

**CAPACITY SHARING AND QUALITY OF SERVICE AMONG  
SELECTED AIRLINES IN KENYA**

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**D61/71481/2008**

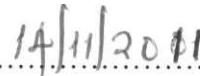
*A Management Research Project Presented in Partial Fulfillment of the Requirements for the award of Degree of Master of Business Administration, School of Business, University of Nairobi.*

**October 2011**

## Declaration

I declare that this is my original work. This work has not been presented for award of a degree in this university or any other university or any other institution of higher learning for certification purposes. Neither has part of this work been reproduced, reprinted or made available to others in any form.

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## **Dedication**

I dedicate this work to my family members, relatives and friends.

Particular dedication goes to my late father, whose stewardship and unparalleled fatherly love and advice showed me sound parenting has values far beyond material wealth. Particular dedication also goes to my incomparable mother, that epitome of hope, hard work, patience and kindness. Parents, you made the journey from hostility and uncertainty to where I am now that much possible. You shall always have a permanent place in my heart.

## **Abstract**

This project paper discusses Capacity Sharing as a form of alliance within the airline industry and Quality of Service among selected airlines operating in Kenya. The study relates how airline service quality is affected by code sharing arrangements. Airlines share their capacities through code sharing agreements. The study gets views of various passengers who have flown with Kenya Airways and its code share partners KLM, Precision Air and Rwanda Air.

The study seeks to establish the challenges that passengers face when they are booked on one airline and travel with another airline and some of the ways these challenges can be tackled. The ServQual Model developed by Gronroos has been employed to measure the gap between passengers expectations and perceptions.

The study employs a case study to collect data through use of questionnaires and a few personal interviews. The study targets a population of passengers who have been booked with Kenya Airways and fly with other Kenya Airways code sharing partners for the whole or part of their journey. Those who have also been booked with other airlines and end up flying with Kenya Airways for the whole or part of their journey are also studied. Data analysis and presentation are through use of descriptive measures, tables and charts.

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## **List of Abbreviations**

CRS	Computer reservations systems
IATA	International Air Transport Association
KLM	Koninklijke Luchtvaart Maatschappij, Royal Dutch Airlines
SERVQUAL	Service Quality

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Business ventures face numerous challenges in an attempt to match their capacity to demand. The challenge of achieving this is difficult for any business, be it a manufacturer or a service. For most of the businesses, the location of the capacity does not change (Byron J. F., 2006). Capacity of a service is the highest possible amount of output that may be obtained in a specific period of time with a predefined level of staff, installations and equipment (Lovelock, 1992). Capacity defines a firm's competitive boundaries, specifically, the firm's response rate to the market, its cost structure, workforce composition, level of technology, management and staff support requirements, and its general inventory strategy.

When producing products, capacity can be stored in the form of work-in-process and finished goods inventory. For services, however, capacity usually can't be stored. It is available for the fleeting moment when it is created, and then it disappears. Planning for capacity takes on a completely different level of difficulty for services. Services must match available capacity with demand and continue to do this as demand changes. If they miss either way, costs go up and profits disappear.

Firms need to strategically plan their capacity so as to determine the appropriate level of service capacity by specifying the proper mix of facilities, equipment, and labour that is required to meet anticipated demand (Byron J. F., 2006). Capacity planning is a challenge to service firms because of the open system nature of service operations and, thus, the inability to create a steady

flow of activity to use capacity fully. For service systems idle capacity (e.g., service providers waiting for customers) is always a reality. Customers arrivals can fluctuate from one minute to the next and the time customers spend being served also varies. Because of the inability of services to control the demands placed upon them, capacity is usually measured in terms of inputs (e.g. number of hotel rooms) rather than outputs (e.g., guest nights) (Fitzimmons J. A. et al, 2006). The capacity decision is further complicated because customers are participants in the service process and the level of congestion has an impact on the quality of the service experience.

Managers use business capacity planning to determine if they can reasonably increase their operational output without straining their current resources. Capacity planning involves a company-wide review of all operations to determine where cost savings can be made to pay for new output. The primary resources for management review are company facilities, equipment and labour. Company facilities include the buildings and land owned by the business that contributes to the current output of goods and services. Managers must review these facilities to determine if new operations can be housed in these facilities and not limit the production of current goods (Byron J. F., 2006). Expanding production on current goods and services will also generate a capacity planning review on company facilities.

All companies use some type of equipment to operate their business and produce goods and services. Capacity planning requires company management to review the production capacity of current equipment and determine if it can handle increased production output. Secondary equipment, such as computers, forklifts or transportation equipment also needs to be reviewed

for the potential strain of increased output. Management will determine how much longer current equipment will last and if any new equipment must be purchased for the increased output.

While labour is usually considered a variable cost to most companies, overpaying for new or short-term labour can greatly decrease profits from increased output (Stevenson W., 2005). Companies must see if they are getting the maximum amount of productivity from current employees and determine how many new employees will be needed for increased production output. Some companies may use temporary labour in short-term operations, so capacity planning may need to create short- and long-term plans for the increased production labour.

An often overlooked part of capacity planning is the software system used by companies. As managers plan to increase operations, they must understand the capabilities and limits of the company's software system during the capacity planning process (Lovelock, 1992). Replacing or modifying the software system can create a huge upfront expense for companies, creating the need for higher future revenue streams from increased operations. Additionally, the expense of running new network lines into new facilities must also be considered by management.

Sales forecasting is an essential part of capacity planning. Increases in facilities and equipment will lead to higher fixed costs for companies to apply to currently produced goods and services. Companies take several indicators from the economic marketplace to ensure they have accurately determined the current demand for goods and services. Companies may also increase their operations slowly to ensure they do not incur too much cost early on with no expected profits to pay for the new operations.

