauss & Neuhaus, 1997).

Based on the above discussion on the relationship between customer satisfaction and customer loyalty, the following propositions was suggested:

H6: Customer satisfaction has a positive impact on attitudinal loyalty in the airline industry

H7: Customer satisfaction has a positive impact on repurchase intention in the airline industry

H8: Customer satisfaction has a positive impact on word of mouth in the airline industry

H9: Customer satisfaction has a negative impact on complaining behaviour in the airline industry

## 2.4 Customer loyalty

The concept of customer loyalty has been developed gradually over a number of years by a wide range of scholars and academics. In the earlier years, the focus of loyalty was brand loyalty with regard to tangible goods (Tucker, 1964; Day, 1969). Cunningham (1956) defined it as the proportion of purchases of a household devoted to the brand it purchase most often. Similarly, Oliver (1999, p. 34) defined customer loyalty as, "a deeply held commitment to re-buy or re-patronise a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour". Early perceptions therefore centred on loyalty as a firm concept, upon which the product/service could rely. It is further argued by Oliver (1999) that none of the definitions of loyalty included all three components of cognition, affect, and behavioural intention. For example, some scholars (see Cronin & Taylor, 1992) focused exclusively on repurchase intentions, while others (see Boulding et al., 1993) measured it using repurchase intentions and willingness to recommend. In a similar manner, Zeithaml et al. (1996) argued that price sensitivity and price-increase tolerance were also often excluded in previous research.

The review of extant literature, however, brought up two main dimensions of customer loyalty, namely, the behavioural dimension, and the attitudinal dimension (Kandampully & Suhartanto, 2000; Julander et al., 1997). The behavioural dimension refers to a customer's behaviour on repeat purchases, indicating a preference for a brand or a service over time (Bowen & Shoemaker, 1998), whereas, the attitudinal dimension refers to a customer's intention to repurchase and recommend, which is

considered a good indicator of customer loyalty by researchers (see Getty & Thompson, 1994). Oliver (1993) considered behavioural intentions as a postpurchase activity that customers engage in after the services encounter. Zeithaml et al. (1996) propose a model to measure the consequences of behavioural intentions. where it is considered a multi-dimensional concept, consisting of word of mouth communication, repurchase intentions, price sensitivity and complaining behaviour. Zeithaml (2000) explained customers' repurchase intentions as an activity that occurs after purchasing goods or services from an organisation. It indicates that a customer has been retained by the organisation which is proved empirically by many scholars to have a strong impact on profits (Bloemer et al., 1998; Reichheld, 1996; Reichheld & Sasser, 1990). Repurchase intentions are also reported to have an impact on organisational growth through increased purchases, willingness to pay higher prices, reduction in marketing costs and less vulnerability to competitive offerings (Anderson et al., 1994; Fornell, 1992; Reichheld & Sasser, 1990). Another important measure of behavioural intentions is customers' willingness to recommend (Boulding et al., 1993).

According to Zeithaml et al. (1996), favourable word of mouth depicts a customers' willingness to recommend. Organisations profit from this behaviour because customers talk about their favourable perceptions of service quality with friends, family, co-workers and reference groups, strongly influencing other customers to conduct business with the organisation (Reichheld, 1996; Reichheld & Sasser, 1990; Susskind, 2002; Zeithaml et al., 1996). Word of mouth communications can be positive or negative, with each proving to influence other people's behaviour (Susskind, 2002). With regard to behavioural intentions, Alexandris et al. (2002)

argued that it is an accurate predictor of actually behaviour and may be favourable or unfavourable depending on the satisfaction with service quality. Favourable behavioural intentions include willingness to recommend, intention to pay a premium price, and intention to continue to purchase from the organisation in the future (Rust & Zahorik, 1993).

Zeithaml et al. (1996) considered favourable behavioural intentions an action of loyalty. Customers who express favourable behavioural intentions indicate that they have formed a bond with the organisation (Zeithaml et al., 1996). In contrast, unfavourable behavioural intentions, based on the perception of poor quality of service may include intent to defect, intent to spend less money with the organisation. intent to complain, and even the intent to take action (Parasuraman et al., 1994; Zeithaml, 2000). The extent to which this bond impacts upon the reputation of the firm again reflects the subjective nature of the intention to defect is when customers seek alternatives and avoid the organisation's product or service. Arnould et al. (2004) explained that the possible reason for customers to choose to defect rather than complain is to avoid the possibility of an unpleasant confrontation. Another unfavourable behavioural intention might be when customers intend to complain. It may take several forms, including negative word of mouth to the organisation, to other customers, and to third parties (Arnould et al., 2004). Finally, customers may also express themselves through actions other than defecting or complaining. For example, acts of resistance such as picketing, seeking legal action, creating disgruntled web sites, and a myriad of other resistance behaviours (Arnould et al., 2004).

Jacoby (1971) conducted extensive literature review on the topic and confirmed that previous studies have focused primarily on behavioural outcomes and ignored consideration of what went on in customers' minds. Jacoby and Chesnut (1978) further concluded that loyalty was simply measured in terms of its outcome characteristics, for example, determining the sequence of purchase (Tucker, 1964; McConnell, 1968; Lawrence, 1969), proportion of a given brand purchase, and probability of purchase (Maffei, 1960; Frank, 1962). However, recent researchers (Alexandris et al., 2002; Zeithaml et al., 1996) have demonstrated empirical evidence for the usefulness of predicting customer loyalty for organisational success.

Organisational success and increased profitability are the outcomes of loyalty (Hong & Goo, 2004; Johnson et al., 2001). Loyal customers exhibit favourable behavioural intentions such as the intention to return and repurchase and the intention to recommend (Arnould et al., 2004). However, Gremler and Brown (1998), and Cronin and Taylor (1992) argued that for customers to be loyal, customer satisfaction and service quality are the prerequisites. Danaher and Mattsson (1998) also agreed that high customer satisfaction and service quality result in higher customer loyalty and willingness to recommend the service to others. Bitner (1990) confirmed that the word of mouth becomes more positive as satisfaction increase. In a similar manner, Barnes (1997) added closer relationship of customer with a service employee to the list of prerequisites of customer loyalty and increased profitability, as customer-employee relationship present higher share of business and greater share of customer's wallet (Barnes, 1997).

Prior studies on customer loyalty have focused primarily on product-related or brandrelated loyalty whereas research on customer loyalty to service organisation has remained limited (Gremler & Brown, 1998). Many scholars (Berry, 1983; Crosby et al., 1990; Dick & Basu, 1994; Zeithaml, 1981) concluded that the finding in the field of product loyalty cannot be generalised to service loyalty because of the many reasons. For example, person to person interactions is an inevitable element in the marketing of services (Suprenant & Solomon, 1987; Crosby et al., 1990; Czepiel, 1990), hence service loyalty is more dependent on the development of interpersonal relationship as opposed to loyalty of tangible products (Berry, 1983). Further, the influence of perceived risk is greater in the case of services, as customer loyalty may act as a barrier to customer switching behaviour (Zeithaml, 1981; Klemperer, 1987). And, finally, it is also evident that in the service context, intangible attributes such as reliability and confidence may play a major role in building or maintain loyalty (Dick & Basu, 1994).

The relationship between customer loyalty and customer satisfaction has been investigated by many researchers (Coner & Gungor, 2002; Cronin & Taylor, 1992, 1994; Dabholkar et al., 2000). Cronin and Taylor (1992) found purchase intentions, an important dimension of customer loyalty, to be significantly affected by customer satisfaction. Getty and Thompson (1994) reported that in the lodging experience the customer's intentions to recommend depend on their perception of both their satisfaction and service quality. Further, Kandampully and Suhartanto (2000) concluded that there is a positive relationship between customer loyalty and customer satisfaction. Cronin and Taylor (1992) examined the causal relationship among service quality, customer satisfaction, and purchase intention (a dimension of customer loyalty). Each variable was measured by one time in their research. There were 660 usable questionnaire randomly collected from customers of four different

types of businesses including, banking, pest control, dry cleaning, and fast food. The results of correlation analysis have suggested that: a) service quality was an antecedent of customer satisfaction, b) service quality had less effect on purchase intentions than did customer satisfaction, and c) customer purchase intentions (customer loyalty) was significantly affected by customer satisfaction. Similar results were found by Dabholkar et al. (2000) where customer satisfaction strongly mediated the effect of service quality on behavioural intentions and the results of regression analysis in structural equation modelling supported their proposition that behavioural intentions (customer loyalty) was strongly affected by customer satisfaction compared to service quality (Dabholkar et al., 2000)

## **CHAPTER 3**

# Research methodology

This chapter will provide a methodological overview of the approaches taken to analyse the three key research questions of this study. These are as follows:

- Confirmation, assessment and validation of AIRQUAL scale that is based on stage-two of Parasuraman et al. (1988);
- 2. Development of an improved and validated AIRQUAL model; and
- Application of an improved AIRQUAL scale to a new market, i.e., the Saudi market.

This chapter will discuss why the techniques and methods used were selected. The academic theory behind the selection of the research design will be assessed, and a number of approaches to data collection will be explored, in order to produce the most robust conclusions. Furthermore, this study will also develop a specific research instrument, used for the final evaluation and assessment of the hypothesised model that will be explicated in detail.

Specifically, this chapter analyses the potential of both qualitative and quantitative research methods used in the study, along with the data collection techniques utilised in both approaches. The target population, merits of the selected sampling design and determination of requisite sample size will also be described. Finally the means of codifying a mixed methodological approach of both qualitative and quantitative data will be explored and established. This demonstrates a particular focus on the analysis of quantitative data and its numerous descriptive approaches such as data screening, factor analysis and validity testing.

## 3.1 Methodological approach

This research adopts a mixed methodological approach, focussed on refining a quality scale for airline service based on consumer perceptions of value. Creswell (2007, P.5) defined a mixed method of study as "a method, which focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or a series of studies".

Precisely regarding this study, qualitative techniques such as the use of focus groups were employed. The primary purpose of the focus group is to test and screen the original AIRQUAL dimensions of; airline tangible, terminal tangible, personnel, empathy and image, and from there determine the extent to which these coded definitions reflect the respondents' data. The screening process throughout the focus group explored the extent to which respondents understood these dimensions, and assessed whether respondents could distinguish between the attributes of the original AIRQUAL dimensions. The result of the focus group was used to confirm the survey instrument.

The present study embarked on the following steps:

- Qualitative data collection
- 2. Qualitative data analysis
- 3. Qualitative findings
- 4. Qualification/ confirmation of the instrument
- 5. Quantitative data collection
- 6. Quantitative analysis; and
- 7. Overall results and interpretation

In the initial stage of the qualitative study a number of exploratory analyses were considered; as these are more convenient for the understanding of the issues that affect airline service quality. Qualitative methods are necessary in this case as they can help to define the scope of certain phenomena, such as 'airline quality', to provide it with a sound metric based upon which quantitative research can be conducted. This quantitative research will then explore the relationship between these robust variables determined through the qualitative study.

## 3.2 Research design

A detailed research design is central to conducting responsible, robust research. It requires making decisions regarding the purpose of the study, the location of the study, the type of study, the extent to which the researcher manipulates and controls the study, the temporal aspects of the study and the level of which the data is analysed (Sekaran, 2003). According to McDaniel and Gates (1999), a research design is a plan for a study that provides specification of procedures to be followed by the researcher in order to achieve the research objective, as well as, to test the hypotheses. Similarly, many researchers (e.g., Churchill and Iacabucci, 2005) call it a blueprint for a research to be followed in order to successfully implement the research. The core purpose of a research design is to ensure that it clearly answers the research objectives from the generated data in a confident and convincing manner (De Vaus, 2001).

There are a number of different approaches to research design, including exploratory, descriptive and causal (Malhotra, 2008), each with different purposes. Exploratory research, for example, intends to acquire preliminary insights into an ambiguously defined research problem, which could provide the foundation and direction for a

constructive research investigation (Parasuraman, 1991). Descriptive research focuses more on describing an extant and clearly defined process (Parasuraman, 1991). It also helps in assessing the characteristics of the variables examined in the study (Sekaran, 2003). Lastly, causal research design is normally applied through experimentation and is considered the best method to determine cause and effect outcomes (Churchill and Iacobucci, 2005). This study contains elements of both exploratory and casual research design. On the one hand it is focussed on attempting to define a qualitative phenomenon and assessing its impact in practice, and on the other it is assessing the cause and effect outcomes between good customer service and competitive advantage.

The present research began with gaining insight into the AIRQUAL instrument by conducting exploratory research through focus groups. This was followed by employing quantitative research through airline passenger surveys to corroborate these findings and attempt to quantify their impact. Both these designs will be separately explained below.

### 3.2.1 Justification of exploratory research

Exploratory research is generally employed as an initial step to provide insights and understanding of the specific phenomena being investigated. It is expected that interactions among participants will lead to circumstantial insights about airline service quality that other quantitative or qualitative techniques could not capture. As such, focus groups were selected as a suitable approach for this study (Blackston, 1995; Morgan, 1997). This method is considered appropriate in the preliminary stage of the analyses because it helps the researcher to gain valuable insights and also to identify and confirm the dimensions underlying the original AIRQUAL scale.

When these dimensions are confirmed through focus group analysis, more detailed research can be conducted into the relationship between these values and the AIRQUAL scale. A focus group has been defined as a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (Krueger and Casey, 2009, p5). Guidelines and marketing research which govern the responsible formation and utilisation of focus groups have been followed in this study. Many researchers have suggested that the focus group is a useful method in exploratory study or in generating new ideas (Flick, 1998; Neuman, 1997). In this investigation, focus groups were used to determine whether the AIRQUAL survey instrument results in an equal number of dimensions as proposed by the original author or it varies in number.

The focus group is also considered appropriate because it is intended to check if the dimensions (and their subsequent items) measure airline service quality or not. For the first part of this investigation, purposive sampling was used. Initially, in order to satisfy the requirement of exploratory study, each participant was scanned for his/her journey at least once in the proceeding twelve months for business or leisure-related purposes. A discussion guide was followed for each group (see appendix F) in which each group were digitally recorded, allowing key statements to be produced. By using key statements transcripts, descriptive coding was solely carried out.

#### 3.2.2 Justification of survey research

The second stage of this research demonstrated the application of a systematic measure to improve the instrument of analysis. The sequences of eight scale development steps that are presented by Churchill (1979) were followed (See Figure

3.2). Survey research tends to be the most popular method and is generally utilised in descriptive and causal research designs. It is also considered useful because a researcher can quickly and conveniently collects large sums of raw data using a questionnaire. The collation of data from a survey helps to ensure data standardisation, which facilitates the investigation of specific questions of how, who, what, why and when (Hair et al., 2010). Given that the main focus of this research is assessing the validity of the AIRQUAL scale, a target sample of around 500 were considered sufficient for data analyses purposes based on the 95% confidence level, where the recommended sample was around 380. It was considered appropriate to choose more because usually in data cleaning and screen cases are deleted. Further, selecting an appropriate sample size is also important to address the objectives of the study. In the present research, as assessment and validation of AIRQUAL scale was the main objective, through exploratory factor analysis (EFA). Therefore, various guidelines were kept in mind in the selection of a sample of five hundred. Literature highlights several guiding rules of thumb with regard to sample size (see Williams et al., 2010), however, there is a lack of agreement on the appropriateness of a sample size (Hogarty et al., 2005). For example, some scholars (see Tabachnick, 2007) recommend a sample size of at least 300, whereas, some others (see Hair et al., 2010) suggest a size of 100 or more. Lastly, Comrey and Lee's (1973) guide to sample sizes consider 100 as poor, 200 as fair, 300 as good, and 500 very good. Considering all the aforementioned suggestions and recommendations, a sample size of 500 was finally selected.

## 3.3 Questionnaire development

The development of the questionnaire was based upon the research of Bari et al. (2001). The instrument was then adapted and checked for its validity during focus group analyses (the exploratory stage). It was subsequently further tuned to increase relevance and focus.

The instrument developed was divided into many parts with the first page of the questionnaire as cover letter that summarised the intention of the research and the address and affiliation of the researcher. Subsequently, the questionnaire collected basic information about the respondents, e.g., questions about the frequency of travel, the purpose of travel, the duration of trip and the class used, etc.

The main section of the questionnaire contained questions relating to the various dimensions of AIRQUAL. In total, 30 questions were adapted from the previous studies conducted on service quality. Particularly relevant studies to this aspect of the research include Parasuraman et al. (1989) and Bari et al. (2001). The 30 items of the scale were divided into five distinctive factors (Tangible, Reliability, Responsiveness, Assurance and Empathy). These factors had seven, six, five, five and seven items, respectively.

The penultimate section of the questionnaire was designed to collect data on respondents' level of satisfaction and loyalty. The final section contained questions on the respondents' profile. The questionnaire was pre-tested on passengers travelling with Saudi Airlines at Jeddah International Airport to ensure that the statements are unambiguous and understood. The main reason of pre-testing the questionnaire on the passengers (respondents) of Saudi Airlines was because this research intended final data collection from Jeddah International Airport and from the passengers of

Saudi Airlines. It is also important to note that the one of the objectives of the present study was to test various hypotheses in the Saudi market, that is why, pre-testing and final data collection was undertaken in The Kingdom of Saudi Arabia. Various tests were conducted to ensure that the outcomes achieve the aim of this thesis.

## 3.4 Sampling design process

This section of the methodology examines the target population, and sampling procedure and the process of determination for the requisite sample size. These methods are essential for the study as it highlights that the selected respondents and collected data are appropriate for the present research.

### 3.4.1 Target population

According to Suki (2005), population refers to a group of people, variables, ideas or other common characteristics. In terms of research, therefore, the definition is more complex than it may be universally received, and requires careful analysis of a number of variables. It includes important elements from which the research may draw inference, and this can also interfere with the objectivity of the study and resulting data (Churchill & Iacobucci, 2005).

The main objective of this study is to validate and confirm the AIRQUAL scale and also to investigate its impact on customer satisfaction and customer loyalty in Saudi Arabia. The most suitable population of the present study includes all passengers of Saudi Airlines. However, the study also targeted respondents from the United States, in which case the second target population was passengers travelling with any airline in United States. It is important to note that the suitable place considered for collecting

data for Saudi was Jeddah International Airport, whereas, in the United States an online survey was preferred.

### 3.4.2 Sampling design

There are two types of sampling designs: probability and non-probability sampling (Malhotra, 2008; Sekaran, 2003). Probability sampling ensures that elements in the population are selected by some known chance, whereas non-probability sampling evidences that elements of the population do not have a known chance of being selected as a subject (Sekaran, 2003).

The selection of a sample from the Saudi population was based on the non-probability sampling design, more specifically; a convenience sampling technique was used to select respondents. This method was considered appropriate for the present study. In order to preserve objectivity and collect data responsibly, a detailed ethical approach to data collection was followed. Initially the researcher requested permission from the concerned authorities in Saudi Arabia to collect data in Jeddah International Airport. When permission was received and the airport staff informed of the study, the researcher was stationed soon after the immigration counters in the International arrival terminal of Jeddah International Airport. Once the respondents cleared the immigration formalities and waited for their luggage to arrive, the researcher requested for participating in the survey.

All the respondents were selected through convenience sampling, i.e., those freely available to answer questions. It is also important to note that all the questionnaires were self-administered via face-to-face approach. This method was deemed

appropriate for this study as it eliminates response-error (Lovelock et al., 2004). This method has many other advantages as well, for example, the availability of the researcher to screen potential respondents, to clarify the questions to the respondents in case of any confusion and to encourage interest in the completion of the questionnaire.

The target population was also airline passengers in the United States. The sample determination in this part was through purposive sampling technique, where respondents are selected based on their appropriateness to the study. For this purpose, a well-established research organisation "Survey Monkey" was commissioned to collect data. This is a professional organisation that uses online survey methods to collect relevant data.

### 3.4.3 Determination of sample size

After the identification of the target population, a relevant sampling design was used to determine a suitable sample size. This is a crucial factor in determining the results of the study as it is influenced by a number of factors including cost, time and availability of resources. Furthermore, the determination of sample size must take into account statistical accuracy. Luck and Rubin (1987) recommended a larger sample size for more sophisticated data analysis. In the present research, a sample size of 500 was considered appropriate for the Saudi sample, as explained earlier, whereas, a sample size of 1000 was needed for the United States sample. The main reason behind bigger sample size in United States was because of the use of online survey technique. This technique helps in quickly and conveniently collecting data from a large group of people compared to face-to-face surveys.

## 3.5 Data analysis

Data analysis is usually not only considered critical to any research but also difficult in the whole research process. In the present research, as the main motive was to validate and confirm the AIRQUAL instrument, and then empirically test the new developed scale on respondents from Saudi Arabia; the data analysis was divided into two broad categories, i.e., qualitative data and quantitative data. These will be highlighted separately below:

#### 3.5.1 Qualitative data

Initially, an exploratory stage of qualitative research garnered initially responses from a focus group. The focus group were completed within the time-frame of around four weeks in the United Kingdom on April 2012. Firstly, recruitment notices were published in two newspapers in the cities of Milton Keynes and Bedford. Secondly, the selected groups were invited for a focus group discussion to Jury's Inn Hotel in Milton Keynes and also to the Park Inn Hotel in Bedford. All together four focus groups were conducted with 6 to 8 members each: one in Milton Keynes and the other three in Bedford. Of the total four groups, one group consisted of only males and one group with only females. The remaining two groups had both the genders. Each focus group discussion lasted for around one hour. The participants in each group were those people who have travelled by air at least once in the last 12 months. In order to encourage the selected participants, an invitation email was sent to each member and an honorarium of twenty pounds was given for their time. All the sessions were audio recorded for future reference and transcription purposes.

#### 3.5.2 Quantitative data

The second phase of this research centred around collating and coding qualitative data collected from the focus groups, and forming quantitative questionnaires to be distributed to a far larger sample population. For both the aforementioned samples (Saudi and US samples), many statistical techniques were used to analyse the quantitative data. Throughout the analysis SPSS software version 21.0 was used in order to employ various tests. The detailed description of the analyses is provided separately below.

### 3.5.2.1 Descriptive analysis

The main purpose of descriptive analysis is to provide a picture of the characteristics of respondents along with their profiles. This information is necessary to establish whether respondents are suitable for study. Standard deviation and frequency distributions are used to explore data and understand their characteristics (Nor, 2009). In the present research, data collected from both samples (Saudi and US) was tested in this way.

#### 3.5.2.2 Data preparation and screening

In any dataset there is potential for missing or invalid responses. In order to avoid the influence of missing data and invalid responses, it is suggested to screen and clean the data for further analyses. Many screening and cleaning techniques were used as per modern academic approaches (Pallant, 2007; Hair et al., 2010). In this case, the most appropriate were handling the missing data, outliers and issues of normality. For missing data, the data file in SPSS was checked thoroughly, not only for case-wise but also item-wise missing values. Frequency tests were also undertaken to check for

missing data. In the case of outliers, both univariate and multivariate outliers were checked. Univariate outliers were checked using skewness and kurtosis, whereas, multivariate outliers were checked using Mahalanobis D<sup>2</sup>. Lastly, in the case of normality, skewness and kurtosis were observed to detect any signs of non-normality. All these are explained in detail in chapter 5 of this study.

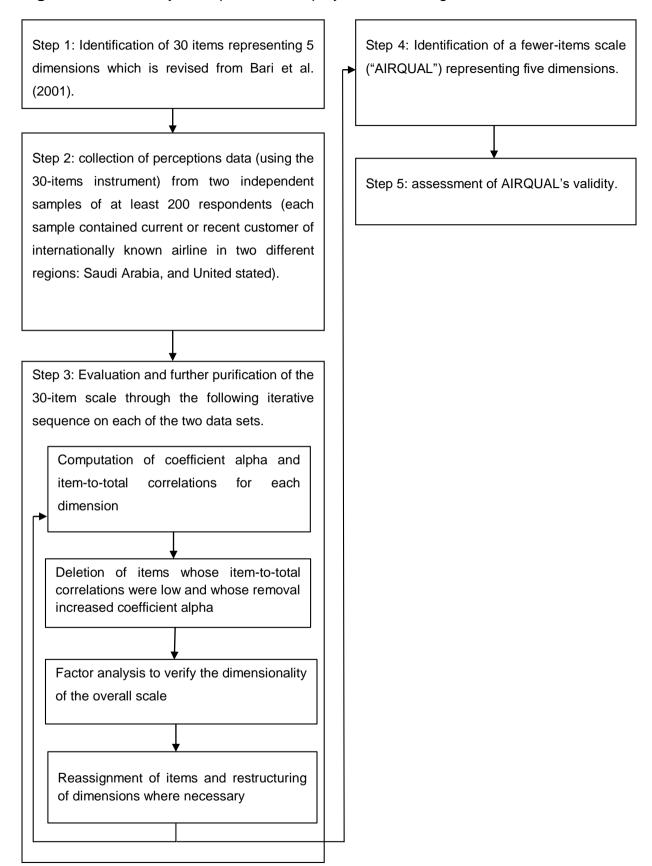
#### 3.5.2.3 Exploratory factor analysis

After preparing the data for extended analyses, the reliability of the overall scale was tested. This was followed in turn by factor analysis. Factor analysis is an important technique in order to explore trends in the overall data. It has the capability to reduce large number of variables in order to smaller sets by grouping them together (Kline, 2011). Correspondingly, the main purpose of applying factor analysis is to determine the most suitable items from a set of items for a particular construct, in which their internal consistency has been analysed. Here, the results of factor analyses across two different sets of data samples were examined against the originally proposed AIRQUAL scale, and where appropriate, improvements to the scale suggested.

#### 3.5.2.4 Scale validity

After acceptable reliability tests and achieving consistent factor structure, various validity tests were undertaken. In this case, both content/face validity and construct validity (which includes: convergent and discriminant validity) were established. Further, in testing for validity a method Parasuraman et al. (1988) was followed (See figure 3.1)

Figure 3.1: Summary of steps will be employed in validating the AIRQUAL scale



### 3.5.2.5 Hypotheses testing

One further important objective of the research was accomplished by testing the proposed model and predicted hypotheses. As explained in the previous chapter (chapter 2) a number of hypotheses were developed based on the review of the literature and a model is also proposed. In the present research, hypotheses were tested using Pearson product-moment and regression analysis.

### 3.7 Conclusion

This chapter documents various themes to the qualitative and quantitative research approaches. Specifically, it consisted of a section regarding the research design employed, data collection methods adopted, development of the instrument and numerous tests undertaken to achieve the required objectives of the study. It also highlighted different steps of the statistical techniques employed for verification of the constructs, as well as, testing of the hypotheses and the subsequent proposed model of the study.

## **CHAPTER 4**

# **Qualitative study**

The methodology developed in chapter 3, is focussed on addressing the core three research questions highlighted. This mixed- methodological approach examining attitudes and contributing factors to airline service quality has two phases. The aim of the qualitative study which used focus groups to determine whether AIRQUAL survey instrument produces the same number of dimensions or not. Moreover, focus group analysis was conducted to examine the dimensions of the scale and whether their subsequent items measured provide an accurate metric for the assessment of service quality. This chapter codifies the results collated through this qualitative approach. Initially focus group discussions will be identified, the structure and role of the moderator will be summarised. Subsequently the qualitative analysis and findings will be presented.

# 4.1 Focus Group Discussions

Focus groups have been defined as "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (Krueger and Casey, 2009, p5). Many researchers have suggested that focus groups are useful method in exploratory study or in generating new ideas (Flick, 1998; Neuman, 1997). This study builds upon this academic consensus, and utilises the research tool of the focus group to shape the future quantitative research. In order to achieve this, all interviews were

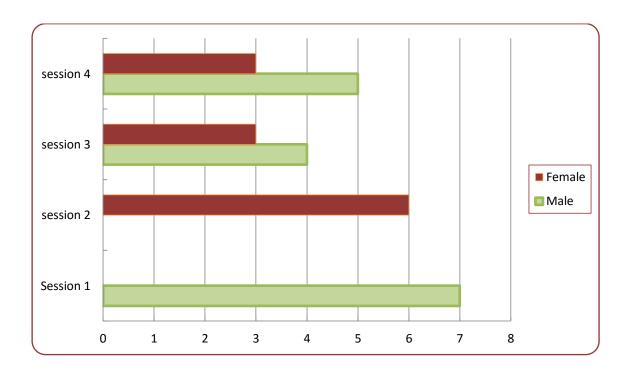
completed with a time-scale of four weeks and were held in United Kingdom. This does not impact upon the validity of the results in this stage, as the purpose of the study is to assess the extent to which universal notions of service quality exist.

### 4.1.1 Recruitment of Focus Group participants

Recruitment notices were posted in two local newspapers in United Kingdom. These included a Milton Keynes newspaper and the Bedfordshire on Sunday newspaper. From respondents to these adverts, selected groups were invited for a focus group discussion to Jury Inn Hotel in Milton Keynes and also to Park Inn Hotel in Bedford town. (See appendix D, D1, and D2). Because the notice was placed for the respondents who have travelled during the last twelve months, the recruitment process was difficult to find adequate participants for the focus group. Some of the participants withdrew since there was lack of funds for the research process. The sampling method used is purposive sampling. The main aim of purposive sampling is to focus on particular characteristics of the participants selected for the focus group discussion, which will help to answer the research questions. Four focus group discussions were held. In order to assert consistency and full participation, the participants were selected from various demographic profiles and were varied in ages and gender. Many studies have suggested that more participants results in less interaction during the session and that the reverse is also true. To encourage public participation, an invitation letter was sent by email to each participant as well as remuneration was given for their time (see appendix E). Each focus group lasted for around an hour. Of the total, one focus group discussions involved only female participants and it was conducted on the 24th April 2012. The second focus group discussions were male-only participants and it was performed on the 26th April 2012. The last two focus group discussions were mixed gender and it was carried out on 1st May 2012 and 8th May 2012. Each focus group had between 6 and 8 participants. See Table 4.1

The focus group moderator invited participants to talk about positive and negative experiences with airline services in order to ensure balanced opinions. Incidents that might be connected to potential future consumer behaviour, such as changing carrier or demonstrating loyalty were taken into account.

Table 4.1: Focus Group interviewees



# **4.1.2 Focus Group Structure**

Discussions in each focus group were guided by a logical sequence of standardized structure. This structure provided a guide to the discussions within each focus group and facilitated the ideas. The guide was provided by Krueger and Casey, 2000. (See Appendix F)

The discussion guide was divided into three sections and discussions in each focus group are based on the three distinct areas descried. The first section was a 5 minute introductory lecture which explained the aim of the focus group, and stimulated discussion. The Introduction notes that the comments in the focus group are confidential. The moderator encouraged the participants to stay until the end of the discussion. Open-ended questions were used throughout the discussion and

all of the questions asked were clearly related air travel matters. Unstructured and open discussions were undertaken in all focus groups, although certain topic was applied to keep the conversation on track.

The moderator subsequently explained his role and encouraged participants to interact amongst themselves. Each participant had to sign a permission form before the discussion started (meeting ethical approval standards). The participants also gave permission for digital recording of the focus group discussion (see Appendix G). The moderator informed the participants that the discussion forms part of an academic research project for his PhD.

The second part lasted roughly 50 minutes and entailed questions about quality of airline service. For this second part a number of general introductory questions asked, where the participants evaluated the qualities they think are necessary to make a successful airline. The transition questions put to the participants examined their responses to their previous experience of travel with an airline provider and what were their first impressions. The Key Questions asked the participants how they felt about the quality of service of the airline (see Appendix F).

The third part of the focus group discussion is the closing or ending questions about airline service quality. These assess both the consumer views of airline quality. In this section the moderator asked the participants the advice they would give to airline providers if they had a chance. In addition, the moderator asked participants for advice on how to improve the airline service quality. The moderator asked the participants if there is anything that they would add about airline service

quality if they were given chance. The moderator thanked the participants for their valuable contribution (see Appendix F).

#### 4.1.3 Role of Moderator

In order to facilitate focus group discussion and encourage interaction among the participants, the moderator performed a significant role. After each participant had stated their opinion, the moderator asked probing questions for instance: 'Can you give me an example?'; 'I am not quite sure about that: what do you mean?'; 'Does anybody have something similar?' (Participant x) - how do you respond to that claim?' The aim of asking probing questions is to clarify the responses as well as reducing any ambiguity and subjective interpretation of data during analysis. During the focus group discussions, the moderator ensured that every participant had received an equal chance to share his or her opinions. The moderator also asked participants that did not engage into the conversations if they agreed or disagreed with other participants' views. For instance, 'I have not heard from you in a while: have you experienced something similar to (participant x)'? According to Ritchie and Lewis (2003), non-response and silent participants did not necessarily mean that the issue they are participating on was irrelevant or unimportant. All volunteers in the focus group discussions were eligible to participate, as they had satisfied the established conditions for the research. The moderator encouraged discussions about positive and negative aspects of airline service quality to ensure balanced views were being presented to the groups. Krueger and Casey (2009), illustrates that obtaining balanced views was important because each participant's responses influenced other participants' views and the dynamics of the group, as noted above in 4.2.2.

## **4.2 Qualitative Data Analysis**

Each focus group discussion was digitally recorded and the key elements and statements were transcribed. The aim of summarised transcription is to determine whether AIRQUAL instrument results in equal number of dimension as proposed by the original author or it varies in number. Moreover, it is to check if the dimensions and subsequent items measure the airline service quality.

A process of descriptive coding was used in the analysis of the qualitative data. This permits the researcher to place ideas from each transcript into the original categories. Initially, the eight distinguished dimensions among AIRQUAL and SERVQUAL scale was manually created into Excel sheet (tangibles, reliability, responsiveness, assurance, empathy, terminal tangibles, personnel, and image). Each dimension has its own questions and therefore each question is made up of key words in order to facilitate the allocation process and tested. The output of each focus group's discussions was analysed based on systematic approaches. This process involves reading the ideas for each focus group discussions and assigning a keyword or phrase for each comment in order to categorise themes within text and also allocated the subsequent items to its dimension. The examples of these descriptive categories are: tangibles (safety standard, in-flight

entertainment, food and drink); reliability (handling luggage, accuracy, delivering a promised); responsiveness (free to response, willing to help, and prompt service); assurance (courteous, knowledge); empathy (compensated for any damages, caring).

The overall ideas that emerged from the four focus group discussions were 302 items. Each focus group was coded and assigned its items separately to appropriate dimensions in accordance with the key word of the original questions. The coded key word technique permits for more accuracy in allocation of items. Then all the ideas was created in overall sheet to illuminate on the entire information.

# 4.3 Qualitative Data Finding

It was discovered that some new information emerged from the focus groups that led to a revision to existing AIRQUAL scale. As a result, the terminal tangible (TTANG) label with its items was deleted because insight from exploratory study with regard to this dimension shows that airline had no control the terminal service quality. The examples of these statements are:

- the car park is not about airline they cannot control that
- airline and airport need to work together
- we are not talking about the airport, are we

Moreover, the image (IMG) label was also removed because many members

illustrate that "you get what you paid for" which is more related to service value.

The examples of these statements are:

Value for money

you get what you pay for

Zeitham (1988, p. 14) defined perceived service value as "consumers' overall

assessment of service utility based on perception of what is received and what is

given".

This stage reveals overlapping among the two set of scale which needs further

refinement. The empathy factor was merged together.

The personnel factor was distributed among other labels based on the

Parasurman's definition of these labels:

**Tangibles:** Physical facilities, equipment, and appearance of personnel.

**Reliability:** Ability to perform the promised service dependably and accurately.

**Responsiveness:** Willingness to help customers and provide prompt service.

**Assurance:** Knowledge and courtesy of employees and their ability to inspire trust

and confidence.

**Empathy:** Caring, individualized attention the firm provides its customers.

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In fact, the final stage was to present fewer statements by reduction of the similar information. This step resulted in 5 dimensions and 30 items of the AIRQUAL scale which was ready for pre-test. (See appendix H)

### 4.4 Conclusion

The qualitative data provided by the focus groups therefore had a profound impact in shaping the future quantitative research. This study provided a sound theoretical basis for quantitative study of service quality by establishing a number of potential coded categories that constitute contributing factors of 'quality', The four focus group sessions have provided an invaluable qualitative insight into both the constituent factors of service quality, and the methodological positives and negatives of the AIRQUAL instrument. The process of reduction of the AIRQUAL scale is unique to this study. The robust qualitative nature of this revision of the existing model will necessarily lead to a more streamlined understanding of the issues which affect service quality from the consumer, rather than the academic or the business, perspective. Without TTANG or IMG labels, the model will necessarily present a clearer reading of fewer factors which reflect and influence of quality from the perspective of the consumer in a more tangible way. This step has been taken as the qualitative evidence that has been corroborated to find this reflective from four different, independent focus groups.

# **CHAPTER 5**

# **Quantitative appraisal of AIRQUAL scale**

In the previous chapter, the exploratory research was conducted to refine the AIRQUAL instrument which measures airline service quality. The outcomes of the qualitative study have be used to design the second, quantitative stage of the research. This chapter commences with descriptive analysis of the pre-testing. This is followed by the description of data preparation and screening steps for the analysis which involve procedures such as the treatment of missing data, detection of outliers and normality, followed by detailed descriptive analysis of the two samples of this research, namely, Kingdom of Saudi Arabia and United States. Descriptive analysis is deemed necessary in order to assist the research in understanding the characteristics of the respondents pertaining to the phenomena that are currently being studied. The next stage concentrates on employing reliability tests for the two samples of the study. This step is vital as it helps to establish the strength of the developed scale. Another step considered important was the exploratory factor analysis. In the present study, exploratory factor analysis (hereafter, EFA) was undertaken in order to explore the dimensions in both the datasets, and also to find out if the items fall under the extracted dimensions as expected. After EFA, the extract dimension was tested for reliability individually, followed by validity tests. Lastly, this chapter will highlight the result of hypotheses testing.