Reduced response time, improved dependability of delivery, and increased flexibility result in increased value (Byron J. F., 2006). The increases in value result in enhanced market share, increases in net sales, and the resulting increases in net income and return on assets. In many instances, however, the impact of capacity can go beyond these service oriented value attributes and influence cost and quality levels as well.

By collaborating on capacity planning, businesses (e.g. shippers and carriers) can achieve tremendous results. Shippers can ensure that more shipments arrive on time. They can also improve their capacity coverage by reducing tender rejects and minimizing last-minute fire drills to find capacity with contract carriers. Carriers can ensure that the necessary assets are in place to meet demand, without overextending themselves. Most important, costs for both shippers and carriers can be reduced. Ultimately, the collaborative capacity planning process will enable businesses to build strong partnerships that foster trust, open communication and dependability—all leading to end-customer satisfaction.

## **1.2 Background of Code Sharing Among Airlines Operating in Kenya**

The Airlines under study include Kenya Airways Limited, Precision Air, RwandAir and KLM. Kenya Airways has code share agreements with all of these airlines and all these airlines fly to Jomo Kenyatta International Airport, Nairobi. Kenya Airways Limited is the largest airline in the Republic of Kenya. It operates scheduled domestic, regional and international services. Kenya Airways was established in February 1977 following the breakup of the East African Community and subsequent disbanding of the jointly-owned East African Airways (<http://www.kenya-airways.com/>). The first move towards privatization of Kenya Airways was made by the



government in 1986 by publishing the Sessional Paper No. 1 of 1986 on 'Economic Management for Renewed Growth'. Privatization process of the company was concluded in 1996 with an initial public offer for shares issued in March 1996. After privatization, Kenya Airways embarked on an aggressive process to modernize its fleet. In 1997, Kenya Airways Msafiri frequent flier programme merged with KLM's Flying Dutchman frequent flier programme.

After privatization, which involved strategic alliance with KLM, the company has been keen on making alliances with other airlines. In 2003, Kenya Airways acquired 49% shareholding in Precision Air, a Tanzanian carrier (<http://www.kenya-airways.com/>, <http://www.klm.com/>). The privatization of Kenya Airways marked the beginning of alliances for the company. Due to the increased competition in the airline industry, need to offer quality services to its passengers, the need for increased connectivity, the need for access to more passenger lounges and the need to reduce costs, Kenya Airways started forming alliances, code sharing included, with other airlines.

Precision air is a private Tanzanian airline, which is a leader in providing scheduled, charter and scenic flight services out of its three centers of Arusha, Dar es Salaam and Bukoba. Precision air has a reputable on-time performance on scheduled flights. The airline code shares with Kenya Airways (<http://www.precisionairtz.com/>).

RwandAir is the National carrier of Rwanda, with its main operating base at Kigali International Airport. It was rebranded from "RwandAir Express" in June 2009 (<http://www.rwandair.com/>). The airline operates international services from Kigali to Nairobi, Entebbe, Bujumburra, Kilimanjaro and Johannesburg. The airline code shares with Kenya Airways on the Kigali-Nairobi-Kigali route.

The key objective of any firm keen on maintaining and/ or increasing its customers base and therefore improving on its profitability is that of providing customer focused goods/ and or services. It's on this premise that a number of airlines have been keen on looking for ways of increasing their customers satisfaction. Through Code Sharing there is bound to be an increase of choice for passengers. A passenger traveling from for example Nairobi to Dar-es-Salaam and vice versa has a variety of choice due to increased frequencies. Another advantage of code sharing due to the increased passenger choice resulting from the increased frequencies is the possibility of lower fares.

Code Sharing was also to allow passengers of various airlines an opportunity to fly on routes that could previously have not been possible. With Code Sharing, there is also Product upgrades (e.g. premier class) uplifts customer services standards, seamless service.

### **1.3 Statement of the Problem**

The challenge of matching demand and capacity has always been difficult for any business. An appropriate balance between capacity and demand can generate high profits and satisfied customers, whereas getting the balance 'wrong' can lead to a failure to satisfy demand, or higher than expected costs, or both (Nigel S. et al, 2004). For airlines, however, the problem is not only having enough planes and crews, but having enough planes and crews and having both at the right place and the right time. Airlines bring several sets of resources together simultaneously; the plane, the pilot, and the crew. Beyond the availability of the resources is the size of the plane being devoted to a particular route. Size translates into dollars of investment and ultimately utilization of equipment (Byron J. F., 2006). In a resolve to broaden the offer that airlines can make to customers in terms of the number of destinations and, in some cases, the flight timings

that they can offer potential customers, without the costs and difficulties involved in additional investment in equipment or in mergers with other airlines have formed alliances. Code sharing is one of such alliances.

Code sharing amongst air carriers became popular within the United States following the deregulation of the domestic air travel market at the end of the 1970s, then spread to international markets. In Europe, code-sharing similarly became more popular following EU deregulation in 1993. Code share agreements enhance the "presence" of an airline in markets where it would otherwise have no profile, and hence facilitate the marketing of its services, allowing its seats to be sold via a marketing carrier which may be much better known in that market. Code Sharing is an important business practice in among airlines and is associated with a number of advantages. However, as airlines implement code sharing arrangements, there are several challenges which face them thereby lowering the quality of services offered to customers. From 1987 to 1998 in US, passengers' complaint categories included flight problems, oversales, reservations/ticketing/boarding, fares refunds, baggage, customer service, smoking, advertising, credit, tours, and other (Mohammad M. B., 2006). Widespread publicity given to airline performances led to increased consumer awareness concerning airline quality thereby making customers to file complaints. Governments involvement by forwarding customer dissatisfaction to airlines also helped improve quality.