## 5.1 Pre-testing

Pre-testing is a necessary aid for constructing a good questionnaire that provides a genuine test before the full-scale data collection is carried out (Churchill and lacobucci, 2005). Pre-testing helps the researcher to improve many serious problems of the questionnaire such as item wording, sequencing and the flow. Riley et al. (2000) highlighted that pre-testing is perceived as the best safety net. For this study, a pilot survey was conducted before undertaking full-fledged data collection. For this purpose a sample of 82 Saudi Airlines passengers of various international flights were selected at Jeddah International Airport during the period of 15th January 2013 to 10th February 2013. The main purpose of this study was to refine the scale and to establish face validity. A self-administered questionnaire was handed over to the selected respondents at the airport, in person.

## 5.1.1 Descriptive analysis

The self-administered questionnaire used in the pilot study (see Appendix I) contained 5 sections with a total of 55 questions. Of the total 55 questions, 9 questions were about airline usage, 30 questions about perception of service quality, 6 questions regarding overall service quality, customer satisfaction and customer loyalty, 5 questions were about attitude, and 5 questions were about the demographics. As mentioned earlier, a total of 82 respondents were contacted for the pilot study. 72 respondents were considered as valid cases. Of the total, majority (63 or 87.5%) were male respondents, indicating the main influence of this

group on the survey. Only two female respondents completed the questionnaire, whereas, seven respondents did not complete this question. Therefore, it was considered as missing, accumulating a total of 9.7%. The significantly lower response from female respondents is due to the cultural diversity of the Kingdom of Saudi Arabia, where females are reluctant to participate in these kind of face-to-face surveys.

Another important demographic variable was the age of respondents. Around a third (29.2%) of the respondents fall under the age bracket of 35 – 44, followed by 25 – 34 with a total of 27.8% contribution in the survey. Further, respondents were asked to reply on the place they live, most of them (52.8%) were from Asia, indicating a major influence of this region's respondents on the survey. With regard to education, the majority (48.6%) had at least a bachelor's degree. The second highest response in terms of education was from those holding a graduate degree, with a total of 22.2% contribution in the survey. Respondents were also requested to indicate their occupation. The results revealed that 19.4% of the cases selected "other management" as well as, "senior management" with 19.4% of the total response. A detailed breakthrough of the demographic profile of the respondents is given in Table 5.1.

Table 5.1 Demographic breakdown of the sample (n = 72)

	Frequency (F)	Percentage (%)
Gender		
Male	63	87.5
Female	2	2.8
Missing	7	9.7
Total	72	100.0
Age		
18 – 24	5	6.9
25 – 34	20	27.8
35 – 44	21	29.2
45 – 54	10	13.9
55 – 64	9	12.5
Above 65	0	0.0
Missing	7	9.7
Total	72	100.0
Residence (Live)		
UK	4	5.6
Europe	8	11.1
North America	6	8.3
Asia	38	52.8
Africa	7	9.7
Missing	9	12.5
Total	72	100.0
Education		
High School Degree or Equivalent	8	11.1
Some college but no degree	4	5.6
Associate degree	2	2.8
Bachelor degree	35	48.6
Graduate degree	16	22.2
Missing	7	9.7
Total	72	100.0
Occupation		
Company Director	1	1.4
Senior Manager	14	19.4
Other Management	14	19.4
Technician	6	8.3
Professional	10	13.9
Other	6	8.3
Missing	21	29.2
Total	72	100.0
Departure Station		
Europe	20	27.8
North America	6	8.3
Asia	9	12.5
Africa	13	18.1
Middle East	24	33.3
Total	72	100.0

It is also important to mention that during the pilot survey, respondents' suggestions were also incorporated in the study. In this case, one extra question regarding the "extra free baggage" was added and coded as question number 9 of this final survey instrument. Lastly, question number 3 of the instrument, which was about the residence (live) of the respondents, was divided into "Middle East and Asia" in the final survey.

### 5.1.2 Reliability test

Before proceeding with further analysis, the reliability testing was conducted in order to ensure consistent measurement across various items in the questionnaire. Indeed, the reliability of a measure indicates stability and consistency of the instrument (Sekaran, 2003). Consequently, this method determines reliability through examining the internal consistency of the research instrument such as questions (items) in the questionnaire, which are normally presented. Cronbach's Alpha is one of the most frequently used metrics to measure a scale's reliability, in which its index ranges from 0.0 to 1.0. Researchers should target a value closer to 1.0, as Alpha value proves that the instrument of the study is strong and consistent. However, it's important to note that in social sciences the threshold value of 0.7 is considered acceptable (Nunnally, 1978).

In the pilot study, a Cronbach's Alpha value of 0.870 for the 30 items in the AIRQUAL scale was achieved, indicating good consistency and stability of the instrument. The results of the reliability tests are highlighted in Table 5.2.

Table 5.2 Reliability Statistics of the Questionnaire

,	Cronbach's Alpha	
Cronbach's Alpha	Based on	No. of Items
Standardized Items		
0.870	0.946	30

These results of the pilot study were, therefore considered satisfactory, and so a full-scale data collection and the subsequent analyses was conducted with the adapted survey.

In the following sections outcomes from the Saudi and US samples are presented.

In the next section, Saudi sample will be analysed in detail followed by US sample.

## 5.2 Saudi sample

### 5.2.1 Data preparation and screening

The next stage in the analytical process was data preparation and screening. This is an inevitable process because researchers may face problems pertaining to the data, which may consequently lead to failure of the analysis, or biased findings. This stage includes many steps; in this study it will start with handling missing data, identifying outlier, and checking for normality.

## 5.2.1.1 Missing Data

One of the main problems in the survey research is the likelihood of missing data.

Missing data (or incomplete data) becomes important because it creates complexity in scientific research, and unfortunately, most data analysis procedures

are not able to take into consideration the missing data (Schafer & Graham, 2002). Consequently, any missing data triggers two main problems; firstly, it reduces the ability of a statistical test to determine a relationship in a dataset and secondly, biases may arise during the analytical process.

It is important to note that scholars (e.g., De Vaus, 2001; Schafer & Graham, 2002) recommend reducing the problems of missing data during the stage of administrating the survey instrument. It is the best time to reduce the chance of respondents missing a particular item. If the researcher focuses on this stage, it may significantly reduce excessive missing data. Roth (1994) also suggested that the best possible way in dealing with missing data is through meticulous planning and thorough data collection. Hence, in the present survey these suggestions and recommendation of the scholars were taken into consideration.

As mentioned in the earlier chapters that the administration of this survey instrument was through self-administered method. The researcher and his assistants made sure that the respondents gain personal assistance, especially when they did not understand certain statements, given the fact that they had to complete the questionnaire themselves. Hence, it was assured that the questionnaire is answered correctly and completely upon return.

Next, all the raw data was labelled and coded according to the section of the instrument and then tested for frequency of occurrence of each item to check for any missing values. This step was also necessary to check for any offending entries; a possible case during the data entry session. As mentioned in the "response rate" of this chapter, all those cases were deleted with significant

missing values. After dealing with the missing data, the next step necessary was to check for outliers, as explained below.

#### **5.2.1.2 Outliers**

According to Hair et al. (2010) and Kline (2011), outliers are those cases in the data, which are exposing irrational features, where there are conditions in which they might also act peculiarly, unlike other observations in the similar dataset. There are usually two types of outliers: univariate outliers and multivariate outliers. In case of the former, a case will have extreme value on one variable, whereas, in case of the later, an odd combination of scores on two or more variables is found (Kline, 2011). Outliers can possibly arise due to errors in responding to the questionnaire by respondents or errors in data recording, as well as, inappropriate representatives of the targeted population under study (Tabachnich and Fidell, 2001).

It has been established that problematic outliers can severely distort statistical tests. However, the adverse effect of outliers is more likely to occur in small samples than larger ones (West et al., 1995). Therefore, it is imperative to recognize the presence of these outliers in the dataset. However, it should be noted that there is no criterion for identifying "extreme" outliers.

Kline (2011) states that one way is to look at the univariate skewness, where values more than 3 and univariate kurtosis index value of greater than 10 can be regarded as outliers. Similarly, for multivariate outliers scholars (see e.g., Byrne, 2010; Hair et al., 2010) recommended the Mahalanobis D<sup>2</sup> measure. It is also

recognized as the Mahalanobis distance, which is a measure to evaluate the position of each observation compared with the centre of all observations on a set of variables (Hair et al., 2010). A large Mahalanobis distance score denotes a case as having extreme values on one or more of the independent variables. Moreover, Tabachnich and Fidell (2001) recommended that a very conservative statistical test of significance can be used with Mahalanobis distance measure, such as 0.001 as the cut-off value.

For this study, univariate and multivariate outliers were tested using SPSS software. The examination of skewness and kurtosis depicted in Table 6 revealed no cases of outliers. In a similar manner, for multivariate outliers, Mahalanobis D<sup>2</sup> was examined, a total of 145 cases resulted in a significance value of lower than 0.001, indicating multivariate outliers. As a result, these cases were removed from further analyses, eventually leaving 242 respondents.

### **5.2.1.3 Normality**

The final step in data preparation and screening is the assessment of normality of the distribution. The identification of variables' departure from normality is inevitable (Byrne, 2010; Hair et al., 2010). Normality is considered as one of the most fundamental assumptions in multivariate analysis (Hair et al., 2010). Eventually, it is characterised as the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution, which is the benchmark for statistical methods" (Hair et al., 2010).

According to Hair et al. (2010), normality can occur both at the univariate and multivariate levels. In case of the univariate normality distribution of the individual variable is involved, whereas, in case of the multivariate normality distribution of two or more variables is involved. An odd distribution may affect the analyses and interpretation of the results. With regard to identifying the normality distribution, the researcher may analyse histogram and normal probability plots (Blunch, 2008). The normal probability plot visually compares the actual cumulative data scores against a normal cumulative distribution. Hair et al. (2010) and Kline (2011) highlighted that in case of normal distribution, the line representing the actual data distribution strongly adheres to the diagonal lines. Further, skewness and kurtosis in a dataset need to be examined in order to identify non-normality (Hair et al., 2010). Kurtosis refers to the "peakedness" or "flatness" of the distribution compared with the normal distribution (Hair et al., 2010). On the other hand, skewness portrays the symmetry of the distribution, and normal distributions are symmetrical about their means. Skewed distribution usually occurs when most of the cases are either below the mean or above it (i.e., positive skew or negative skew) (Hair et al., 2010).

Another method to check the normality is analysing z score, in which case, the z value of  $\pm 2.58$  which exceeds a critical value at 0.01 probability level and critical value of  $\pm 1.96$  at a 0.05 level can also be used to identify normality (Hair et al., 2010). Kline (2011) and West et al. (1998) further explained that datasets with absolute values of univariate skew index greater than 3.0 and univariate kurtosis

index greater than 10 may suggest a problem, hence indicating a possible chance of non-normality.

In the present study, a detailed examination of skewness and kurtosis from Table 6, clearly indicate that all values are less than 3.0 in case of skewness and less than 10 in case of kurtosis. Therefore, normality of the data is attested.

After the screening and cleaning of dataset, the issues pertaining missing observations, outliers and normality were dealt with accordingly. The next stage would be descriptive analysis.

### 5.2.2 Descriptive analysis

This type of analysis is conducted at the early stage of any data analysis before establishing any further statistical analysis. The presentation of the characteristics of the respondents is deemed important in this study as it represents an insight into the representation of the sample for the population.

#### 5.2.2.1 Response rate

Questionnaires were distributed to five hundred people, in person, using a self-administered questionnaire at Jeddah, The Kingdom of Saudi Arabia. However, only 432 questionnaires were returned, giving a response rate of 86.4%. Among the 432, only 242 questionnaires were analysed since the other 190 seemed to be incomplete or missing significant part of the questionnaire as revealed with missing or zero variance, resulting an adjusted response rate of 48.4%. Table 5.3 illustrates the response rate of the distributed questionnaires.

Table 5.3

Response Rate of the Distributed Questionnaires

Description	Number and percentages
Sample size	500
Questionnaires returned	432
Raw response rate	86.4%
Complete questionnaires	242
Number of unusable questionnaires	190
Adjusted response rate	48.4%

### 5.2.2.2 Demographic profile

The demographic characteristics of the respondents are depicted in Table 5.4, for the Saudi sample. The detailed analysis of descriptive statistics revealed that male and female respondents comprised of 93.8% and 4.1%, respectively. The lower response of the female respondents was due to the same reason as highlighted in the pilot study; reluctance to participate in the survey by females. The ages of the overall majority of the respondents were between 18 to 24 years, accumulating a total of 47.9% or 116 respondents. Consequently, the opinions expressed in the survey were mainly reflected by the attitudes and perceptions of this group of respondents. Another age group that resulted with a higher influence on this survey was those respondents between 25 to 34 years. Next, an age group of 35 to 44 years contributed 12% in this study. The last three age groups were 45 to 54 years, 55 – 64 years and 65 & above; their contribution was 4.1%, 1.2% and 0.8%, respectively. This also indicated that only few respondents (2 in number) from an age bracket of 65 and above intended to participate in this survey.

In addition, it also seems that the findings of this survey were highly influenced by respondents who live in Middle East. Their percentage of participation was 43.4%. Another highly influential region of residence was "Asia" with a contribution of 34.3%. This was followed by UK, as 9.1% of the sample. Respondents from Europe and Africa also contributed with 2.9% and 5.8% impact on this survey, respectively. Lastly, with regard to residence of the respondents, two regions; namely, North America and South America were quite close with 3 respondents from the earlier and 1 respondents from the later.

In terms of the respondents' educational level, majority (87 or 36%) indicated to have high school degree or equivalent, followed by bachelor degree holders with around 25.2% influence on the survey. This indicates that in the result of this study high school degree holders played an important role. It is also important to note that in the questionnaire educational level of "some college but no degree" and "less than high school degree" were included. Interestingly, of the total 242 respondents, 45 had some college education but no degree, whereas, 10 respondents mentioned that their educational level is less than high school. Graduate degree holders and associate degree holders also participated in this survey with a contribution of 11.2% and 2.5%, respectively. In this case, associate degree resulted with a least influence on the present research.

The last demographic variable included in the questionnaire was about the occupation of the respondents. Pertaining to this variable, most of them (36.8%) indicated their occupation in the category of "other", followed by "other Management" with a total of 21.9% contribution. Some senior managers,

technicians and professionals also participated in this survey. Of the total, 24 respondents were technicians, 13 professionals and 10 respondents were senior managers. In this case, the lower influential group for this survey was senior managers.

Table 5.4
Demographic Profile of the Respondents

Demographic Variables		Research sample (n = 242)		
		No. of Respondents	Percentage	
	Male	227	93.8	
Gender	Female	10	4.1	
	Missing	5	2.1	
	18 – 24	116	47.9	
	25 – 34	77	31.8	
	35 – 44	29	12.0	
Age	45 – 54	10	4.1	
	55 – 64	3	1.2	
	65 and above	2	0.8	
	Missing	5	2.1	
	UK	22	9.1	
	Europe	7	2.9	
	North America	3	1.2	
Decidency	South America	1	0.4	
Residency	Asia	83	34.3	
	Middle East	105	43.4	
	Africa	14	5.8	
	Missing	7	2.9	
	Less than high school degree	10	4.1	
	High school degree or equivalent	87	36.0	
Education	Some college but no degree	45	18.6	
	Associate degree	6	2.5	
	Bachelor degree	61	25.2	
	Graduate degree	27	11.2	
	Missing	6	2.5	
	Senior Manager	10	4.1	
	Other Management	53	21.9	
Occupation	Technician	24	9.9	
Occupation	Professional	13	5.4	
	Other	89	36.8	
	Missing	53	21.9	

## 5.2.2.3 Attributes of service quality

In order to gain an overview of 242 respondents of this study with regard to their perception on airlines service quality, it is imperative to perform descriptive analyses on all the major attributes of the questionnaire. In this case, descriptive analysis was used for Service Quality, which was measured on Five-point Likert scale with 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree. Table 6 describes respondents' responses on the 30 items of service quality.

Table 5.5
Descriptive Statistics: Service Quality

Item	Statements		Standard Deviation	Skewness	Kurtosis
	Reliability (Cronbach's α =0.949)				
SQ1	The airline provides passengers with		1.17391	433	637
SQ2	Food and drink served on the aircraft		1.27698152		-1.178
SQ3	Toilets on hoard the aircraft are clean		1.13362700		172
SQ4	There are daily newspapers and current magazines to read on board the aircraft.	3.8967	1.06319	-1.046	.603
SQ5	Personnel working for the airline are neatly dressed.	4.0702	1.05020	-1.225	1.055
SQ6	The airline provides passengers with allocated seats.	3.4959	1.20596	513	639
SQ7	The airline provides good inflight entertainment on board the aircraft.	2.9504	1.30655	054	-1.105
SQ8	Passengers' luggage are handled with care and attention.	3.1612	1.33996	266	-1.103
SQ9	When the airline promises to do something by a certain time, it does so.	3.0041	1.19646	052	851
SQ10	When you have problems, the airline shows sincere interest in solving it.	3.0992	1.18009	194	800
SQ11	The airline performs its service right the first time.	3.1736	1.11703	330	661

SQ12	The airline provides its services at the time it promises to do so.	3.1322	1.17683	121	794
SQ13	The airline maintains error free records.	2.8140	1.19929	.087	699
SQ14	Employees of the airline tell you exactly when services will be performed.	3.3967	1.17709	519	591
SQ15	Employees of the airline give you prompt service.	3.3223	1.28325	455	872
SQ16	Employees of the airline are always willing to help you.	3.3926	1.11144	604	347
SQ17	Employees of the airline are never too busy to respond to your requests.	3.0537	1.17070	246	869
SQ18	The airline provides its services to you promptly.	3.2686	1.07314	289	686
SQ19	The airline personnel are experienced and well trained.	3.4959	1.12404	467	675
SQ20	The behaviour of employees of the airline instills confidence in customers.	3.4793	1.19889	497	731
SQ21	You feel safe in your transactions with the airline.	3.5000	1.12405	601	349
SQ22	Employees of the airline are consistently courteous with you.	3.3471	1.15022	347	818
SQ23	Employees of the airline have the knowledge to answer your questions.	3.3926	1.09261	348	687
SQ24	Passengers are compensated sufficiently by the airline for any damages arising from service disruption in the shortest time possible.	2.9174	1.17785	069	780
SQ25	Personnel working for the airline put themselves in the place of the passengers when providing service.	3.0000	1.18777	045	849
SQ26	The airline gives you individual attention.	2.9421	1.15444	115	753
SQ27	The airline has employees who give you personal attention.	3.0165	1.19809	105	906
SQ28	Employees of the airline understand your specific needs.	3.1612	1.19944	373	740
SQ29	The airline has your best interests at heart.	3.0744	1.20280	216	857
SQ30	The airline has operating hours convenient to all its customers.	3.5413	1.21554	642	456
	Average Score	3.2656	1.1753		

Note: 1= strongly disagree, 5 = strongly agree

The detailed examination of the results presented in Table 5.5 reveals the respondents' responses pertaining to service quality in the airline industry. The average score resulted with a mean of 3.265 (SD = 1.175). This indicates that

majority of the cases tend to mark on the middle of the scale on a 1 to 5 range. However, most of the items resulted with a slightly higher mean than 3, indicating the agreeableness of the respondents on those items, as imperative for service quality.

The highest mean values for service quality emerged for the item "Personnel working for the airline are neatly dressed" (mean = 4.070), followed by "There are daily newspapers and current magazines to read on board the aircraft" (mean = 3.896), whereas, the lowest mean value for this construct is for "The airline maintains error free records", followed by "Passengers are compensated sufficiently by the airline for any damages arising from service disruption in the shortest time possible.".

Lastly, two items: "Personnel working for the airline are neatly dressed." and "There are daily newspapers and current magazines to read on board the aircraft." resulted with a less varied standard deviation as, 1.050 and 1.063, respectively. These items are from the dimension "tangibility", consequently, indicating that for respondents it seemed to be important with regard to service quality.

# 5.2.3 Reliability test

Before proceeding with further analysis, the reliability testing was conducted in order to ensure consistent measurement across various items in the questionnaire. Indeed, the reliability of a measure indicates stability and consistency of the instrument (Sekaran, 2003). This method, consequently, determines reliability through examining the internal consistency of the research instrument, which in a questionnaire is usually presented in the form a scale (Nor, 2009). The most widely

used method of testing reliability of an instrument is through Cronbach's Alpha, where its value ranges from 0.0 to 1.0 (Nor, 2009). A value closer to 1.0 indicates strong reliability of the instrument, eventually suggesting consistency and stability of the questionnaire. As shown in Table 5.6, the present instrument resulted in a considerably high Cronbach's Alpha of 0.950.

Table 5.6
Reliability Statistics of the Questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.950	0.950	30

## 5.2.4 Exploratory factor analysis (EFA)

An imperative stage in the analyses of this study was to find out dimensions underlying the dataset and their subsequent items. As the main objective of this study is scale development, this stage is extremely important and crucial. EFA, with its capability to reduce large number of variables into smaller sets and grouping them together (Kline, 2011), make it essential for this study. Further, according to Byrne (2010), EFA helps the researcher to detect any misfit variables in the data. For this purpose, EFA was conducted using SPSS software using a total of 242 cases since the remaining 145 were outliers. All the 30 items of service quality were used to identify the number of dimensions and their association with each dimension.

The first step during EFA was to test if the data is fit for employing factor analysis. In this case the suggestions of Hair et al. (2010) were followed, where Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and Bartlett's Test of Sphericity were examined. According to the aforementioned scholars, KMO needs to be above 0.7 and Bartlett's test of Sphericity needs to be significant at p <0.001 levels, for a researcher to proceed with EFA. Table 5.7 depicts the results of KMO and Bartlett's test of Sphericity of the present study.

Table 5.7
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy	Measure of	Sampling	.941
Bartlett's Test of Sphericity	Approx. Chi-	3721.924	
opoy	Df		435
	Sig.		.000

These results indicate that KMO measure of sampling adequacy was 0.941, and Bartlett's Test of Sphericity was significant at p <0.001, indicating the data are suitable for factor analysis.

Principal Component Analysis (PCA) with Varimax rotation was used to conduct the factor analysis. All items with factor loadings 0.3 and above were grouped together. Further, the criterion of an eigenvalue greater than 1.0 was also used to establish the number of underlying factors. The results revealed a five-factor solution with a total variance of 58.85%. Following the extraction of factors, these were given suitable names as: reliability, empathy, assurance, tangibility and

responsiveness. Detailed results of exploratory factor analysis (EFA) are presented in Table 5.8.

Table 5.8
Results of Factor Analysis: Saudi Arabia

Results of Factor Analysis: Saudi Arabia						
	Component					
Items (Variables)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
	Reliability	Empathy	Assurance	Tangibility	responsiveness	
Items 1				.440		
Items 2	.471					
Items 3				.625		
Items 4				.780		
Items 5				.690		
Items 6	.520			.394		
Items 7	.690					
Items 8	.610	.382				
Items 9	.682	.319				
Items 10	.619		.419			
Items 11	.711					
Items 12	.618	.334	.319			
Items 13	.636	.367				
Items 14	.423		.377		.345	
Items 15	.522	.382	.333			
Items 16			.583	.343		
Items 17					.806	
Items 18	.384		.501		.349	
Items 19			.663			
Items 20			.712			
Items 21			.734			
Items 22			.759			
Items 23			.579			
Items 24		.697				
Items 25		.700				
Items 26		.694				
Items 27		.740				
Items 28		.763				
Items 29		.744				
Items 30		.438				
Initial Eigenvalues	11.838	1.908	1.546	1.360	1.004	
% of Variance	39.459	6.361	5.153	4.532	3.347	
Cumulative %	39.459	45.820	50.973	55.505	58.852	

As shown in the results of exploratory factor analysis Table 5.8, among the five variables, reliability accounted for 39.459 percent of the variance explained in total, with the highest eigenvalue of 11.838. This was followed by empathy with 6.361 percent variance and eigenvalue of 1.908. The third and fourth factor emerged with 5.153 percent (eigenvalue = 1.546) and 4.532 percent (eigenvalue = 1.360) of variance, respectively. Responsiveness accounted for 3.347 percent of variance (eigenvalue = 1.004). This result was also crosschecked with US sample to facilitate cross-validation. As shown in the revised factor analysis Table 5.9, one item was re-allocated (Q2). This re-allocation of one item resulted during the crossvalidation process in which exploratory factor analysis Table 5.8, was compared with that of the United States EFA. In the sample of United States item number 2 loaded clearly on Factor 4 (Tangibility). When the aforementioned item loaded in the Saudi sample on Factor 1 (Reliability), its original source was checked to confirm its actual location in the EFA table. Interestingly, the question states that "food and drink served on the aircraft during the flight are of high quality and sufficiently varied", which clearly indicates that it belongs to tangibility, as it emerged in the United States. Therefore, it was considered appropriate to reallocate and put it under Factor 4 (Tangibility) for further analysis.

Table 5.9
Revised Factor Analysis: Saudi Arabia

			mponent	. Jauui Aiab	
Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
(Variables)	Reliability	Empathy	Assurance	Tangibility	Responsiveness
Items 1	,	, ,		.440	•
Items 2				Re-allocated	
Items 3				.625	
Items 4				.780	
Items 5				.690	
Items 6	.520				
Items 7	.690				
Items 8	.610				
Items 9	.682				
Items 10	.619				
Items 11	.711				
Items 12	.618				
Items 13	.636				
Items 14	.423				
Items 15	.522				
Items 16			.583		
Items 17					.806
Items 18			.501		
Items 19			.663		
Items 20			.712		
Items 21			.734		
Items 22			.759		
Items 23			.579		
Items 24		.697			
Items 25		.700			
Items 26		.694			
Items 27		.740			
Items 28		.763			
Items 29		.744			
Items 30		.438			
Total	10	7	7	5	1

Table 5.9 depicts the final EFA results after re-allocation and cross checking the Saudi sample with the US sample. Ten items were kept in reliability, seven in each of empathy and assurance, five items in tangibility and just one item was kept in responsiveness.

Next, reliability test for each extracted factor was conducted using Cronbach's alpha, as suggested by many scholars (Byrne, 2010; Hair et al., 2010; Kline, 2011). These values are depicted in Table 5.10, for all the four extracted factors.

Table 5.10
Reliability Coefficient of the Extracted Factors

Factor	Number of Items	Cronbach's Alpha
Reliability	10	0.904
Empathy	7	0.880
Assurance	7	0.875
Tangibility	5	0.695
Responsiveness	1	No value

The examination of the Table 5.10 reveals that Cronbach's Alpha, a measure of reliability, clearly exceeded the threshold value of 0.6, as suggested by Yong et al. (2007). In this case, the value ranged from 0.695 to 0.904, indicating good subscale reliability and internal consistency of the items. It is also of import to note that for responsiveness no reliability tests were necessary, as it emerged with only one item during the EFA.

# 5.2.5 Scale validity

Once acceptable scale reliability and consistent factor structure is achieved, it is important to test for validity of the instrument. Validity of the scale can be measured qualitatively, as well as, quantitatively. For instance, face validity or content validity of the instrument is more qualitative in nature than quantitative (Parasuraman et

al., 1988). Content validity assures if a particular item measures what it is supposed to measure. As the items in the presented study are adapted from a well-established study, in the present study, the content validity of the scale was established. Next a crucial part in the analyses was to ascertain the construct validity of the scale. It includes establishing two types of validities, i.e., convergent validity and discriminant validity. These two are explained separately with all the empirical assessments undertaken.

## 5.2.5.1 Convergent validity

The scale validity was tested empirically by examining its convergent validity. The testing methodology used in this part is similar to the method used by Parasuraman et al. (1988).

Convergent validity was assessed by examining the association between service quality scores and responses to a question that asked respondents to provide an overall quality rating of the airline they were evaluating. This was done by requesting the respondents to rate the airline's overall quality (hereafter, referred to as "overall Q") by ticking on one of the five categories — very good, good, average, bad, very bad. The correspondence between the overall Q ratings and the service quality scores was examined using one-way ANOVA. The independent variable (factor) in the ANOVA was overall Q with all the five categories, whereas, the dependent variable was the average service quality scores on each dimension, as well as, on the total service quality scale. It is important to note that separate

ANOVA were conducted for each dimension and for the total scale. The results of ANOVA are presented in Table 5.11.

The numbers in Table 5.11 are the average service quality scores within each overall Q category, measured on a 1 to 5 scale on which the higher the score, the higher is the level of service quality. It is evident from the results that the combined service quality score for those in the "very good" category is significantly higher than for those in the "good" category. Similarly, the score for "good" category is also significantly higher than those of "average" category. Furthermore, respondents in the "average" category have a significantly higher combined service quality score than those of the "bad" category. Lastly, the score of "bad" category of the overall Q was higher than those of the "very bad" category. A similar pattern of findings is also evident for the scores on the individual service quality dimensions, except for the dimension "empathy" where the score for "good" category was slightly higher than those of "very good" category. The strength and persistence of the linkage between the overall Q categories and the combined service quality scale scores offer strong support the instrument's convergent validity across 2 independent samples.

#### 5.2.5.2 Discriminant validity

The present scale's validity was further assessed, by examining whether the construct measured by it was empirically associated with measures of other conceptually related variables. For this purpose two general questions were asked

that provided measures of variables (see Table 5.11). These are labelled as "Recommend" and "Problem". In this case, the motive was to see which one could expect to be related conceptually to service quality: whether the respondents would recommend the service firm to a friend, and whether they had ever reported a problem with the services they received from the firm. According to Parasuraman et al. (1988), if respondent answer "yes" to the "recommend" question and "no" to the "problem" question, it indicates higher service quality of the provider. It is clearly revealed in the results, depicted in Table 5.11, that the combined score for "yes" on the "recommend" part is significantly higher than those of "no". Similarly, the combined score for "no" is significantly higher on the "problem" part compared to the score of "yes" on the same part. The trend in the individual dimensions' scores is also alike, providing additional support for the validity of the scale.

Table 5.11
Significant Differences in Mean Scale Values for Respondents – Segmented According to the Variables
Overall Q, Recommend, and Problem: Saudi Arabia

Individual Cools			Overall Q			Recor	nmend	Prob	olem
Individual Scale Dimensions	Very Good	Good	Average	Bad	Very Bad	Yes	No	Yes	No
Reliability	3.681	3.427	2.738	2.290	1.727	3.249	2.785	2.824	3.363
Assurance	3.5658	3.268	2.835	2.208	1.750	3.208	2.745	2.758	3.313
Empathy	3.706	3.723	3.196	2.485	1.571	3.532	3.056	3.030	3.669
Tangibility	3.881	3.856	3.582	3.433	2.416	3.782	3.543	3.505	3.849
Combined Scale	3.683	3.511	2.983	2.466	1.788	3.375	2.939	2.945	3.486
Sample Size	57	82	82	15	6	176	58	94	143

# 5.3 United States sample

# 5.3.1 Data preparation and screening

After the detailed descriptive analyses of the questionnaire, the next essential stage was preparation, screening and cleaning of the data. This stage is important because unprepared and unclean data may produce biased results, and even cause failure. Therefore, before proceeding with further analyses, this stage was considered with the many steps, e.g., handling of missing data, identifying outliers and checking for normality.

# 5.3.1.1 Missing Data

The first task during the data preparation and screening stage was to check for any missing data. It is quite normal that during the completion of the questionnaire, some respondents do not attempt certain questions, or they forget to answer. In any case, these missing values in the data set must be handled, as it may cause serious problems during the analyses, consequently, producing biased results. Schafer and Graham (2002) rightly mentioned that most of the statistical software lacks the capability of handling missing data. That is why, special care is required during the administration stage of the questionnaire (De Vaus, 2001; Schafer & Graham, 2002) and thorough planning is also needed during the collection and data entry stage (Roth, 1994). Hence, these propositions were taken into consideration and were implemented by the current research.

As the data were collected online, it was possible to ensure that answer each and every question by forcing elicitation. Once the questionnaires were received from

the research company; labelling, coding and data entry into SPSS was done with special care. Later the entered data was also tested for frequency of occurrence to crosscheck missing values or illegal entries. These results revealed that there were 48 cases with missing value or zero variance, indicating invalid cases which eventually excluded from further analysis, leaving 304 valid cases.

#### **5.3.1.2 Outliers**

In this second step of data preparation and screening process, both univariate and multivariate outliers was test, similar to the process already undertaken for the Saudi sample. With regard to univariate outlier, a case shows odd responses compared to the rest of the cases on a single variable of the study, whereas, a case showing peculiar responses on more than one variable is called multivariate outlier (Kline, 2011).

In order to detect univariate outliers, it is suggested by Kline (2011) to examine univariate skewness and kurtosis. The value of skewness above 3 and kurtosis above 10 may trigger caution, as it may be a univariate outlier (Kline, 2011). Similarly, testing for multivariate outliers require examining Mahalanobis D<sup>2</sup> measure (Byrne, 2010; Hair et al., 2010). In this case, value lower than 0.001 (statistical significance lower than 0.001) indicates a possible case of multivariate outlier (Tabachnich & Fidell, 2001).

Both univariate and multivariate outliers' tests were conducted. The examination of univariate skewness and univariate kurtosis given in Table 14 clearly indicates that there were no offending values (i.e., skewness above 3 and kurtosis above

10). Similarly, Mahalanobis D<sup>2</sup> was examined and a total of 39 cases resulted with a value lower than 0.001, indicating a possible chance of multivariate outliers. Therefore, these cases were not considered for further analyses, leaving only 265 cases.

### **5.3.1.3 Normality**

The last stage under this part was to check the data for normality of the distribution. It refers to the shape of the data distribution and is tested by examining the skewness and kurtosis. Extreme values in skewness and kurtosis indicate the possibility of abnormality in the data distribution. Researchers (see Kline, 2011; West et al., 1998) suggested skewness values above 3 and kurtosis values above 10 might indicate possible problem in the data with regard to normality. In the present study, Table 14 was checked for any value of skewness above 3 and kurtosis above 10 and it was found that all the variables resulted in values below the threshold. This assures that the data for the present study is normal. After the preparation and screen of data, the next stage would be the descriptive analysis.

## 5.3.2 Descriptive analysis

After completing various analyses for the Saudi sample, the same would be undertaken for the US sample. Detailed analyses of the respondents' profiles will be conducted. This part is important for gaining pivotal knowledge about respondents of the study. The section initiates with highlighting response rate, as follows:

### 5.3.2.1 Response rate

One thousand questionnaires were distributed using a questionnaire hosing facility provided by <a href="https://www.surveymonkey.com">www.surveymonkey.com</a>. The questionnaire was online survey, and the respondents are all based in United States. A total of 943 questionnaires were received back successfully, however, only 265 were retained for this study. The main reason and method behind deleting of 591 cases were the inclusion of an important filtering question regarding the "use of any airline in the past 12 months". This question had two options: "yes" and "no". Those respondents who did not travel in the last 12 months were straight forward excluded from this study, as it did not meet the objectives.

The initial response rate of US sample was 94.3%, however, the filtering question the data cleaning procedures reduced the response rate significantly. Among of the 943 questionnaires, only 265 questionnaires were analysed since the other 678 respondents either did not used any airlines in the past 12 months, or were removed due to cleaning data procedures resulting in an adjusted response rate of 26.5%. Table 5.12 depicts the response rate breakthrough.

Table 5.12
Response Rate of the Distributed Questionnaires

Description	Number	and
	percentages	
Sample size	1000	
Questionnaires returned	943	
Raw response rate	94.3%	
Usable questionnaires	265	
Number of unusable questionnaires	678	
Adjusted response rate	26.5%	

### 5.3.2.2 Demographic profile

The demographic characteristics of US respondents are shown in Table 5.13. An examination of the descriptive analyses with regard to respondents' profiles revealed some interesting information. For example, the number of female respondents was 137 compared to 124 male respondents. In this case, females contributed 51.7% in the total survey, whereas, males contributed 46.8%. This particular finding is also interesting in a sense that if we compare it with that of the Saudi sample, the results are astonishingly different, where only 10 (or 4.1%) females responded to the survey. It also gives an indication that in US sample, female respondents played a major role and had greater influence on the findings of this study.

Followed by gender, age group of the respondents was also investigated. In terms of age, the largest group of respondents (35.5%) of the fall under the category of "65 and above"; which shows that this survey was attempted by most of the experienced and aged people. The second highest response was from an age group of 55 to 64 with the total of 79 (or 29.8%) responses. This was followed by three other age brackets: 45 to 54, 35 to 44 and 25 to 34 with a contribution of 14.7%, 10.2% and 8.3%, respectively. Overall, this variable clearly indicates that majority of the participants in this survey were those people who are aged 55 and above. The findings of this particular variable also contradict with that of the Saudi counterpart, where only 2 responses were received from people aged 65 and above.

Another demographic variable included in the survey was about the location of the respondents. The results revealed that significantly high number (259) or 97.7% respondents reside in the North American region, followed by South America with a response rate of only 0.4% (or 1 responses). Interestingly two respondents indicated that their residence at the time of filling this survey was Asia and Middle East. The results are very much aligned with our objective of targeting US sample. The level of education of respondents was also enquired. The results clearly show that the majority of the respondents hold at least a bachelor's degree with a contribution of 97 (or 36.6%) in this survey. It implies that bachelor degree holders influence this study, which again is varied from what was seen in the Saudi sample where majority of the respondents held a high school degree or equivalent. Graduate degree holders also participated in a fairly higher response rate (69 in number or 26%) compared to the 11.2% response in the Saudi sample. This was followed by "Associate degree" with a total of 10.6% contribution in this survey. Another educational level, "some college but no degree", resulted in a response rate of 13.6%, followed by "high school degree or equivalent" with a response rate of 12.5%. It is also important to note that no respondent indicated on the education level of "less than high school degree" compared to 10 respondents in the Saudi sample.