In measuring quality in airline industry some important points should be concerned: In services, every interaction between a consumer and a service provider is a "moment of truth." Consumers compare ex ante expectations about the service to be provided with ex post perceptions concerning the service delivered. Consumer dis/satisfaction is a function of the difference between expected and perceived service. The more the perceived service exceeds expected

service, the higher consumer satisfaction will be. Conversely, the more the perceived service falls short of the expected service, the higher the consumer dissatisfaction will be. Service quality is typically defined in terms of consumer dis/satisfaction. Hence, Service quality is inherently subjective in nature. Consumer dis/satisfaction, in turn, drives repeat purchases (Fitzsimmons and Fitzsimmons 2001; Heskett, Sasser, and Schlesinger 1997; Zeithaml, Parasuraman, and Berry 1990). Consumer complaints and the impact of factors such as weather and holidays on quality are two other important points of concern to measuring quality in airline industry.

Masinde (1986) studied the Perceived Quality of Service in the Airline Industry using Kenya Airways as the case study. Mohammad M. B. (2006) studied how servqual model can be used to measure airline quality. This study aims to underscore correlation between the quality of service offered to passengers and code sharing agreements among selected airlines operating in Kenya. The study also aims to find out some of the challenges to successful capacity (code) sharing agreements among airlines operating in Kenya and how they can be tackled. The study, therefore seeks to find out if code sharing is succeeding in delivering values to customers as per the airlines customer's expectations and perceptions. The service quality model will provide a framework for this study and will provide an important baseline study upon which future research in this area can be built on.

The emerging research questions are: How can the customers' satisfaction within the airlines studied be described? How satisfied are the passengers with these airlines' services? How can the management of these airlines improve and promote satisfaction level among passengers?

## **1.4 Objectives of the Study**

- i) To investigate the impact of code share agreements on the quality of service to passengers
- ii) To investigate the challenges to successful code sharing arrangements among selected airlines operating in Kenya.

## **1.5 Value of the Study**

This study is expected to help the managements of airlines operating in Kenya and the airline industry at large better diagnose the needs and expectations of customers. It will also play a vital role in identifying their present situation and future strategies for giving better services to passengers and also to the airlines strategies to enter new markets, both international and domestic markets. The study will also help airlines know the various challenges their customers face as a result of booking customers on one airline and having them fly other airlines. The outcome of this study is also expected to help the airline industry formulate strategies to counteract challenges resulting as a result of code sharing agreements and enable them come up with sound quality management and improvement implementation strategies to ensure excellent internal and external customers satisfaction and adoption of best practices.

The study is expected to increase passengers' awareness concerning airline quality and enable them demand for better services and file complaints they may be having. Measures put in place by the airline industry to address the findings of this study are expected to benefit passengers.

The International Air Transport Association (IATA) is an international industry trade group of airlines whose mission is to represent, lead and serve the airline industry. All the Airline rules and regulations are defined by IATA. This study is expected to help IATA recommend several steps to airlines, including re-education and training of employees, assessment of resources allocated to various sources of dissatisfaction, such as processing refunds and baggage claims, and to review complaint trends and processing times to resolve complaints.

Capacity sharing remains a critical research area to the academia, considering that little research work has been done in the airline industry. This study therefore, addresses this gap and provides an ample base for future research thereby contributing to the existing by adding more information.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The purpose of this chapter is to set the study subject in a broader context through investigation of the relevant literature and other services. The review will cover the issues of airline code sharing; the challenges customers face as a result of code sharing issues and the impact on quality of service. Key theories and arguments in the literature have been identified from a wide range of code sharing and service quality literature. Any difference in approach, as well as areas of consensus, have been presented and weaknesses in arguments and potential criticism specified.

### **2.2 Capacity Management**

The problem of capacity is one of the most difficult to tackle in business management; a situation which is aggravated in the majority of services, due to uncertain demand and personalized requirements, which make it difficult to plan and assign productive capacity. While overstaffing implies extra costs, insufficient capacity implies a lower level of attention to customer needs and therefore a lack of perceived quality. A firm's productive capacity is the total level of output or production that it could produce in a given time period. Capacity utilisation is the percentage of the firm's total possible production capacity that is actually being used (Adenso-Diaz and Gonzalez-Torre, 2002).

A firm's level of capacity utilisation determines how much fixed costs should be allocated per unit, so as a firm's capacity utilisation increases, the fixed costs (and therefore also, total costs) per unit will decrease (Stevenson, 2005). It therefore follows that a firm should be most efficient if it is running at 100% capacity utilisation. However, if a firm is running at full capacity, there are a number of potential drawbacks. There may not be enough time for routine maintenance, so machine breakdowns may occur more frequently and orders will be delayed. Full capacity utilization may also make it possible to meet new or unexpected orders so the business cannot grow without expanding its scale of production (Lovelock, 1992). Staff may feel under excessive pressure, leading to increased mistakes, absenteeism and labour turnover. If the factory space is overcrowded, work may become less efficient due to the untidy working conditions. Full capacity utilization may also make it necessary to spend more on staff overtime to satisfy orders, increasing labour costs (Reginald, 2002).

In general, businesses would feel most comfortable at something between 80 to 90% capacity utilisation because fixed costs per unit are relatively low and there is some scope to meet new orders or carry out maintenance and training (Adenso-Diaz and Gonzalez-Torre, 2002). A firm that has just invested in major new facilities in anticipation of major growth could take some time before reaching a good level of utilisation, so it is important to consider sales trends when discussing capacity utilisation.

Firms also suffer from under-utilisation of capacity. There are a number of reasons why a firm might be experiencing low capacity utilization. New competitors taking market share or causing over-supply in the market may lead to under utilisation of capacity. Changes in consumer tastes or fashion may also cause fall in demand thereby resulting to low capacity utilization.



Unsuccessful marketing in which one or more aspect of the marketing mix may simply mean that the firm is not successful. Seasonal demand of certain products or services may also contribute to low capacity utilization. This is especially apparent in the tourist industry where firms like hotels and leisure parks are full in the summer but see much lower utilisation at other times of the year (Adenso-Diaz and Gonzalez-Torre, 2002).