With regard to occupation of the respondents, the descriptive analysis resulted in 37.4% were retired. This particular group of people have a major influence on this survey. Another important group in terms of the contribution was "professional", which resulted in a total of 20.8% response rate. Of the total 265 questionnaires,

respondents holding "middle management" and "senior management" positions accounted for 12.5% and 9.1% contribution, respectively. This was followed by 14 responses (5.3%) from "skilled manual workers", 11 responses (4.2%) from "junior management" and 10 responses (3.8%) from "other manual workers". It is also important to note here that 17 respondents indicated that they are unemployed, accumulating a total of 6.4% in the total response. In comparison of this variable with that of the same in the Saudi sample, it can be observed that many different categories under the same question were distinct from that of the same question in Saudi sample, e.g., the inclusion of categories like: middle management, junior management, skilled manual workers, other manual workers, retired and unemployed, which resulted in a fairly higher response rate.

Table 5.13
Demographic Profile of the Respondents

Demographic Variables		Research s (n = 26	•
		No. of Respondents	Percentage
	Male	124	46.8
Gender	Female	137	51.7
	Missing	4	1.5
	25 – 34	22	8.3
	35 – 44	27	10.2
Λαο	45 – 54	39	14.7
Age	55 – 64	79	29.8
	65 and above	94	35.5
	Missing	4	1.5
	North America	259	97.7
	South America	1	0.4
Stay (Live)	Asia	1	0.4
(200)	Middle East	1	0.4
	Missing	3	1.1
	High school degree or equivalent	33	12.5
	Some college but no degree	36	13.6
Education	Associate degree	28	10.6
Education	Bachelor degree	97	36.6
	Graduate degree	69	26
	Missing	2	0.8
	Senior Management	24	9.1
	Professionals	55	20.8
	Middle Management	33	12.5
	Junior Management	11	4.2
Occupation	Skilled Manual Workers	14	5.3
Occupation	Other Manual Workers	10	3.8
	Retired	99	37.6
	Unemployed	17	6.4
	Missing	2	0.8

# 5.3.2.3 Attributes of service quality

The analysis proceeded with gaining more insight into the perception of service quality by 265 respondents through descriptive analyses on all the major attributes of the questionnaire. Similar to the Saudi sample, service quality in the present

sample was also measured using Five-point Likert scale with 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree. Table 5.14 presents detailed descriptive results of the 30 items of service quality.

Table 5.14
Descriptive Statistics: Service Quality

Item	Statements	Mean	Standard Deviation	Skewness	Kurtosis
	Reliability (Cronbach's α =0.966)				
SQ1	The airline provides passengers with new, modern and well maintained aircraft.	3.6943	.87957	-1.010	1.005
SQ2	Food and drink served on the aircraft during the flight are of high quality and sufficiently varied.	3.0000	1.20605	.052	-1.144
SQ3	Toilets on board the aircraft are clean and easy to use.	3.6906	.91417	606	.243
SQ4	There are daily newspapers and current magazines to read on board the aircraft.	2.7245	1.23842	.272	932
SQ5	Personnel working for the airline are neatly dressed.	4.2981	.59496	536	1.183
SQ6	The airline provides passengers with allocated seats.	3.8415	1.15690	-1.107	.440
SQ7	The airline provides good inflight entertainment on board the aircraft.	3.0226	1.21210	134	930
SQ8	Passengers' luggage are handled with care and attention.	3.3660	1.07219	419	395
SQ9	When the airline promises to do something by a certain time, it does so.	3.3698	1.04765	388	358
SQ10	When you have problems, the airline shows sincere interest in solving it.	3.3849	1.08840	439	327
SQ11	The airline performs its service right the first time.	3.6491	.95020	634	.211
SQ12	The airline provides its services at the time it promises to do so.	3.5887	.98505	657	010
SQ13	The airline maintains error free records.	3.2151	.91025	.016	.279
SQ14	Employees of the airline tell you exactly when services will be performed.	3.4868	1.01542	500	250
SQ15	Employees of the airline give you prompt service.	3.7358	.94450	972	.820
SQ16	Employees of the airline are always willing to help you.	3.7962	.95544	947	.719

SQ17	Employees of the airline are never too busy to respond to your requests.	3.3887	1.10262	458	607
SQ18	The airline provides its services to you promptly.	3.6491	.96993	778	.277
SQ19	The airline personnel are experienced and well trained.	3.9811	.75102	834	1.322
SQ20	The behaviour of employees of the airline instills confidence in customers.	3.9094	.90835	950	.982
SQ21	You feel safe in your transactions with the airline.	4.0491	.79858	-1.078	2.023
SQ22	Employees of the airline are consistently courteous with you.	4.0151	.87460	-1.227	1.964
SQ23	Employees of the airline have the knowledge to answer your questions.	3.9811	.79512	-1.014	1.857
SQ24	Passengers are compensated sufficiently by the airline for any damages arising from service disruption in the shortest time possible.	3.0302	1.07970	133	230
SQ25	Personnel working for the airline put themselves in the place of the passengers when providing service.	3.2264	1.07029	388	344
SQ26	The airline gives you individual attention.	3.4038	1.07625	419	539
SQ27	The airline has employees who give you personal attention.	3.5623	1.01732	671	.006
SQ28	Employees of the airline understand your specific needs.	3.5057	1.00800	519	074
SQ29	The airline has your best interests at heart.	3.3170	1.12036	390	551
SQ30	The airline has operating hours convenient to all its customers.	3.7321	.92927	612	.195
	Average Score	3.553	0.989		

Note: 1= strongly disagree, 5 = strongly agree

An examination of the descriptive table for service quality revealed important information, regarding respondents' choice on the scale of 1 to 5, standard deviation, Skewness and kurtosis. The average score resulted with a mean of 3.553 (SD = 0.989), indicating that majority of the respondents was inclined positively toward service quality.

The highest mean value for service quality resulted for an item "Personnel working for the airline are neatly dressed" with the mean score of 4.298. This item was also the least varied in terms of standard deviation (SD = 0.594). The second highest

mean value was for item "You feel safe in your transactions with the airline" (mean = 4.049; SD = 0.798). It seems that those items are from a service quality dimension called "tangibility" and "assurance". Interestingly, in the Saudi sample, tangibility dimension also resulted as imperative based on the results of the descriptive analysis.

The lowest mean value among the 30 items was for, "There are daily newspapers and current magazines to read on board the aircraft" (mean = 2.724), followed by "Food and drink served on the aircraft during the flight are of high quality and sufficiently varied" (mean = 3.000). Except for these two items, it seems that respondents agreed to the importance of the developed items with regard to service quality.

# 5.3.3 Reliability test

Reliability tests were also conducted for this sample, as it is imperative in order to establish stability and consistency of the instrument (Sekaran, 2003). For this purpose, SPSS software was used to test for the reliability of the instrument using the most common and widely accepted measure, i.e., Cronbach's alpha. As mentioned earlier, the alpha value closer to 1.0 should be targeted, as it indicates greater stability and consistency of the instrument. However, scholars (see Nunnally, 1978; Yong et al., 2007) set the cut-off value of alpha as 0.6. The results of reliability analysis are depicted in Table 5.15.

Table 5.15
Reliability Statistics of the Questionnaire

Cronbach's Alpha Based on				
Cronbach's Alpha	Standardized Items	No. of Items		
0.956	0.959	30		

The present instrument emerged with an acceptably higher Cronbach's alpha value of 0.956 for overall scale, indicating good consistency and stability of the scale.

# **5.3.4 Exploratory Factor Analysis**

After the reliability analyses, EFA was undertaken in order to find out dimensions in the dataset along with their items. This stage was imperative not only to explore dimensions in the dataset but also to compare these dimensions with that of the Saudi sample. Similar to that of the EFA conducted for Saudi sample, SPSS software was also used in this case with 265 remaining cases after excluding the outliers. All the 30 items of service quality was used to identify the number of dimensions and their association with each dimension. However, it is important to note that the initial step considered crucial before conducting EFA is to check Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and Bartlett's Test of Sphericity (Hair et al., 2010). The threshold for KMO is 0.7, whereas, for Bartlett's test of Sphericity it is p<0.001 of significance level, in order to conduct EFA (Hair et al., 2010). Table 5.16 highlights the results of KMO and Bartlett's test of Sphericity of the US sample.

Table 5.16 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy	Measure of	Sampling	.954
Bartlett's Test of Sphericity	Approx. Chi	-Square	5522.171
- p	Df		435
	Sig.		.000

The above table clearly indicates that the cut-off values for KMO and Bartlett's Test of Sphericity were met. In this case KMO measure of sampling adequacy was 0.954, and Bartlett's Test of Sphericity was significant at p <0.001, demonstrating the suitability of data for EFA.

Table 5.17 depicts the results of EFA for US sample. In this case, Principal Component Analysis (PCA) method with Varimax rotation was used for this sample during EFA. All items with factor loadings 0.3 and above were grouped together. Further, during EFA eigenvalue greater than 1.0 was considered with suppression of below 0.3. The result revealed four-factor solution with a total of 62.59% of variance. The extracted dimensions were also given suitable names as: assurance, reliability and tangibility. It was noticed during the EFA the original tangibility related items loaded on two separate factors, that is why, it was considered appropriate to give it related names. In this case soft tangibility and hard tangibility were considered suitable, as shown in Table 5.17.

Table 5.17
Results of Factor Analysis: United States

Items			omponent	
(Variables)	Factor 1	Factor 2	Factor 3	Factor 4
(Variables)	Assurance	Reliability	Tangibility(Soft)	Tangibility(Hard)
Items 1		.459	.366	
Items 2		.429		.438
Items 3			.566	
Items 4	.326			.575
Items 5			.712	
Items 6			.346	.689
Items 7				.712
Items 8		.680		
Items 9	.352	.770		
Items 10	.493	.606		
Items 11	.447	.697		
Items 12	.356	.690		
Items 13		.686		
Items 14	.465	.559		
Items 15	.603	.521		
Items 16	.669	.347	.371	
Items 17	.497	.375		
Items 18	.601	.516		
Items 19	.625		.468	
Items 20	.677	.301	.392	
Items 21	.556	.313	.476	
Items 22	.722			
Items 23	.601	.310	.395	
Items 24	.404	.605		
Items 25	.683	.467		
Items 26	.803	.307		
Items 27	.845			
Items 28	.759	.328		
Items 29	.614	.464		
Items 30	.433	.330		
Initial	14.463	1.772	1.461	1.083
Eigenvalues	14.403	1.//2	1.401	1.003
% of Variance	48.209	5.907	4.869	3.610
Cumulative %	48.209	54.116	58.985	62.595

The eigenvalue for the first extracted factor was 14.463, followed by 1.772 for the second factor and 1.461 for the third factor. The Last factor resulted in an eigenvalue of 1.083.In terms of the percentage of variance, assurance (factor 1)

resulted in 48.209% variance; reliability (factor 2) emerged with 5.907% variance, soft tangibility (factor 3) and hard tangibility (factor 4) resulted in 4.869 %, 3.610 of variance respectively. As depicted in Table 5.17, the EFA for US sample doesn't seem to be very clean. Moreover, many cross-loadings can be noticed apart from deduction of dimensions to four compared to the Saudi sample that emerged with five dimensions. In this case, the 30 items of service quality was crosschecked with previous sample, in order to detect any discrepancy and to handle it appropriately. This process, facilitate to make cross-validation for both samples. The revised factor analysis table is given below as Table 5.18.

As mentioned earlier that the questionnaire for this study was developed based on the original "AIRQUAL" and "SERVQUAL" instruments. In the instrument of this study item 24 to item 30 were originally 'empathy' related items. However, when data was collected and analyses were undertaken, it was revealed that these items loaded on 'assurance' and 'reliability' simultaneously except for item 27 that loaded only on 'assurance' dimension. This was the case only in US sample. Further action was taken to crosscheck these items with the main sample of the study (Saudi sample) and also with that of the original source. Interestingly, in the Saudi sample the same items loaded clearly on 'empathy' dimension, as were designed for. The main reason behind this discrepancy between US and Saudi samples may be because of the cultural difference and the way respondents perceive and read the items. Further, data collection was also different in both the samples, i.e., in US data was collected online without the presence of the researcher(s), whereas,

in Saudi Arabia researcher(s) was available at the time of completing the questionnaire for clarification purposes.

It is also important to note that the items were re-allocated in the US sample from 'assurance/reliability' to 'empathy'. It was because the original source was checked for the items' belongingness to the dimension. Therefore, it was considered appropriate to re-allocate these items (24 - 30) and put it under their original dimension (Empathy). Lastly, it is worth mentioning here that the final dimensions and sample considered for this study was that of Saudi Arabia, as it was the main objective of the study.

Table 5.18
Revised Factor Analysis: United States

Items		Component	•		
(Variables)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Assurance	Reliability	Tangibility	Empathy	Responsiveness
Items 1		,	Re-allocated		•
Items 2			.438		
Items 3			.566		
Items 4			.575		
Items 5			.712		
Items 6		Re- allocated			
Items 7		Re- allocated			
Items 8		.680			
Items 9		.770			
Items 10		.606			
Items 11		.697			
Items 12		.690			
Items 13		.686			
Items 14		.559			
Items 15		Re- allocated			
Items 16	.669				
Items 17					Re-allocated
Items 18	.601				
Items 19	.625				
Items 20	.677				
Items 21	.556				
Items 22	.722				
Items 23	.601				
Items 24				Re-allocated	
Items 25				Re-allocated	
Items 26				Re-allocated	
Items 27				Re-allocated	
Items 28				Re-allocated	
Items 29				Re-allocated	
Items 30				Re-allocated	
Total	7	10	5	7	1

After the extraction and re-allocation of items in their subsequent factors, Cronbach's alpha reliability was analysed for each factor. The results are presented in Table 5.19 for all the factors.

Table 5.19
Reliability Coefficient of the Extracted Factors

Factor	Number of Items	Cronbach's Alpha
Reliability	10	0.872
Assurance	7	0.923
Empathy	7	0.916
Tangibility	5	0.647
Responsiveness	1	No value

The examination of Table 5.19 reveals the Cronbach's Alpha reliability results for all the five dimension of the US sample. The highest of these are the dimension of "Assurance" with an alpha value of 0.923, followed by dimension "Empathy" with an alpha value of 0.916. Reliability dimension resulted in a Cronbach Alpha value of 0.872, whereas, Tangibility emerged with the lowest Alpha value among all which was 0.647. One dimension, namely, Responsiveness resulted with only one item for which reliability tests were not considered necessary. All the values were above the threshold value of 0.6, which indicate that the instrument of the study was fairly consistent and reliable.

# 5.3.5 Scale validity

Similarly to Saudi sample, after achieving acceptable reliability and reasonably clean factor structure during EFA, the next stage deemed necessary was to test validity of the instrument. First type of validity that was considered imperative for the present scale was face or content validity. For content validity, researchers are suggested to validate the content of the instrument in order to ensure if the items selected measure what it is intended to measure. Moreover, if items are adopted from previous studies, researchers have to make sure that those items are reliable and valid. In the present research items are adapted from a very established instrument and then these adapted items are thoroughly checked for their suitability for the present research, establishing face validity of the instrument. Face or content validity is more qualitative and is not sufficient.

# 5.3.5.1 Convergent validity

The scale validity was tested empirically by examining its convergent validity, using the same method as explained in section 5.3.5.1. The correspondence between the overall Q ratings and the service quality scores was examined using one-way ANOVA. The independent variable (factor) in the ANOVA was overall Q with all the five categories, whereas, the dependent variable was the average service quality scores on each dimension, as well as, on the total service quality scale. It is important to note that separate ANOVA were conducted for each dimension and for the total scale.

The results of ANOVA are presented in Table 5.20. The numbers in Table 5.20 are the average service quality score within each overall Q category, measured on a 1 to 5 scale on which the higher the score, the higher is the level of service quality. It is evident from the results that the combined service quality score for those in the "very good" category is significantly higher than for those in the "good" category. Similarly, the score for "good" category is also significantly higher than those of "average" category. Furthermore, respondents in the "average" category have a significantly higher combined service quality score than those of the "bad" category. Lastly, the score of "bad" category of the overall Q was higher than those of the "very bad" category. A similar pattern of findings is also evident for the scores on the individual service quality dimensions. The strength and persistence of the linkage between the overall Q categories and the combined service quality scale scores offer strong support for the instrument's convergent validity.

### **5.3.5.2 Discriminant validity**

The present scale's validity was further assessed, by examining whether the construct measured by it was empirically associated with measures of other conceptually related variables. For this purpose two general questions were asked that provided measures of variables (see Table 5.20). These are labelled as "Recommend" and "Problem". In this case, the motive was to see which one could expect to be related conceptually to service quality: whether the respondents would recommend the service firm to a friend, and whether they had ever reported a problem with the services they received from the firm. According to Parasuraman

et al. (1988), if respondent answer "yes" to the "recommend" question and "no" to the "problem" question, it indicates higher service quality of the provider. It is clearly revealed in the results, depicted in Table 5.20, that the combined score for "yes" on the "recommend" part is significantly higher than those of "no". Similarly, the combined score for "no" is significantly higher on the "problem" part compared to the score of "yes" on the same part. The trend in the individual dimensions' scores is also alike, providing additional support for the discriminant validity of the scale.

Table 5.20
Significant Differences in Mean Scale Values for Respondents – Segmented According to the Variables
Overall Q, Recommend, and Problem: United States

Individual Scale	Overall Q						Recommend		Problem	
Dimensions	Very Good	Good	Average	Bad	Very Bad	Yes	No	Yes	No	
Reliability	4.050	3.566	2.991	2.560	2.180	3.578	2.688	2.845	3.642	
Assurance	4.463	3.976	3.337	2.900	1.925	3.995	2.908	3.165	4.036	
Empathy	4.056	3.540	2.853	2.142	1.457	3.547	2.407	2.661	3.602	
Tangibility	4.050	3.566	2.991	2.560	2.180	3.578	2.688	2.845	3.642	
Combined Scale	4.136	3.664	3.083	2.566	1.993	3.682	2.706	2.935	3.728	
Sample Size	68	103	83	5	5	216	34	59	205	

# **5.4 HYPOTHESES TESTING**

The hypotheses of the present research are the product of the review of the literature. Nine hypotheses were devised (see chapter 2) and are subsequently tested. This part highlights various tests undertaken during the hypotheses testing.

Firstly, a correlation analysis was performed on all the key constructs of the study. These included: service quality along with its five dimensions, overall service quality, satisfaction, and repurchase intention, word of mouth, attitudinal loyalty and complaint behaviour. The complete results of Pearson Correlation analysis are presented in Table 5.21.

The review of the Pearson Correlation shows that all the correlations of overall service quality with other constructs were significant at p < 0.01. The envisaged and hypothesised direction of relationships is also supported by the results. In this case, a statistically significant positive relationship of overall service quality with satisfaction (0.717), repurchase intention (0.436), word of mouth (0.377) and attitudinal loyalty (0.260) support the hypotheses of this study. Moreover, a statistically significantly negative relationship of overall service quality with complaint behaviour (-0.272) was also hypothesised and therefore, supported based on the results depicted in Table 5.21.

Table 5.21: Pearson Correlation

#### **Correlations Table**

				00	relations i	abic						
		1	2	3	4	5	6	7	8	9	10	11
	Pearson Correlation	1										
(1) Reliability	Sig. (2-tailed)											
	N	242										
	Pearson Correlation	.690**	1									
(2) Empathy	Sig. (2-tailed)	.000										
	N	242	242									
	Pearson Correlation	.694**	.621**	1								
(3) Assurance	Sig. (2-tailed)	.000	.000									
_	N	242	242	242								
	Pearson Correlation	.607**	.452**	.575**	1							
(4) Tangibility	Sig. (2-tailed)	.000	.000	.000								
_	N	242	242	242	242							
(5) Responsiveness	Pearson Correlation	.357**	.324**	.400**	.226**	1						
	Sig. (2-tailed)	.000	.000	.000	.000							
-	N	242	242	242	242	242						
	Pearson Correlation	542**	497**	475**	361**	152 <sup>*</sup>	1					
(6) Overall SQ	Sig. (2-tailed)	.000	.000	.000	.000	.018	0.40					
_	N Pearson Correlation	242	242	242	242	242	242					
(7) Catiofastics		515 <sup>**</sup> .000	455 <sup>**</sup>	429**	333**	121	.717**	1				
(7) Satisfaction	Sig. (2-tailed)	.000 242	.000 242	.000 242	.000 242	.059 242	.000 242	242				
_	Pearson Correlation	278**	274**	238**	106	100	.436**	.369**	1			
(8) Repurchase Intention	Sig. (2-tailed)	.000	274 .000	236 .000	.100	100 .120	.000	.000	'			
	N	241	241	241	241	241	241	241	241			
	Pearson Correlation	228**	235**	240**	150°	076	.377**	.363**	.088	1		
(9) Word of mouth	Sig. (2-tailed)	.000	.000	.000	.021	.248	.000	.000	.181			
	N	234	234	234	234	234	234	234	234	234		
(10) Attitudinal loyalty	Pearson Correlation	082	107	168**	022	079	.260**	.128*	.154 <sup>*</sup>	.271**	1	
	Sig. (2-tailed)	.207	.099	.009	.734	.222	.000	.047	.017	.000		
	N	240	240	240	240	240	240	240	240	234	240	
(11) Complaint Behaviour	Pearson Correlation	.300**	.325**	.369**	.233**	.090	248 <sup>**</sup>	272**	178 <sup>**</sup>	319 <sup>**</sup>	094	1
	Sig. (2-tailed)	.000	.000	.000	.000	.166	.000	.000	.006	.000	.150	
	N	237	237	237	237	237	237	237	237	231	237	237

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).
\*. Correlation is significant at the 0.05 level (2-tailed).

The review of the Pearson Correlation depicted in Table 5.21 shows that all the correlations of overall service quality with other constructs were significant at p < 0.01. The envisaged and hypothesised direction of relationships is also supported by the results. In this case, a statistically significant positive relationship of overall service quality with satisfaction (0.717), repurchase intention (0.436), word of mouth (0.377) and attitudinal loyalty (0.260) support the hypotheses of this study. Moreover, a statistically significantly negative relationship of overall service quality with complaint behaviour (-0.272) was also hypothesised and therefore, supported based on the results depicted in Table 5.21.

Some interesting findings are also revealed during Pearson Correlation as presented in Table 5.21. These unique findings were with regard to the correlation of five dimensions of service quality with other constructs, namely, overall service quality, satisfaction, repurchase intention, word of mouth, attitudinal loyalty, and complaint behaviour. It can be seen in the above table that all these correlations resulted in negative outcomes, except for complaint behaviour that resulted in a positive outcome. It is because the scales go in different directions, i.e., a higher number is better for factor scores and a lower score is better for service quality. However, it is of prime importance to keep in mind that the main focus should be the relationship of the devised hypotheses, and in this case all resulted as envisaged.

Another important attempt to test the hypotheses was through regression analysis.

Detailed results of the tests of hypotheses are provided in Table 5.22.

TABLE 5.22
RESULTS OF HYPOTHESES TESTING

Hypotheses	Hypothesised	R	ANOVA	Standardized Coefficients	P	Result		
	Relationship	Square	F	В	Value			
SQ → CS	H1	.514	253.64	.717	***	Supported		
SQ → RI	H2	.190	56.100	.436	***	Supported		
SQ → WOM	H3	.142	38.322	.377	***	Supported		
SQ → AL	H4	.068	17.280	.260	***	Supported		
SQ → CB	H5	.061	15.346	248	***	Supported		
CS → RI	H6	.136	37.717	.369	***	Supported		
CS → WOM	H7	.132	35.181	.363	***	Supported		
CS → AL	H8	.016	3.975	.128	**	Supported		
CS → CB	H9	.074	18.757	272	***	Supported		
Legends								
***	P < 0.001							
**	P < 0.05							
SQ	Service Quality							
CS	Customer Satisfaction							
RI	Repurchase Intention							
WOM	Word of Mouth							
AL	Attitudinal Loyalty							
СВ	Complaint Behaviour							

The review of the hypotheses testing table clearly reveals that all the hypotheses are supported at P level of less than 0.001, except one hypothesis (customer satisfaction has a positive impact on attitudinal loyalty) that resulted in a significance level of p < 0.05. Of all the hypotheses, H1 (service quality has a positive impact on customer satisfaction) resulted with a stronger impact compared to the rest. In this case, the R-square was 0.514, whereas, standardized coefficient

beta was 0.717. Similarly, the weakest among the hypothesis was H8 (customer satisfaction has a positive impact on attitudinal loyalty) with R-square of 0.016 and beta value of 0.128. However, it should be noted that this hypothesis was statistically significant at p < 0.05.

Overall, all the results were acceptable with no offending estimates.

In this section, the researcher wishes to offer some recommendations to Saudi Airlines based on the in-depth analyses of the results and findings of the present study. Moreover, suggestions for improvements will also be offered in order for the Saudi Airlines to overcome the issues highlight by the present research.

As evident from the demographic part of the analysis (see demographic profile of the respondents – Table 5.4), male respondents have a major influence on the present study. This is important to take note of, because recommendations and suggestions by the researcher may not be fully generalised, particularly with regard to females. However, when it comes to service quality and satisfaction in the airline industry, male and female respondents usually respond in the same manner.

High Cronbach's reliability results of the service quality scale clearly indicates that respondents were aware of their responses and that every item replied to should be discussed with its implications for Saudi Airlines.

Five dimensions of service quality resulted during the analysis (see Table 5.9), with reliability as the first dimension of service quality, followed by empathy, assurance, tangibility, and responsiveness. These dimensions emerged with certain number of items under each. Let's highlight each factor (dimension) of service quality, as resulted in the present study, with its implication for the Saudi Airlines.

# Factor 1 – Reliability:

The first factor loaded during the exploratory factor analysis was "reliability" with 10 items. These items resulted with various loadings. The highest being item 11 with the loading of 0.711. Under this item the respondents were asked to rate Saudi Airline's right performance of service. It states that, "This airline performs its service right the first time." It is important for Saudi airlines to consider the importance of this particular question, as it has the highest loading. It suggests to the airline that they should try their best to perform airlines related service right. The emphasis is not only on doing the service right but also right the very first time. Previous research also indicates that customer's tendency to switch a particular brand increases when the service provider fail to provide the expected service right in the first encounter.

Another important item under 'reliability' dimension was item 7 with the loading of 0.690. This particular item states, "This airline provides good in-flight entertainment on board the aircraft." The findings of this study clearly indicate and suggest to Saudi Airlines that in-flight entertainment system is very important for the customers in order to consider a particular airline a quality one. It is, therefore, recommended that Saudi airline concentrate on installing the latest entertainment systems, as it gives customers the luxury to engage their selves during the flight. This does not only include installing HD (High Definition)/ high-resolution screens in the aircraft but also providing the latest content available. A good example of that would be to look at Singapore airlines. They have installed the latest in the market touch screens with the latest content available to the passengers. Another interesting addition done by Singapore airline is the in-flight Wi-Fi services. Currently the Wi-Fi services do not contact customers to the Internet on-board but only give them access to in-flight repository of entertainment related content on the customer's gadgets. Perhaps, Saudi Airlines can consider providing Wi-Fi service to the passengers on-board with the availability of Internet. Lastly, again the example of Singapore airlines would be worth mentioning when it comes to "good in-flight entertainment". Many customers would prefer to use their gadgets during flight using their own entertainment content, but the biggest problem these kind of passengers usually face is the drainage of battery during long flights. Singapore and Emirates Airlines have started providing in-flight gadget charging facilities on each passenger's seat. These example, if followed by Saudi Airlines will certainly

increase customer's perception of the quality of service provided by Saudi airlines, along with its positive impact on satisfaction.

Some other items loaded high on 'reliability' factor of service quality were item 9 (When the airline promises to do something by a certain time, it does so), item 13 (The airline maintains error-free records), item 10 (When you have problems, the airline shows sincere interest in solving it), item 12 (The airline provides its services at the time it promises to do so), and item 8 (Passengers' luggage are handled with care and attention). These items are rated as important by respondents for Saudi airlines in order to establish "reliability". The aforementioned items also suggest many important things to the airlines. For instance, keeping the promise by an airline with regard to time. In this case, it is suggested to Saudi airline that if they promise customer to do a particular thing for them, the airlines should take any steps to ensure that the promises are fulfilled. Similarly, customers' perception of service quality reduces with regard to airlines when they repeatedly make errors. Therefore, it is important for Saudi airline to make sure to maintain an error-free record in all cases. Another very important point that Saudi airline should consider is to show keen interest in customers' problems. When customers have problem pre or post boarding and the airline shows interest and do efforts to solve that problem, customer's perception of service quality increases followed by a positive impact on satisfaction and loyalty. Lastly, under 'reliability' dimension, customers consider handling of their luggage by an airline as very important. In this case, it is suggested that Saudi airlines take special measures to guarantee the careful handling of customers' luggage and if possible personalised attention to each customer, especially the one with special needs.

### Factor 2 - Empathy:

The second factor during exploratory factor analysis was "Empathy". This factor emerged with 7 items, comprising of loading as high as 0.763. This highest loading under 'empathy' dimension was for item 28. This item was used to acquire respondents' ratings on employees understanding of customer's needs. Specifically, it stated, "Employees of the airline understand your specific needs." This particular item suggests to Saudi airlines that they should make sure that each employee tries to understand passenger's specific needs. Based on this, it is recommended that Saudi airlines get maximum possible information on customer's profiles, in order for them to provide customised services to each passenger. A simple example of that would be getting information from passengers about the meals that they prefer. Many airlines even have an in-flight professional chef (a case of Singapore airlines). Perhaps, Saudi airlines should also take steps to understand what exactly the passengers' needs are, so that it can be addressed successfully.

Another important item with highest loading (0.744) under 'empathy' dimension was item 29, which stated that; "The airline has your best interest at heart". This particular question revealed that Saudi airlines should not only try to behave in a

positive and favourable manner towards passengers but actually feels at heart the same way too.

Some other items extracted with high loading were item 27 (The airline has employees who give you personal attention), item 25 (Personnel working for the airline put themselves in the place of the passengers when providing service), and item 24 (Passengers are compensated sufficiently by the airline for any damages arising from service disruption in the shortest time). These items clearly offer many recommendations and suggestions to the Saudi airlines. Firstly, employees of Saudi airlines have to take special care when dealing with customers. A humantouch is more appreciable than installing automatic kiosks. Passengers have to be given personal attention, as it is rated as important factor under empathy dimension. Secondly, employees need to put their selves in the shoes of the passengers with regard to giving them different types of services. How will they (employees) want to be treated if they were instead of the passengers? This particular way of thinking will certainly improve the service provided by these employees to the customers. Lastly, people often get dis-satisfied when the promises are not met. This is also true for any type of service industry including airlines. Saudi airlines have to make sure that in case of service disruption, customers are compensated appropriately and in the fastest possible way. Many well-known airlines (e.g., Emirates, Singapore, and Thai) offer various facilities to the passengers in case of service disruption. Some of these include offering high quality food, Free Internet service, and even high star hotel, in order to reduce customers' discontent.

#### Factor 3 – Assurance:

Assurance is an important dimension of service quality. It is a promise to the customer that their experience will be exemplary. During the analysis, the present study emerged with seven items under assurance factor. The highest among these was item 22 with 0.759 loading. This particular item acquired respondents' responses on the employee's courtesy. It was rated as the highest among other items in the 'assurance' dimension. It states that, "Employees of the airline are consistently courteous with you." It is recommended that Saudi airline pay attention to this particular question, as the passengers have an improved perception of service quality when the employees are repeatedly courteous to them. Emphasis is also given to the word "consistently", which means that employees of Saudi airline have to build a habit of behaving in a courteous manner in order to satisfy customers.

Another important item under 'assurance' dimension that resulted in high loading (0.734) was item 21. This item enquired about safety with regard to transactions with the airlines. It states that, "You feel safe in your transactions with the airline." The implication of this question for Saudi airline would be; to assure that any transaction made by the passengers with the airline is safe. The least Saudi airlines can do is to win customer's trust, when it comes to safety in transactions. Due to the growth in information and communication technology, the use of

automatic systems have increased dramatically which eventually increased customer's worries for safety when using these technologies. The same is true for airlines as well, where passengers book their tickets online, check-in online, or use credit or debit cards to buy various airlines' products. In order to assure quality in the service, Saudi airline has to take steps to make the customers feel at ease when doing any sort of transactions with them.

Other important questions under this factor were item 20 (The behaviour of employees of the airline instils confidence in customers), item 19 (The airline personnel are experienced and well trained), item 16 (Employees of the airline are always willing to help you), item 23 (Employees of the airline have the knowledge to answer your questions), and item 18 (The airline provides its services to your promptly). The aforementioned questions resulted in various loadings under empathy factor with many implications to offer to Saudi airlines. For instance, employees of the Saudi airline have to develop a positive and professional behaviour because employee's behaviour delivers a lot of direct and indirect messages to the customers. Positive behaviour of the employees will build customer confidence and hence encourage them to travel with the airline. However, as evident from item 19, experience and training is a must for the employees to show positive and professional behaviour. It is, therefore, recommended that Saudi airline pay attention to employees' training to instil in them professionalism and positive behaviour. These training will also help the employees build a culture in the organisation (Saudi airlines) to jump in and offer help before even approached by the passengers (as evident from item 16). Further, providing appropriate training to the employees will also help them to reply to customer's queries in a better and satisfactory way (as suggested in item 23). Lastly, the airline should also make sure to get back to passengers promptly when any kind of service is needed.

### Factor 4 – Tangibility:

This factor originally resulted in four items and one item was re-allocated, as deemed appropriate. The item with highest loading was item 4 with the loading of 0.780. The respondents considered it as one of the most important item with regard to tangibility. Under this question the respondents were asked to give their response on a question that states, "There are daily newspapers and current magazines to read on-board the aircraft." Even though now a days, good airline like Emirates and Singapore airlines have started providing soft copies of newspapers and magazine accessibly through their on-board Wi-Fi system, respondents in Saudi Arabia still thinks that hard copy of the newspapers and magazine is what they prefer. This point has to be noted by the Saudi airline and provide daily newspapers of all types, including local and International newspapers, along with providing latest magazine. Perhaps, future researchers consider this point as a guide for a research attempt to investigate Saudi airline's passengers' preference of various types of newspapers and magazines. It will help the airlines to provide only those newspapers and magazine preferred by the passengers, resulting in improved and enhanced service quality.

One item (i.e., item 2) loaded originally on 'reliability' factor but was considered appropriate to re-allocate it based on the nature of the item. This item states that, "Food and drink served on the aircraft during the flight are of high quality and sufficiently varied." By looking at the question, it clearly indicates that it is a 'tangibility' dimension question that is why, it was moved to tangibility factor. Based on this question, it is recommended to Saudi airline to ensure the high quality of the food and drinks provided in the aircraft throughout the flight. In many airlines, it is noticed that during long flights the food and drink provided in the beginning of the flight is different than that of the middle or later time of the flights. Moreover, in some airlines it is also observed by the passengers that availability of the food and drinks are not sufficient and it finishes after few hours of the flight. These things may result in discontent and customers' perception of service quality may change. It is, therefore, recommended that Saudi airline take these points in order to keep the customers satisfied.

It is also of import for Saudi airlines to take note of two other important items, as emerged in EFA during the analysis. These items are item 5 (Personnel working for the airline are neatly dressed) and item 3 (Toilets on board the aircraft are clean and easy to use). In light of the first item (i.e., item 5), it is recommended that employees of Saudi airline always dress well and neat. This is considered important because the outlook of the employees, especially with regard to their dress up represent Saudi airlines. The next item considered important by the respondent in terms of service quality was the cleanliness of toilets in the aircraft.

Organisation (Saudi airline) should take steps to ensure the cleanliness of the toilets in the plane along with providing some guidelines on how to use these toilets. Perhaps, the airline's personnel should check the toilets after being used by the passengers. Moreover, it will add value to the overall service provided by Saudi airline that they also provide various high-class toiletries in the toilets. The aforementioned steps are very vital to be considered by Saudi airlines, as these things emerged under tangibility, attesting their visibility unlike other dimensions.

### **Factor 5 – Responsiveness:**

During EFA, one item loaded very strongly separately (i.e., item 17). The researcher keenly observed this question and created a separate dimension for it with the name of 'responsiveness'. This item acquired passengers' responses on how busy the airline's staffs is? It states that, "Employees of the airline are never too busy to respond to your request." Based on this question, it is recommended to Saudi airlines to quickly and promptly respond to the passengers' requests. It also suggests that the employees should not look too busy and always ensures their availability in case of customer's request.

The above recommendations are provided to airlines in general and to Saudi airlines in particular. These recommendations and suggestions, based on the findings of the present research, will make the Saudi airlines enhance their quality of services and eventually positively impact customer satisfaction and loyalty.

### **CHAPTER 6**

### **Conclusion & recommendation**

### Introduction

This concluding chapter attempts to highlight and summarize the significant contributions of this study. Specifically, the focus would be on explicating how each research question is answered by this research. As the main objective of the present research is to validate the airlines service quality scale following the step proposed by Parasuraman et al. (1988), an attempt is made to explain how these steps succeeded in meeting the research questions, designed in the first chapter. Further, the supported and unsupported causal linkages, as proposed in the framework of this study, will also be explained. Furthermore, the contribution of the study to the practice and to the theory will also be explicated. Lastly, recommendations for future research directions that are potentially beneficial and practical, as well as, certain limitations of the study will also be highlighted in the following sections.

### 6.1 Research questions addressed

As highlighted in chapter 1 of this study, ten research questions were established. There is one main question and the rest revolves around that single question. This question is about the exploration of the dimensions of AIRQUAL and the subsequent validation, which is followed by its impact on various other

proposed variables. The detailed explanation of each research question will be presented in the following part.