When firms do not utilize their capacity well, a number of problems are likely to occur. Higher fixed costs per unit mean reduced profitability; if prices were raised to cover these costs, this would probably lead to reduced sales unless the product was price inelastic. Spare capacity can portray a negative image, particularly in a business where it can be seen that it is no longer busy - such as a shop or a health club - signifying loss of popularity. Staff can become bored and demoralised if they don't have as much to do, especially if they fear losing their jobs (Reginald, **2002**).

On the other hand, low capacity utilization may result into a number of short term benefits. A firm may have more time for maintenance and repairs and for staff training, to prepare for an upturn in trade. There may be less stress for employees than if they were working at full capacity. The firm can also cope with new orders; firms in expanding markets may expect to have low utilisation whilst they build their sales. However, it should be noted that low capacity utilisation is unlikely to be desirable in the long term as the higher unit costs will make it difficult to compete (Adenso-Diaz and Gonzalez-Torre, 2002).

## **2.3 Background to Capacity Sharing**

Capacity is the ability to hold, receive, store, or accommodate (Stevenson, 2005). Firms generally plan their capacity on three fronts: Long range - annual plans for 2 to 5 years; intermediate range - monthly/quarterly plans for the next 6 to 18 months; and short range; less than one month. When planning for capacity there is need for firms to determine their overall capacity level of capital intensive resources, including facilities, equipment, and overall labour force size that best supports their long range competitive strategy (Stevenson, 2005). Various dimensions of capacity like quantity, quality, time and location need to be taken into account when planning for capacity levels. Firms derive their capacity utilization rate by comparing the capacity used to their best operating level. Capacity planning is one of the ways firms can use to determine their market share. Different ways of increasing capacity of firms exist. Firms can either opt to schedule overtime, lease equipment or subcontract services to other firms. Using buffer inventories in front of the bottleneck and duplicating facilities of bottleneck department are other ways of increasing capacity.

Alternative methods through which firms can use to increase capacity internally include removing old items and replacing with new ones and training employees on new set ups. External sources of capacity increment may be cheaper in the short run and includes methods like outsourcing and sharing. Different firms employ different methods of increasing capacity based on many factors like cost and the type of services they offer. Firms may also plan for capacity in excess of expected demand (i.e capacity cushion) when there is anticipation of growth in demand, to provide for errors in estimation of demand and to act as a compensation for any loss in capacity if the best operating level is not attainable. Different business ventures

employ different methods when faced with capacity issues depending on which method is likely to suit them. To increase their capacity, airlines may either purchase new, reconfigure their seat patterns for passengers, lease or code share with other airlines. All these are arrived at based on cost implications.

Customers greatly value the quality of services offered to them and as such firms must always ensure that in their endeavour to have enough capacity for their customers, the quality of service is not compromised (Reginald, 2002). Capacity should be such that customers are served individually and allow enough capacity in reserve so as not to create too many managerial headaches. Firms therefore balance their capacity and quality of service. The airline industry, like other service industries has to balance capacity and quality of service. In an effort to create enough capacity airlines have been forming alliances.

The airline industry has traditionally been characterized by a high degree of regulation, both of technical and economic side. Economically, airlines collaborate to form alliances. An alliance involves a collaboration between two or more firms that retain their autonomy during the course of their relationship, Birgit and Seristo (2004). Forms of airline cooperation include cost sharing ventures, asset pools, pro-rate agreements, code sharing, feeder, marketing alliance, joint ventures, integrated feeder and equity stake.

The first airline alliance started in the 1930s, when Pan American-Grace Airways and parent company Pan American World Airways agreed to exchange routes to Latin America. The first large alliance started in 1989, when Northwest and KLM Royal Dutch Airlines agreed to code

sharing on a large scale. A huge step was taken in 1992 when the Netherlands signed the first open skies agreement with the United States, in spite of objections from the European Union authorities. This gave both countries unrestricted landing rights on each others' soil. The table below shows some of the major world's airline alliances.

**Table 2.1 Major Airline Alliances (as of December 2010)**

<b>Alliance</b>	<b>Number of Members</b>	<b>Current Members</b>
Star Alliance (Founded in 1997)	27	Adria Airways, Aegean Airlines, Air Canada, Air China, Air New Zealand, Asiana Airlines, Austrian Airlines, Blue1, BMI, Brussels Airlines, Continental Airlines, Croatia Airlines, EgyptAir, LOT Polish Airlines, Lufthansa, SAS, Singapore Airlines, South African Airways, Spanair, Swiss International Air Lines, TAM Airlines, TAP Portugal, Thai Airways International, Turkish Airlines, United Airlines and US Airways
Sky Team (Founded in 2000)	13	Aeroflot, Aeromexico, Air Europa, Air France, Alitalia, China Southern, Czech Airlines, Delta, Kenya Airways, KLM, Korean Air, TAROM, and Vietnam Airlines
OneWorld (Founded in 1999)	12	American Airlines, British Airways, Cathay Pacific, Finnair, Iberia, Japan Airlines, LAN, Malev, Mexicana, Qantas, Royal Jordanian, and S7 Airlines

Source: <http://www.oagtravel.com/Guides/Airline-Alliances>

Birgit et al (2004) define code sharing as a commercial agreement between two airlines under which an airline operating a service allows another airline to offer that service to the travelling public under its own flight designator code, even though it does not operate the service i.e. an airline say, A sells a flight under its own airline designator code, even though that flight is operated by another airline, B (A and B "share" a designator code). The advantage for A lies in

its access to markets without having to operate its own aircraft there; for B the advantage lies in being able to better fill the aircraft it operates on that route, namely with its own and A's passengers, and to eventually be able to move to operating a larger aircraft type sooner on that route, thereby benefitting from the typically lower seat mile costs a larger aircraft has. Revenues are split between A and B according to an agreed formula. Codeshares can be fairly short term (1-2 schedule periods) and just concern one route, or they can in fact constitute the very backbone of an alliance, being multilateral (where two or more airlines place their codes on flights of a third), long-term and involving significant changes in operational arrangements in order to harmonise schedules. Historically, code sharing arose out of the increasing use of Computer Reservations Systems (CRSs, now known as Global Distribution Systems, GDSs such as Amadeus, Galileo, Worldspan, or Sabre) by travel agents in the 1980s and 1990s. Unlike airlines' own reservations systems, CRSs were required to be "neutral", not favouring one airline's flights above another. A set of display rules were agreed within the industry, with the endorsement of the authorities, in both the US and the EU. One of these rules, applying to journeys involving a connection, gave higher priority to "online" connections (i.e. those between two flights of the same airline) than to interline connections (those involving flights from different airlines).

## **2.4 Basic types of Code Sharing**

In its most basic form, a code share agreement simply allows for a flight operated by one carrier (which will offer the flight for sale under its own code or designator and associated flight number, such as 'XY1234'), also to be marketed by another carrier, under that other carrier's code and flight number (e.g. 'PQ5678'). The carrier operating the flight (in this case, carrier with

code 'XY') is known as the "operating carrier", while the carrier marketing the flight under its own code (in this case 'PQ') is known as the "marketing carrier", (Birgit et al, 2004).

In principle there is no limit to the number of marketing carriers on any one flight, although Global Distribution System (GDS) system limitations restrict the number to 11. However, it should be noted that GDS rules, which govern the systems that are used to market and sell airline tickets, prevent more than one marketing carrier being displayed for any proposed journey between a given pair of origin and destination ("O&D") airports (Steer D. G. et al, 2007).

The carrier that issues tickets to the passenger for a journey involving a code-share flight is known as the "ticketing carrier". Where the complete journey does not involve a third carrier, the ticketing carrier will generally be the same as the marketing carrier (unless the ticket is issued by the operating carrier itself, in which case no code-sharing is involved). Where a third carrier is involved in a passenger's journey, the carrier issuing the ticket may, in some cases, be neither the operating nor the marketing carrier, but part of the journey may, nevertheless, be booked under the marketing carrier's code for a flight operated by the operating carrier. This can cause problems in revenue settlement if the operating carrier, which in general accepts the ticket coupon for carriage on the flights that it operates (or equivalent electronic ticketing procedure), has no interline relationship with the ticketing carrier.

The underlying geography of the routes covered by code share agreements can be classified into three major types, namely: Parallel operation on a trunk route, Unilateral operation on a trunk route, and Behind and beyond route. In Parallel operation on a trunk route, two carriers both operate the same sector (flown airport pair), and each gives its code to the other's operated

flights (Birgit and Seristo, 2004). These are sometimes known as "online code-shares". Unilateral operation on a trunk route involves a carrier putting its code on a sector operated by another carrier, but not by itself, and not (necessarily) connecting to one of its own operated flights (for example, British Airways puts its code on Manchester-Chicago, operated by American Airlines; Delta puts its code on Paris-Boston, operated by Air France). These are sometimes known as "network extension code-shares". Behind and beyond route (connecting to a trunk route service) is a situation where a carrier puts its code on sectors, operated by another carrier, to provide connections with its own operated services. Connecting code shares generally require the marketing carrier to sell an interline journey, i.e. one involving travel on its own service and then on the service of the partner carrier (and this kind of code-share is therefore sometimes known as an "interline code-share"). The classic example of this sort of code-share is, for example, when British Airways sells a journey from London Heathrow to, say, Albuquerque, via Dallas, with the US domestic sector operated by American Airlines (Steer D. G. et al, 2007). However, because of the existence of a code-share agreement, they can nevertheless be distinguished from a traditional interline journey, in which passengers simply take connecting flights designated only by the code of the operating carrier.

The above geographical categories can fall into either free flow or blocked space classification based on the terms of access the airlines give to their partners' passengers as either free or limited access to their seats (Birgit, Kleymann and Hannu S., 2004). Free flow (free sale) code sharing agreements give the marketing carrier access to the operating carrier's inventory and allow it to market seats independently of the operating carrier. The risk is completely on the operating carrier since the marketing carrier functions almost as an agent. Moreover, seats

availability is determined solely by the operating carrier that can decide e.g. to close seats availability at the prices set by the marketing carrier. Blocked space (blocked seat) agreements allocate the marketing carrier a certain number or percentage of reserved seats on flights provided by the operating carrier. Under a 'hard' blocked space code sharing the revenue risk is borne by both, as operating and marketing carrier are responsible for the sale of their allocated number of seats (Steer D. G. et al, 2007). The marketing carrier has to pay to the operating carrier the agreed financial contribution for the reserved seats independent of whether or not he succeeds in selling the blocked seats. However, in the context of a 'soft' blocked space agreement the marketing carrier can return seats to the operating carrier according to the terms concluded on a bilateral basis.

## **2.5 Rationale Behind Capacity (Code) Sharing in Airline Industry**

Brigit et al (2004) state that the underlying motivation of airlines in entering into code share agreements is to broaden the offer that airlines can make to customers in terms of the number of destinations and, in some cases, the flight timings that they can offer potential customers, without the costs and difficulties involved in additional investment in equipment or in mergers with other airlines. Code share agreements also enhance the "presence" of an airline in markets where it would otherwise have no profile, and hence facilitate the marketing of its services, allowing its seats to be sold via a marketing carrier which may be much better known in that market.

Code share agreements enable an airline to market a flight operated by another carrier, and of course airlines are only willing to use their brand in this way if they are confident that the other carrier is safe and has a suitable product. The existence of a code-share agreement with a partner airline can therefore give confidence to both customers and distribution channels that journeys



involving the partner can be sold with the expectation of a good overall level of service, in terms of suitability of the product and seamlessness of ticketing and flight connection arrangements.