## RQ 1: What are the main dimensions of service quality (AIRQUAL) in the airline industry after validation?

Bari et al. (2001) initially proposed AIRQUAL. The roots from where this construct was conceptualised is the model of Parasuraman et al. (1988), named, SERVQUAL. The problem with AIRQUAL was its lack of validity. The original authors didn't follow all the steps necessary for the assessment and validation of the scale, as proposed by Parasuraman et al. (1988). This is why, the present research considered it imperative to assess and validate the AIRQUAL scale, so that it can be adopted and applied by researchers and organisations. Researchers can adopt the AIRQUAL construct, validated in the present research, and test it in other countries than Saudi Arabia. Similarly, organisations, particularly the airline industry, can adopt this scale to improve service quality of their airlines.

After the complete analyses (see chapter 5), a revised new AIRQUAL scale emerged with five dimensions, namely, Reliability, Empathy, Assurance, Tangibility and Responsiveness. These findings are aligned with that of the original SERVQUAL (Parasuraman et al., 1988), as well as, AIRQUAL (Bari et al., 2001), that also resulted in five dimensions of service quality. However, in the present study the names of these dimensions are similar to SERVQUAL

rather than AIRQUAL. This is due to the suitability of names presented by Parasuraman et al. (1988) in SERVQUAL with the present research. In the case of the AIRQUAL the dimensions were: Airport tangibles, Terminal tangibles, Personnel, Empathy, and Image. Another important difference to mention here is the number of items in each dimension, in case of AIRQUAL (Bari et al., 2001): airport tangibles have seven items, terminal tangibles have eleven items, personnel and empathy have eight items each, and image have four items. But in case of the present research, the reliability dimension emerged with ten items, empathy and assurance with seven items each; tangibility with five items and responsiveness resulted in only one item. This discrepancy is due to the fact that the service quality scale varies from industry to industry and also from country to country. The number of dimensions and their subsequent items, as researched by scholars (see Angur et al., 1999; Babakus and Mangold, 1992; 1990; Nadiri and Hussain, 2005), vary significantly. aforementioned is aligned with the present study as well, because to the knowledge of the researcher, a service quality scale has never been validated or tested in the airline industry. Therefore, the main dimensions of service quality, more specifically AIRQUAL, in the airline industry of Saudi Arabia are five.

## RQ2: What is the impact of airline service quality on customer satisfaction in the airline industry?

To investigate the impact of airline service quality on customer satisfaction, regression analysis was conducted. The results revealed that there is indeed a positively significant impact of service quality on customer satisfaction. It means that if an airline attempts to improve their quality of services (the dimensions of service quality proposed in this research), it will in return enhance the satisfaction level of their customers. This particular finding is also in congruence with the literature, particularly the benchmarked study for the present research by Bari et al. (2001). They also found a significantly positive impact of service quality on customer satisfaction. Moreover, researchers around the globe have extensively investigated the link between service quality and customer satisfaction not only in airlines but also other industries, and found positive significance (see Anand & Selvaraj, 2012; Cronin & Taylor, 1992; Fatima & Razzaque, 2014; Saleem & Raja, 2014; Sivadas & Baker-Prewitt, 2000).

## RQ3: What is the impact of airline service quality on attitudinal loyalty in the airline industry?

The empirical results exhibit strong support that airline service quality positively and significantly impacts attitudinal loyalty. It means that improvement in the service quality by an airline will possibly result in stronger attitudinal loyalty. It is also supported by the literature (Sivadas & Baker-Prewitt, 2000), where a

positive and significant impact of service quality on attitude was found. This particular finding is imperative for the airline industry because of intensive competition. If the airline industry can focus on strengthening attitudinal loyalty of their customers, it will result in customers talking positive about that particular airline, consequently attracting and acquiring more customers. The investigation of this question is of import because many previously researchers (see Bei & Chiao, 2001; Kumar et al., 2010) have studied an indirect effect of service quality on attitudinal loyalty (through customer satisfaction), but in the present research an attempt is made to investigate a direct link.

## RQ4: What is the impact of airline service quality on repurchase intention in the airline industry?

Investigating the impact of service quality on repurchase intention was also an important part of the study, as the same was undertaken by Bari et al. (2001), using the same but non-validated AIRQUAL scale. The contribution of the present research is: first the validation of the AIRQUAL scale and then testing its impact on various envisaged variables. A strong support of the link between airline service quality and repurchase intentions is found in the present research. This finding is aligned with the literature, especially with Bari et al. (2001), who also found a significant impact of service quality on repurchase intentions. Interesting, Sivadas and Baker-Prewitt (2000) found an impact of service quality on repurchase intention but through customer satisfaction.

### RQ5: What is the impact airline service quality on word of mouth in the airline industry?

To answer this question, analyses were conducted (see chapter 5) and the results revealed a positive significant impact of airline service quality on word of mouth. This means that if airlines improve their quality of services, it will possibly translate into customer talking positively about them. This particular finding is congruent with previous studies (see Harrison-Walker, 2001), which found a positive impact of service quality on word of mouth; however, the aforementioned argued that this link is industry specific. In a similar manner, a support for the present finding can also be seen in the study of Chaniotakis and Lymperopoulos (2009), who found a positive impact of service quality on word of mouth, but through customer satisfaction. In the present research, a contribution is made to see the direct impact of these variables in the airline industry, as was found.

## RQ6: What is the impact of airline service quality on complaining behaviour in the airline industry?

The evidence gained from the empirical study showed that airline service quality has a negative significant effect on complaining behaviour. This means that improved service quality reduce customer's complaints. Answer to this question is obvious because organisations always seek to reduce customer's complaints. More complaints from the customer usually means poor quality of the service

and may lead to customer dis-satisfaction, eventually resulting in customer's defect. In order for the companies, especially airlines, to overcome this issue of customer's behaviour toward complaining, steps should be taken to improve overall service quality.

## RQ7: What is the effect of customer satisfaction on attitudinal loyalty in the airline industry?

Satisfaction of the customers is one of the main objectives of organisations. This is because customer satisfaction leads to retention and loyalty and ultimately increased profits. The investigation of the link between customer satisfaction and attitudinal loyalty, in the present research, was positively significant. Support for this particular finding can also be found in the literature (e.g., Sivadas & Baker-Prewitt, 2000).

## RQ8: What is the effect of customer satisfaction on repurchase intention in the airline industry?

The empirical study provides support that there is a significant impact of customer satisfaction on repurchase intention. It means that if the airline wants to attract customers again and again, they should seek to improve their satisfaction first. This finding is aligned with that of Sivadas and Baker-Prewitt (2000), who also found a positive significant relationship between customer

satisfaction and repurchase. Therefore, the present research concludes that the effect of customer satisfaction on repurchase intention is positive.

## RQ9: What is the effect of customer satisfaction on word of mouth in the airline industry?

In this study, examining the effect of customer satisfaction on word of mouth was important, as many other researchers (see e.g., Chaniotakis & Lymperopoulos, 2009) found the same. The investigation of this question revealed that if airlines focus on enhancing the satisfaction level of their customers, it might result in customer talking positive about them. This is inevitable because of the growth of information technology and social networks, where customers can spread their views more rapidly and conveniently.

# RQ10: What is the effect of customer satisfaction on complaining behaviour in the airline industry?

The evidence gained from the empirical study showed that customer satisfaction has a negative impact on complaining behaviour. It means that the more the customers are satisfied, the less they are going to complain. Interestingly, previously researchers have focused more on the impact of dis-satisfaction on complaining behaviour, as is evident from the study of Day (1983). These previous attempts have been mainly on the extension of the satisfaction models that integrated complaining behaviour as one of the consequences of

dissatisfaction (Halstead & Page, 1992). The finding of the present study is aligned with the literature (e.g., Bearden & Teel, 1993; Oliver, 1987), where the negative impact of customer satisfaction on complaining behaviour is highlighted.

### 6.2 Significance for theory and practice

The purpose of the study is to develop an understanding of the dimensions of airline service quality (AIRQUAL) and its relationship to customer satisfaction, repurchase intention, word of mouth, attitudinal loyalty, and complaining behaviour. Further, it also attempts to investigate the impact of customer satisfaction on repurchase intention, word of mouth, attitudinal loyalty, and complaining behaviour. The findings from this study have implications for both theory and practice.

### 6.2.1 Contribution for knowledge

The initiation of service quality research has indeed called for further research. This is why for many decades' researchers have been actively researching service quality and its impact on other variables in many industries. Parasuraman et al. (1988) introduced SERVQUAL, which opened more doors for exploring and investigating the dimensions of service quality, as it had many limitations. Adopting the idea of SERVQUAL, Bari et al. (2001) proposed AIRQUAL, which was developed for investigating the service quality of airlines. However, AIRQUAL had one of the major limitations and that was, its lack of assessment and validity. The present research, therefore, took the same scale

further by assessing and validating it. This was done by following a systematic procedure, as presented by Bari et al. (2001) and Parasuraman et al. (1988).

This is the first and one of the major contributions of the present study to the body of knowledge by establishing the validity of the service quality scale in the airline industry and then empirically testing using various recommended tests. The final validated scale, as developed by this study, can be considered as the final validated AIRQUAL scale, and perhaps can be adopted by other researchers.

Another important contribution to the knowledge was the testing of hypotheses. The results revealed some really interesting and crucial findings. For instance, the link between service quality (validated one) and other important variables (customer satisfaction, repurchase intentions, word of mouth, and attitudinal loyalty, complaining behaviour) is worth mentioning. These linkages have added to the existing literature on service quality, customer satisfaction, customer loyalty, and complaining behaviour.

Further, this study has offered methodological contributions; the most significant is the development of the robust measures of the study. The stringent methods of assessment and validation were followed, resulting in a very good scale. This was through establishing the reliability of the scale, as well as, its content, convergent and discriminant validity. This addition to the knowledge, in the form of a robust scale, will definitely encourage future researchers to adopt and apply it in other countries.

### 6.2.2 Implication for practitioners

Organisations around the world struggle to find methods through which they can improve their quality of service, because it leads to enhanced satisfaction and loyalty. Alone the measures of service quality are imperative for organisations, as it tells them to focus on those facets that are critical for success. The same is true of airline industry too. With the growth of competition in the airline industry, and the introduction of budget airlines, full-service airlines like Saudi Airlines, are struggling to find ways to improve their service quality in order to ensure customer satisfaction and loyalty, along with repeat purchases and reduced complaints from customers. This present study, therefore, attempted to come up with a scale that can be adopted by airline industries not only in Saudi Arabia, but in other countries that share the same traits, and ensure their high levels of service quality. This in even will increase the satisfaction level of customers resulting in high levels of loyalty, which eventually will generate positive word of mouth as well. In this era of stiff competition, the present study is considered important for practitioners.

### 6.2.3 Implication for policy-makers

For policy-makers, this study suggests that firstly, the dimensions of service quality differ in the airline industry from those of other industries, thus announcing it industry specific and also country specific. It is very important for the industries to come up with their own service quality scales, or perhaps validate and test the existing scales available for the respective industries. The

present research, therefore, made an attempt to do the same and hence validated and tested the service quality scale for the airline industry of Saudi Arabia.

Policy-makers may consider the present study to design strategies for airlines in Saudi Arabia. Different dimensions of service quality, which resulted in different scores and strength, may be used to improve the overall quality of services provided by the respective airlines. Furthermore, different relationship investigated in the present research may also be kept in mind while making any policy related to airlines. For instance, this study found that the service quality of airlines has a significantly positive impact on customer satisfaction. Similarly, the positive and significant impact of service quality on attitudinal loyalty, word of mouth and repurchase intentions are also very important and valuable findings for the policy-makers. Keeping in mind these findings will surely improve the way various marketing strategies are designed. Lastly, the negative impact of service quality on complaining behaviour is also imperative and noticeable. It is because, if the policy-makers want to reduce the customers' complaints, they should design the policies focusing mainly on high levels of quality services.

### 6.3 Limitations and directions for future research

As with almost every study, the present study also have some limitations, which may call for further research in the same area. Firstly, the lack of generalizability of the findings to other industries is an issue. As the sample was from Saudi Arabia and the industry researched was airlines, therefore, the findings of this study may not be of the same value to other industries, as it is for airlines industry. That is why, it is suggested that future research may use the same method and come-up with the scales for different industries.

Secondly, the consumer as respondent is another limitation and thus, more research can be done to identify service quality from the perspective of the employees of airlines. In addition, a worthy attempt would be to choose non-consumer (those people who have not yet travelled with any airline) and ask them what service quality means to them. More importantly, the study would have greater impact if random sampling or quota sampling method were used to ensure its generalizability and representativeness.

Thirdly, many important variables from the same model of the study can be used as mediating or moderating variables. The present study did not consider any mediating or moderating variables, which in the scope of this study can be a valuable addition. For instance, impact of service quality on repurchase intention should be tested with a mediating role of customer satisfaction. Similarly, the impact of service quality on attitudinal loyalty and word of mouth should also be tested with a mediating role of variables like customer satisfaction. It is,

therefore, recommended that future research may consider using mediating variables, as highlighted above.

Lastly, the model of the study can be strengthened by incorporating important variables of trust and perceived value, as these are reported to have significant impacts on customer satisfaction and loyalty. Future researchers may consider incorporating these variables in the model of the present study. The present research is one of the most valuable and unique in the airline industry of Saudi Arabia and thus substantiates various opportunities for future research.

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# **APPENDICES**

APPENDIX A: Previous research in measuring service quality.

Study	Instrument	Sector	Focus	Analysis	Factor Structure
Andaleeb (2001)	25 items	Health in	Gap scores	Exploratory	Five factors. Some are related to SERVQUAL dimensions,
,		Bangladesh		factor	some are completely different
Bouman and Van der Wiele				Exploratory	Five factors extracted. Three were meaningful.
(1992)	33 items	Car service	Gap scores	es	Without any extractions, 12 factors were found (item loading
(100-)					>0.40)
			Expectations	Exploratory	Unidimensional
	Original		Performance	factor	Unidimensional
Babakus and Mangold (1992)	SERVQUAL items	Health	Gap scores	Tuotoi	No meaningful factor structure
	OLIV GOVE ROMS		Expectations	Confirmatory	Five dimensions are extracted under one factor,
			Performance	(Lisrel)	which is some for performance dimensions
Gagliano and Hathcote (1994)	Original	Retail	Gap scores	Exploratory	Four factors were extracted
Cagnano and Hatricote (1994)	SERVQUAL items	Netali	Cap scores	factor	Tour factors were extracted
				Exploratory	Seven factors with 26 items.
Markovic (2006)	40 items	Higher education	Expectations	factor	Five original SERVQUAL dimension plus two sector-specific
				Tactor	dimensions
			Gap scores	Confirmatory	Not confirmed in any sector
		Banks, pest control, dry	Gup 000100	(Lisrel)	The committee in any cooler
Cronin and Taylor (1992)	Original	cleaning,	Gap,	Exploratory	Unidimensional factor structure
Oronin and Taylor (1992)	SERVQUAL items	fast food	Performance	factor	Official factor structure
			Gap,	Confirmatory	SERVQUAL is confirmed in two industries
			Performance	factor	SERFPERF is confirmed in all four industries
Smith, Smith and Clarke	Original	Higher education	Expectations	Confirmatory	Four factors were extracted
(2007)	SERVQUAL items	IT service department	LAPECIATIONS	factor	1 our raciors were extracted

Source: Bayraktaroglu et al. (2010, p.50)

APPENDIX B: Literature Linking Quality, Value, and Satisfaction to various Service Encounter Outcomes

Source	Relevant Constructs	Link(s) to	Empirically
		Outcomes	Tested
Parasuraman, Zeithaml, and Berry	SQ,BI	SQ	Yes
(1988)	,		
Parasuraman, Berry, and Zeithaml	SQ,BI	SQ	Yes
(1991)			
Anderson and Sullivan (1993)	SQ,SAT,BI	SQ,SAT	Yes
Boulding et al. (1993)	SQ,BI	SQ	Yes
Taylor and Baker (1994)	SQ,SAT,BI	SQ	Yes
Zeithaml, Berry, and Parasurman (1996)	SQ,BI	SQ	Yes
Taylor (1997)	SQ,SAT,BI	SQ,SAT	Yes
Athanassopoulos (2000)	SAC,SQ,SAT,BI	SQ	Yes
Cronin and Taylor (1992)	SQ,SAT,BI	SAT	Yes
Anderson and Fornell (1994)	SQ,SAT	SAT	No
Gotlieb, Grewal, and Brown (1994)	SQ,SAT,BI	SAT	Yes
Ostrom and lacobucci (1995)	SAC,SQ,SAT,VAL,BI	SAT	Yes
Fornell et al. (1996)	SQ,SAT,SV,BI	SAT	Yes
Patterson and spreng (1997)	SAT,SV,BI	SAT	Yes
Hallowell (1996)	SAT,BI	SAT	Yes
Andreassen (1998)	SQ,SAT,SV,BI	SAT	Yes
Bolton (1998)	SAT,BI	SAT	Yes
Chenet, Tynan, and Money (1999)	SQ,SV,SAT,BI	SAT	No
Oliver (1999)	SAT,BI	SAT	No
Garbarino and Johnson (1999)	SAT,BI	SAT	Yes
Bolton and Lemon (1999)	SAT,BI	SAT	Yes
Bernhardt, Donthu, and Kennett (2000)	SAT,BI	SAT	Yes
Ennew and Binks (1999)	SQ,SV,SAT,BI	SAT,SV	Yes
Zeithaml (1988)	SAC,SQ,SV,BI	SV	No
Bolton and Drew (1991)	SQ,SAT,SV,BI	SV	No
Gale (1994)	SQ,SV,BI	SV	No
Chang and Wildt (1994 )	SAC,SQ,SV,BI	SV	Yes
Hartline and Jones (1996)	SQ,SV,BI	SV	Yes
Wakefield and Barnes (1996)	SQ,SV,BI	SV	Yes
Cronin et al. (1997)	SAC,SQ,VAL,BI	SV	Yes
Sirohi, McLaughlin, and Witting (1998)	SAC,SQ,SV,BI	SV	Yes
Sweeney, Soutar, and Johnson (1999)	SAC,SQ,SV,BI	SV	Yes

**Source:** Cronin et al. (2000, p.197).

#### APPENDIX C: The SERVQUAL Instrument

DIRECTIONS: This survey deals with your opinions of \_\_\_\_\_\_ services. Please show the extent to which you think firms offering \_\_\_\_\_ services should possess the features described by each statement. Do this by picking one of the seven numbers next to each statement. If you strongly agree that these firms should possess a feature, circle the number 7. If you strongly disagree that these firms should possess a feature, circle 1. If your feelings are not strong, circle one of the numbers in the middle. There are no right or wrong answers – all we are interested in is a number that best shows your expectations about the firms offering \_\_\_\_\_ services.