Steer D. G. et al, 2007 states that airlines believe that these factors - enhancing customer reach, widening the offer to customers and giving confidence to the market about products offered in combination with other carriers - will generate additional traffic, and hence revenue, at relatively low cost. However, it is possible that part of the motivation of carriers in entering into codeshare agreements is to allow them, jointly, to dominate a market, allowing capacity to be restricted or prices to be raised (or to remain high), resulting in disadvantages for purchasers and discrimination against other airlines.

Another benefit of code sharing to passengers is that of connecting flights. Code sharing provides clearer routing for the customer, allowing a customer to book travel from point A to C through point B under one carrier's code, instead of a customer booking from point A to B under one code, and from point B to C under another code. This is not only a superficial addition as cooperating airlines also strive to synchronize their schedules and coordinate luggage handling, which makes transfers between connecting flights less time-consuming.

Birgit et al (2004) point out that shared responsibility between the carriers is another benefit to passengers. When flying between two cities without a single-airline connection, the passenger can pick a code shared flight over two airlines or two flights booked separately. If the flights are not code shared, then the second airline has no responsibility if the passenger or luggage misses

the second flight due to a delay with the first. Under a code shared flight, the second airline is unlikely to charge extra fees or deny boarding should the first, cooperating airline cause a delay.

Passengers may benefit insofar as code-sharing facilitates the provision of higher service quality in terms of more convenient connections, single check-ins, baggage transfers and transferable bonuses in frequent flyer programmes. It may also have the effect of reducing through fares. All this may increase the value of the joint product to the passenger. And code sharing agreements do not necessarily imply exclusivity. It is at least possible to connect from a non-affiliated flight to one of the code-sharing flights; but where schedules, marketing, etc are not co-ordinated in quite the same way, it is much less likely that the passenger will be able to find a convenient connection. Hence airlines participating in codesharing agreements often argue that passengers derive substantial benefits from them. Flights from both airlines that fly the same route - This provides an apparent increase in the frequency of service on the route by one airline

## **2.6 Quality Management in Airline Industry**

### **2.6.1 Quality**

Quality is often used to signify "excellence" of a product or service (Oakland, 1998). In some engineering companies, the word may be used to indicate that a piece of metal conforms to certain physical dimension characteristics. In a hospital or customer service, it might be used to indicate some sort of "professionalism". It is thus difficult to find one universal definition for quality. However, Oakland (1998) defines it simply as meeting the customer requirements. Other authors have defined it as 'fitness for purpose or use" (Juran, 1989), the totality of feature or characteristics of a product or service that bears on its ability to satisfy stated or implied needs or conformance to requirements (Crosby, 1979). Quality has to be managed and it will not just

happen. Clearly, it must involve everyone in the process and be applied throughout the organization.

## **2.6.2 Service Quality**

Quality is a difficult concept and measure. Quality is when we have "zero defects; doing it right first time". Crosby (1979) defines quality as conformance to requirements. The concept of service quality as defined by Christopher et al (1991) and Baker (1994) saw service quality as concerned with meeting or exceeding customer's expectations. Hubbert (1995) noted that although the three constructs are distinct, they are related attributes of customer perceptions of service quality. Thus, service quality is not a one occurrence act but it is set or processed from pre transaction to post transaction. Parasuraman et al (1985) in developing the service quality model defined service quality as the gap between the expected service and perceived performance.

The delivery of higher levels of service quality is the strategy that is increasingly being offered as a key to service providers efforts to position themselves more effectively in the market place (cf. Brown and Swartz 1989; Parasuraman, Zeithaml and Berry 1988; Rudie and Wamsley 1985; Thompson, DeSouza and Gale 1985). However, the problem inherent in the implementation of such a strategy has been eloquently identified by several researchers. Service quality is an elusive and abstract construct that is difficult to define and measure (Brown and Swartz 1989; Carman 1990; Crosby 1979; Garvin 1983; Parasuraman, Zeithaml and Berry 1985, 1988).

Service Quality has been defined as a source of attitude, related but not equivalent to satisfaction that results from the comparison of expectations with performance (Boltan and Drew 1991a; Parasuraman, Zeithaml and Berry 1988). Said another way, "satisfaction or lack of it, is the difference between how a customer expects to be treated and how he or she perceives being treated" (Davidow and Uttal., 1989, p. 19). Service Quality is founded on a comparison between what the customer feels should be offered and what is provided (Parasuraman, Zeithaml and Berry 1985). It can be assessed by measuring the customers' expectations and perceptions of performance level for arrange of service attributes performance (Parasuraman et al, 1985, 1988, 1991; Zeithaml et al, 1990).

Operationally, Service Quality is represented by answers to such questions as: Is the service delivered to customers what they expected or different from what they expected? Was the service they received approximately what they expected or better or worse than expected? (Woodside, Frey and Daly, 1989). Service Quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis (Lewis and Booms, "1983). Gronos contended that consumers compare the service they expect with perceptions of the service they receive in evaluating service quality. Zeithaml, Parasuraman and Berry (1985) strongly suggest that service quality as perceived by customers, stems from a comparison of what they feel service firms should offer with their perceptions of the performance of firms providing the services.

Perceived service quality is therefore viewed as the degree and direction discrepancy between consumers' perceptions and expectations, where expectations are viewed as desires or wants of customers, or what they feel a service provider should offer rather than would offer.

Perceived Quality is the consumer's judgment about an entity's overall excellence or superiority (Zeithaml, 1987). It differs from quality (as above) in that it is a form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of performance (Parasuraman, Zeithaml, and Berry, 1988).

Research suggests that Service Quality and satisfaction are distinct constructs (Bitner 1990, Boltan and Drew1991; Parasuraman, Zeithaml and Berry 1988). An explanation of the difference the two given that Perceived Service Quality is a form of attitude, a long-run overall evaluation, where satisfaction is a transaction specific measure (Bitner 1990, Boltan and Drew1991a; Parasuraman, Zeithaml and Berry 1988). Parasuraman, Zeithaml, and Berry (1988) state that in measuring Perceived Service Quality the level of comparison is what a consumer should expect, whereas in measure of satisfaction the appropriate comparison is what a consumer would expect. However, such a differentiation appears to be inconsistent with Woodruff, Cadotte, and Jenkins (1983) suggestion that expectations should be based on experience norms -what consumers should expect from a given service provider given their experience with that specific type of service organisation. Consumers expectation are pretrial beliefs which a consumer has about the performance of a service. They are used as the standard or reference against which service performance is judged (Olson J. C. and Dover P., 1979). An understanding of the levels of customer expectations will help companies ensure that expectations are met.

Schiffman and Kanuk (2002) observed that it is more difficult for consumers to evaluate the quality of services than it is to evaluate the quality of products. This is true because of the distinctive characteristics of services intangibility, variability, perishability and simultaneous

production and consumption. To overcome the fact that consumers are not able to compare services side-by-side as they do with competing products, consumers rely on surrogate cues to evaluate Service Quality.

The actual quality of service can vary from day to day, from service employee to service employee, and from customer to customer, service providers try to standardize their services in order to provide consistency of service quality. The downside of standardization is the loss of customized services many customers value. Some researchers believe that a consumer's evaluation of service quality is a function of the magnitude and direction of the gap between customer's expectations of services and customer's perceptions of the service actually delivered (Spreng et al, 1996). The SERVQUAL model has been designed to measure the gap between customers' expectations of services and their perceptions of the actual services delivered, based upon the following five dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman, et al, 1988)

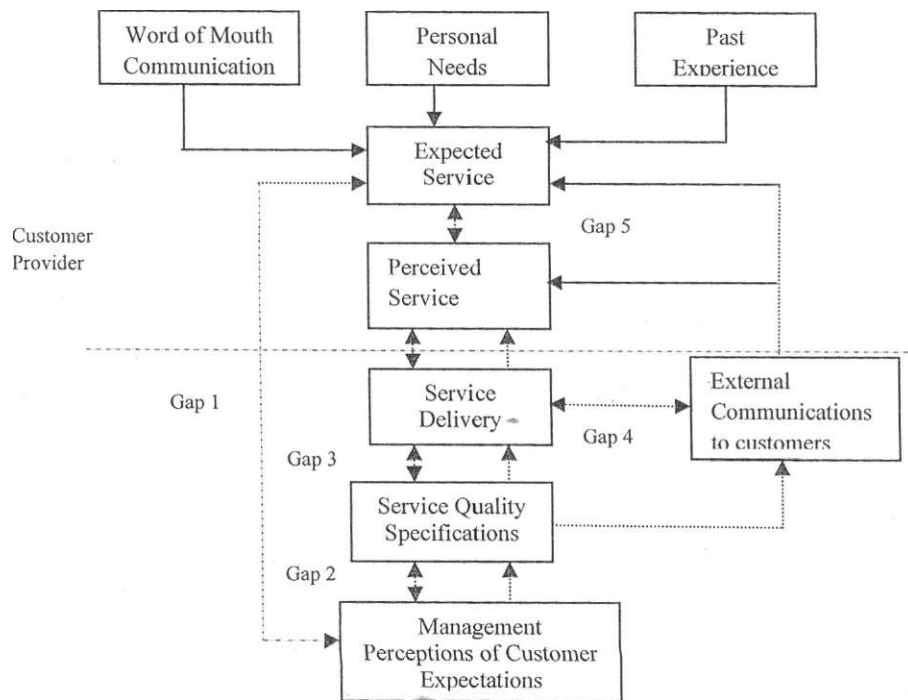
### **2.6.2.1 Dimensions of Service Quality**

Gronroos (1984), Lehtinen and Lehtinen (1982), and Czepiel et al (1985) looked at service quality in two different dimensions, one being technical or output quality and the other functional or process quality. These dimensions were assessed according to attitudes and behavior, appearance and personality, service mindedness, accessibility and approachability of customer contact personnel.

Czepiel et al (1985) not only pinpointed the process and outcome quality dimensions but also identified three different dimensions of the service encounter thus, distinguishing between customer perceptions, provider characteristics and production realities. It was suggested that this

common crucial characteristics in service quality and that the determinants of satisfaction were similar. For the customer perceptions and production realities, they listed element to judged a continuum. The customer perception included purpose, motivation, result, salience, cost, reversibility and risk. The production realities related more to element such as technology, location content, complexity and duration. The third dimension of provider characteristics relates to the expertise, altitude and demographic attributes to the staff. Parasuraman et al (1985; 1988) addressed the issue of how the customer assesses service quality. They came up with ten dimensions that can be used to measure service.