- E1. They should have up-to-date equipment.
- E2. Their physical facilities should be visually appealing.
- E3. Their employees should be well dressed and appear neat.
- E4. The appearance of the physical facilities of these firms should be in keeping with the type of services provided.
- E5. When these firms promise to do something by a certain time, they should do so.
- E6. When customers have problems, these firms should be sympathetic and reassuring.
- E7. These firms should be dependable
- E8. They should provide their services at the time they promise to do so.
- E9. They should keep their records accurately.
- E10. They shouldn't be expected to tell customers exactly when services will be performed.( )b
- E11. It is not realistic for customers to expect prompt service from employees of these firms. ( )
- E12. Their employees don't always have to be willing to help customers. ( )
- E13. It is okay if they are too busy to respond to customer requests promptly. ( )
- E14. Customers should be able to trust employees of these firms.
- E15. Customers should be able to feel safe in their transactions with these firms' employees.
- E16. Their employees should be polite.
- E17. Their employees should get adequate support from these firms to do their jobs well.
- E18. These firms should not be expected to give customers individual attention. ( )
- E19. Employees of these firms cannot be expected to give customers personal attention.(
  –)
- E20. It is unrealistic to expect employees to know that the needs of their customers are.(
  –)
- E21. It is unrealistic to expect these firms to have their customers' best interests at heart.(-)
- E22. They shouldn't be expected to have operating hours convenient to all their customers. ( )

DIRECTIONS: The following set of statements relate to your feelings about XYZ. For each statement, please show the extent to which you believe XYZ has the feature described by the statement. Once again, circling a 7 means that you strongly agree that XYZ has that feature, and circling a 1 means that you strongly disagree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers – all we are interested in is a number that best shows your perceptions about XYZ.

- P1. XYZ has up-to-date equipment.
- P2. XYZ's physical facilities are visually appealing.
- P3. XYZ's employees are well dressed and appear neat
- P4. The appearance of the physical facilities of XYZ is in keeping with the type of services provided.
- P5. When XYZ promises to do something by a certain time, it does so.
- P6. When you have problems, XYZ is sympathetic and reassuring.
- P7. XYZ is dependable
- P8. XYZ provides its services at the time it promises to do so.
- P9. XYZ keeps its records accurately.
- P10. XYZ does not tell customers exactly when services will be performed. ( )
- P11. You do not receive prompt service from XYZ's employees. ( )
- P12. Employees of XYZ are not always willing to help customers. ( )
- P13. Employees of XYZ are too busy to respond to customer requests promptly. ( )
- P14. You can trust employees of XYZ.
- P15. You feel safe in your transactions with XYZ's employees.
- P16. Employees of XYZ are polite.
- P17. Employees get adequate support from XYZ to do their jobs well.
- P18. XYZ does not give you individual attention. ( )
- P19. Employees of XYZ do not give you a personal attention. ( )
- P20. Employees of XYZ do not know what your needs are. ( )
- P21. XYZ does not have your best interests are heart. ( )
- P22. XYZ does not have operating hours convenient to all their customers. ( )

Source: Parasuraman, A., Zeithaml V., Berry, L. L., (1988, p.38-40).

<sup>\*</sup>b) rating on these statements were reverse-scored prior to data analysis.

APPENDIX D: Focus Group Recruitment Notice.

# **Focus Groups recruitment Notice**

#### Volunteers needed!

# We're looking for airline customers to participate in a Focus Group interview

We'd like you to participate in a group discussion on how to improve airline service quality.

#### You must be:

A current or recent airline customer (at least you have used an airline service within the last 6 months)

Compensation for your time is available.

For further details contact

07889017784

0r

E-mail: m.m.alotaibi@cranfield.ac.uk

# APPENDIX D.1: Focus group Recruitment notice in Milton Keynes newspaper.



# APPENDIX D.2: Focus group Recruitment notice in Bedfordshire newspaper.



APPENDIX E: Follow-Up Recruitment Letter

Cranfield

Follow-Up Recruitment Letter

Dear Sir/Madam

Thank you for accepting my invitation to talk about airline service quality. The researcher wants advice from people like you about what attributes influence service quality in airline industry. I am indeed interesting in the opinions and ideas of all airline customers. The group will be held:

Thursday, 01 May 2012 / Time: 12:00 to 01:00 p.m.

Park Inn by Radisson hotel / 2 St Marys' Street, Bedford, Bedfordshire, MK42 0AR It will be a small group, about eight people. We will be bringing refreshments for you and we will have £30 for you at the end of session.

If for some reason you will not be able to join us, please call us as soon as possible so we can invite someone else. If you have any questions, please give me a call at 07889017784

We are looking forward to meeting you, on Tuesday. See you then.

Sincerely,

Mishal Alotaibi

Doctoral candidate

Department of Air Transport Management

Cranfield University

Cranfield, Beds, UK, MK43 0AL

E-mail: m.m.alotaibi@cranfield.ac.uk

## APPENDIX F: Focus group questions

# **Focus Group Questions**

#### I. Introduction ( 5 Minutes)

#### 1. The welcome

"Good afternoon and welcome. Thanks for taking the time to join our discussion of airplane travel. My name is Mishal Alotaibi and I am full-time PhD student at Cranfield University."

# 2. Overview of topic

"You have invited because you are all airline customers and you have all flown at least twice in the last six months. I want to tap into those experience and your opinions about airline services."

#### 3. Ground rules

"There are no right or wrong answers. I expect that you will have differing point of view. Please feel free to share your point of view even if it differs from what others have said."

"I am recording the session because I do not want to miss any of your comments.

No names will be included in any reports. Your comments are confidential."

"We have name tents here in front of us. They help me remember names, but they can also help you. Don't feel like you have to respond to me all the time. If you want to follow up on something that someone has said, you want to agree or disagree, or give an example, feel free to do that. Feel free to have a conversation with one another about these questions. I am here to ask questions, listen and make sure everyone has a chance to share. I am interesting in hearing from each of you. So if you are talking a lot, I may call on you to give others a chance. And if you are not saying much I may call on you. I just want to make sure all of you have a chance to share your ideas."

"If you have a cell phone please put it on the quiet mode, and if you need to answer step out to do so. Feel free to get up and get more refreshments if you would like."

# II. Questions for quality of Airline Services (50 Minutes)

#### 4. Opining Question (10 Minutes)

"Let's begin. Let's find out more about each other by going around the table one at time. Tell us your name and some of the places that you have flown to in last six months."

## 5. Introductory Questions (5 Minutes)

What qualities do you think are necessary to make a success of your airline?

#### 6. Transition Questions (5 Minutes)

Think back to when you last travelled with an airline provider.
What were your first impressions?

#### 7. Key Questions (30 Minutes)

- How do you feel about the quality of service of the airline you dealt with?
  - a. Compare with other airline service that you have received.
  - b. What was particularly helpful about the services you received?
  - c. What was particularly frustrating/bad about the services you received?
  - d. What do you expect to get from the airline company in terms of service quality?
  - e. To you, what is the most important component in terms of service quality?
  - f. Despite partial satisfaction, why don't you switch the airline service company?

- g. Do you recommend the airline company you used to your friends?
- h. In the future, what kinds of service do you expect?

# II. Closing (5 minutes)

# 8. Closing/ Ending Questions

- If you had a chance to give advice to the airline providers, what advice would you give?
- ➤ We want to know how to improve the airline service quality, is there anything that we missed? Is there anything that you came wanting to say that you didn't get a chance to say?
- > Thanks for your valuable contribution.

# APPENDIX G: Participant consent form

l,	(please print your name in block
capitals) confirm that I have volunteere taking part in a workshop discussion as	
I understand that the discussions will be analysis. The analysis will be only use and for no other purposes. Any results client will not be available to me for cor	ed to develop operational procedures submitted within the final report to the
I understand that the audio recordings	s and transcriptions will be stored at
Cranfield University in accordance with	the Data Protection Act (1998).
I understand that my confidentiality personal information that I provide w confidence. It will not be possible to ide the final report produced for the client.	vill be treated with the strictest
I undertake to respect the confident	iality of the others partaking in the
workshops by not discussing comments	s made outside of the room.
I understand that I am free to withdraw informing a member of the research data is anonymous, it will not be pos	team. I also understand that, as the
research once my contributions have be	een transcribed.
If you have any questions about the res	search, please do not hesitate to ask.
I confirm I have read and comp	oletely and fully understand the
information provided on this form	and therefore give my consent to
taking part in this research.	
nature:	Date:
name:	Contact number:

# Appendix H: scale items used in pre-test exercise

Dimensions	Label	No. of Items	Items	Questions	Source
			Q1	The airline company provides passengers with new, modern and well maintained aeroplanes.	AIRQUAL
			Q2	Food and drink served on the aeroplane during the flight are of high quality and sufficiently varied.	AIRQUAL
			Q3	The toilet on board the aeroplane is clean and easy to use.	AIRQUAL
Airline Tangibles	ATANG	7	Q4	There are daily newspapers and current magazines to read in the aeroplane.	AIRQUAL
			Q5	Personnel working for the airline company are neatly dressed.	AIRQUAL
			Q6	The airline company provides passengers with allocated seats	NEW
			Q7	The airline company provides entertainment for passenger on board the aircraft	NEW
			Q8	Passengers' luggage is handled with care and attention.	AIRQUAL
			Q9	When airline company promises to do something by a certain time, it does so	SERVQUAL
Airline Reliability	REL	6	Q10	When you have problems, airline company shows sincere interest in solving it	SERVQUAL
			Q11	Airline company performs the service right the first time	SERVQUAL
			Q12	airline company provides its services at the time it promises to do so	SERVQUAL
			Q13	airline company insists on error-free records	SERVQUAL
			Q14	Employees of airline company tell you exactly when services will be performed	SERQUAL
			Q15	Employee of airline company give you prompt service	SERQUAL
Responsiveness	RES	5	Q16	Employees of airline company are always willing to help customers	SERQUAL
			Q17 Employees of airline company are never too busy to respond to your requests		SERQUAL
			Q18	Airline company provides its services for customers promptly	NEW
			Q19	Airline company personnel are experienced and well trained.	AIRQUAL
			Q20	The behaviour of employees of airline company instills confidence in customers	SERQUAL
Assurance	ASS	5	Q21	You feel safe in your transactions with airline company	SERQUAL
			Q22	Employees of airline company are consistently courteous with you	SERQUAL
			Q23	Employees of airline company have the knowledge to answer your questions	SERQUAL
			Q24	Passengers are compensated sufficiently by the airline company for any damages arising in the shortest time possible.	AIRQUAL
			Q25	Personnel working for the airline company put themselves in the place of the passengers when providing service.	AIRQUAL
			Q26	Airline company gives you individual attention	SERQUAL
Empathy	EMP	7	Q27	Airline company has employees who give, you personal attention	SERQUAL
			Q28	Employees of airline company understand your specific needs	SERQUAL
			Q29	Airline company has your best interests at heart	SERQUAL
			Q30	airline company has operating hours convenient to all its customers	SERQUAL

 $Total: 5 \; dimensions \; / \; 30 \; Items \; (9 \; Items \; AIRQUAL \; ; \; 18 \; Items \; SERQUAL \; ; \; 3 \; Items \; NEW \; )$ 

Appendix I: Questionnaire used in pre-test exercise

Dear Participant

I am a doctoral candidate in Air Transport Management at Cranfield University. I am working on my doctoral dissertation regarding airline service quality measures. The main purpose of this research is to investigate measures of Airline Service Quality.

The reason I send this questionnaire for conducting a pilot study. I would appreciate if you could fill out the questionnaire. I hope that you will find the time to participate in this test. Based on your feedback, the questionnaire will be revised.

The survey is likely to take about 10 minutes.

All of the questions are of the tick box variety and so are easy to complete. I ensure your anonymity and will not share your information with any other organisation.

Should you need any further information, please contact:

Mishal Alotaibi

Doctoral Candidate

Department of Air Transport Management

Cranfield University m.m.alotaibi@cranfield.ac.uk

Thank you for your participation

1. How many trips have you	made by	air in the past	12 months?		
(including a round trip as on	ie)				
2. What is your reason for tr	avel toda	y?			
Business					
Leisure					
Personal reasons / Commuting					
3. Think back to the last trip	you made	by air, what v	vas the leng	th of flight?	
Short haul (flights less than 3 hours)					
Long haul (flights more than 3 hours)					
4. Think back to the last trip booked?	you made	by air, how lo	ng before th	e trip was th	e ticket
1 Day					
2 - 7 Days					
1 - 2 Weeks					
2 - 4 Weeks					
1 - 3 Months					
3 - 6 Months					
More than 6 months					
5. Think about the last short	haul and	long haul fligh	t you took, v	vhat type of	ticket did
you have?					
	First class	Business class	Premium Economy Class	Full Economy Class	Restricted Economy Class
Short haul (flights less than 3 hours)	0	0	O	0	O
Long haul (flights more than 3 hours)	0	$\circ$	0		0

6. Which of	the follow	ving best de	scribes the v	vay in you book	red your last a	irline ticket?
I booked the ticket via an airline's website ( e.g.Aircanada.com, Singaporeair.com)						
I booked the	I booked the ticket via an online travel agency (e.g. Expedia, Airline Network)					
I booked the	ticket by telep	honing a travel ag	ency			
I brought a ti	cket at the airp	ort				
I booked the	ticket in a trav	el agency				
$\tilde{\circ}$		y frequent flier poir	nts			
Other						
(please specify)						
7. Think abo	ut the la	st flight vou	took. how di	d you check-in	?	
( it does not				- <b>,</b>		
Self check-in						
Check-in at the	ne airport depa	arture hall				
Self check-in	via a kiosk aw	ay from the airport				
Self check-in	at kiosk at the	airport				
self check-in	via mobile pho	one				
•				(TTD.)	_	_
8. How man	y airline 1	requent flic	er programme	es (FFPs) are yo	ou a member $\circ$	ot?
None	O 1	C	) 2 (	<u>)</u> 3	<b>○</b> 4	O 5+
9. In the las	t 12 mont	ths how ma	ny FFP benef	its have your r	edeemed?	
F		None	1	2	3-4	5+
Free/discounted fli Airline upgrades	gnts	$\sim$	$\sim$	$\sim$	$\sim$	$\mathcal{O}$
rumio apgidado		$\circ$	$\circ$	0	0	O

ent with	the foll	owina s		
		owing a	tateme	ents.
strongly disagree	disagree	not sure	agree	strongly agree
O	0	0	0	0
0	0	0	0	0
O	Ō	Ō	Ō	Ō
Q	Q	Q	Q	Q
O	O	Q	Ō	Ō
$\sim$	$\circ$	$\circ$	$\circ$	0
$\circ$	$\circ$	0	0	0
$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
_	0	0		0
O	Q	O	O	0
$\circ$	0	0	$\circ$	0
$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
$\circ$	$\circ$	0	0	0
$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
	0000000	0000000000		

1. Please rate your degree of agreement/ disagreement	nt with	the foll	owing s	tatem	ents.
	strongly	disagree	not sure	agree	strongly
Employees of the airline are always willing to help you.	disagree		$\bigcirc$	$\bigcirc$	agree
Employees of the airline are never too busy to respond to your requests.	$\tilde{\circ}$	$\widetilde{\mathcal{C}}$	$\widetilde{\bigcirc}$	$\widetilde{\bigcirc}$	$\widetilde{\bigcirc}$
The airline provides its services to you promptly.	Ŏ	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$	$\widetilde{\bigcirc}$
The airline personnel are experienced and well trained.	ŏ	$\widetilde{\bigcirc}$	$\widetilde{\bigcirc}$	$\widetilde{\bigcirc}$	$\widetilde{\bigcirc}$
The behaviour of employees of the airline instills confidence in customers.	ŏ	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$
You feel safe in your transactions with the airline.	ŏ	Ŏ	$\tilde{\cap}$	$\tilde{\bigcirc}$	$\tilde{\bigcirc}$
Employees of the airline are consistently courteous with you.	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ
Employees of the airline have the knowledge to answer your questions.	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ
Passengers are compensated sufficiently by the airline for any damages arising from service disruption in the shortest time possible.	$\tilde{}$	Ŏ	Ŏ	Ŏ	Ŏ
Personnel working for the airline put themselves in the place of the passengers when providing service.	0	0	0	0	$\circ$
The airline gives you individual attention.	0	0	0	0	$\circ$
The airline has employees who give you personal attention.	Ŏ	Ó	Ó	Õ	Ó
Employees of the airline understand your specific needs.	0	0	0	0	$\circ$
The airline has your best interests at heart.	$\bigcirc$	$\circ$	$\circ$	$\bigcirc$	$\bigcirc$
The airline has operating hours convenient to all its customers.	0	$\circ$	0	0	$\circ$

1. In general, how	would you rate th	e quality of service	e provided by thi	e airline?
very good	good	average	bad	very bad
O	0	O	Ö	O
2. How would you	rate your level of	eatisfaction with t	he service provi	lad by this sirling
Very high	High	Average	Low	Very low
Very mign		\(\)	<u> </u>	O O
		$\cup$	$\cup$	$\circ$
3. If there was ano		irline, how often v	vould you think of	fusing the
services provided	by this airline?			
Never	Very Rarely	Sometimes	Often	Always
$\circ$	O	O	O	$\circ$
4. I would recomme	end travelling with	h this airline.		
Yes	•			
res				
○ No				
5. How likely are y	ou to continue to	usa this airlina na	vt time vou mek	a a trin?
Extremely likely	Likely	Somewhat likely	Not very likely	Extermely unlikely
Cartellicity			()	
	O		$\cup$	$\circ$
Yes No				

<del>-</del>	on, please rate the	e following a	irlines on the f	ollowing scale	from
1=Friendly to 5=	:Unfriendly.				
	Friendly				Unfrriendly
Saudi Airlines		$\cap$			
Guddi 7 iii iii ii Gu	$\cup$	$\circ$	$\cup$		
2. In this question	on, plaese rate th	e following ai	irlines on the f	ollowina scale	from
-		_	initios on the i	onowing source	
1=professional (	to 5=Unprofessio	nal.			
	Professional				Unprofessional
Saudi Airlines	$\bigcirc$	$\bigcirc$		$\bigcirc$	$\bigcirc$
		$\cup$			
3. in this question	on, please rate the	e following ai	rlines on the f	ollowing scale	from
-		_			
1=Excellen serv	icet to 5=Poor se	rvice.			
	Excellent Service				Poor Service
Saudi Airlines	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
4. In this question	on, please rate th	e following a	irlines on the f	ollowing scale	from
-				<b>y</b>	
1=Efficient to 5=	ineπicient.				
	Efficient	_	_	_	Inefficient
Saudi Airlines	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
	•	•	•		•
5. In this question	on, please rate the	e following ai	rline on the fo	llowing scale i	from
1=Traditional to	· <del>-</del>	•		_	
1= i raditional to	∋=wodern.				
	Traditional	_	_	_	Modern
Saudi Airlines	$\bigcirc$	$\circ$	$\circ$	0	$\circ$
				•	

1. Are you
Female
Male
2. Please indicate your age.
18-24
25-34
35-44
45-54
55-64
65 and over
3. Where do you live?
○ uk
Europe
North America
South America
Asia
Africa
4. What is the highest level of school you have completed or the highest degree you have received?
Less than high school degree
High school degree or equivalent (e.g., GED)
Some college but no degree
Associate degree
Bachelor degree
Graduate degree
5. What is the job title for your current position?