**Figure 2.1: SERVQUAL**

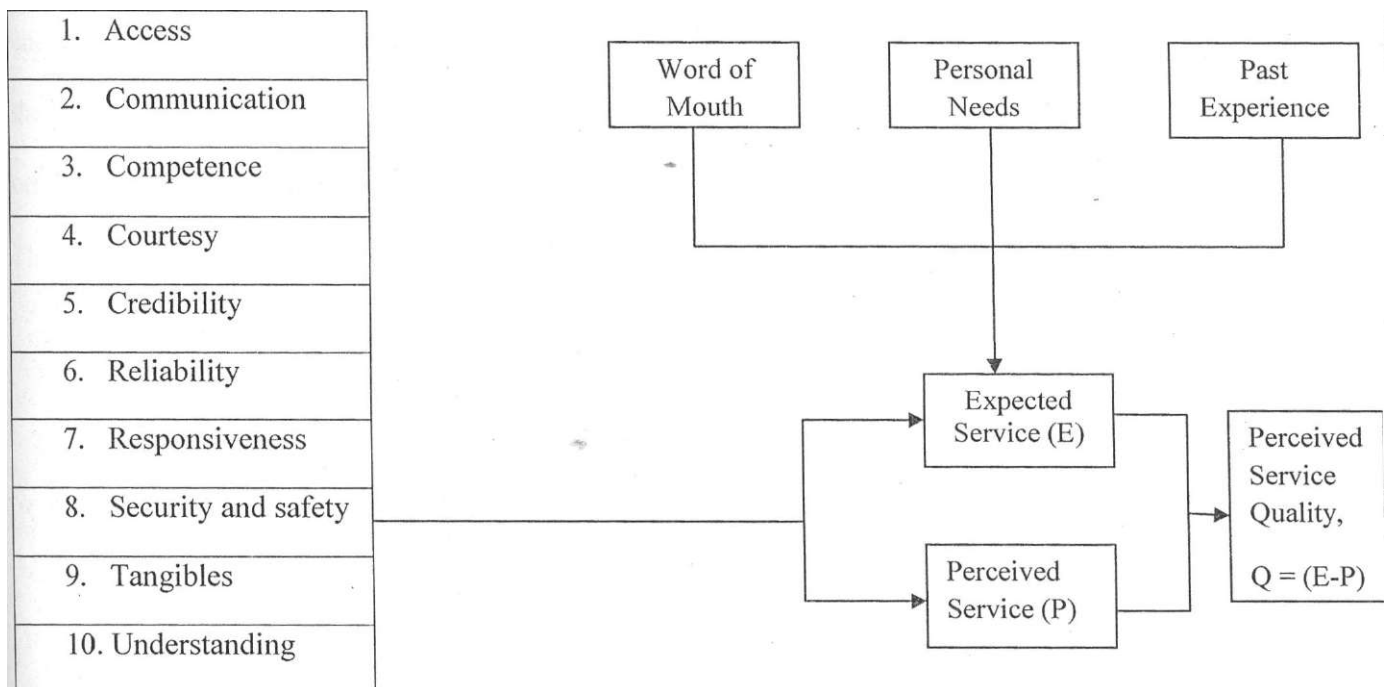


Source: Valarie A. Zeithaml, A. Parasuraman, Leonard L. Berry. *Delivering Quality Service: Balancing Customer Perceptions and Expectations*. New York: The Free Press, 1990

The SERVQUAL model concentrates on five "gaps" impairing the delivery of excellent service quality; this study focuses on Gap 5: the difference between passenger expectations and perceptions of service.

Before concerted efforts can be successfully undertaken to redress service management problems that impede the delivery of truly excellent service quality, it is essential to know to what degree customer perceptions of existing service fail to meet expectations; this study focuses on that primary issue. Thereafter it becomes important to know whether differences exist in management perceptions of customer expectations (Gap 1), a discrepancy in management perceptions and the service specifications that are enacted (Gap 2), etc. Thus we study Gap 5 which focuses on the difference between customer expectations and perceptions (Parasuraman, et al). This is also the only gap that can be examined solely on the data from the consumer; study of other gaps, while important, would require data collection from companies themselves.

**Figure 2.2: Dimensions of Service Quality**



Source: Valarie A. Zeithaml, A. Parasuraman, Leonard L. Berry. *Delivering Quality Service: Balancing Customer Perceptions and Expectations*. New York: The Free Press, 1990



The SERVQUAL model has been used in numerous studies, though not all of its empirical findings correspond perfectly to the model laid out by Parasuraman (1988). Sasser et al. (Sasser, Olsen, and Wyckoff, 1978) list seven service attributes which they believe adequately embrace the concept of service quality. These include:

- © Security - confidence as well as physical safety;
- ® Consistency - receiving the same each time;
- o Attitude - politeness and social manners;
- ® Completeness - ancillary services available;
- ® Condition - of facilities;
- o Availability - access, location and frequency; and
- ® Training

On the other hand, GrOnroos (Gronroos, 1988, 1991), believes that service quality is made up of three dimensions, that is the "technical quality of the outcome", the "functional quality of the encounter", and the "company corporate image". Parasuraman et al (1988) subsequently reduced the ten dimensions to five, the following first three being the original ones and the other seven original ones categorized into (4) and (5)

The SERVQUAL dimensions are shown in the table.

**Table 2.2: SERVQUAL Dimensions**

<b>Dimension</b>	<b>Description Examples</b>
1. Tangibles	Physical evidence of the service; physical facilities, tools and equipment; appearance of providers; appearance of other customers in the service facility, and communication materials. Were the facilities clean, personnel neat?
2. Reliability	Consistency of performance and dependability; performs service right at the first time; honours its promises; keeps accurate records, correct billing, and performs services at the designated times. Was the problem fixed?
3. Responsiveness	Readiness and willingness to provide the service; timeliness; setting up appointments promptly. Were customer service personnel willing and able to answer questions?
4. Assurance	Knowledge, competence and courtesy of employees; convey trust and confidence; has the required skills and knowledge; polite, respectful, considerate, friendly; trustworthiness, believability, honesty. Did the customer service personnel seem knowledgeable about the repair?
5. Empathy	Caring; individualized attention, approachability, ease of contact; effort in understanding the customers' needs. Was the personal touch in service provision?

*Source: GrOnroos, C. (1990), Service Management and Marketing: Managing the Moments of Truth in Service Competition, Lexington and M. A. Lexington Books*

### **2.6.2.2 Dimension of Service Quality in the Airline Business**

Credibility is an assessment that can be made before using a service and this has some bearing in air transport service. Generally, a customer will use an airline after recommendation from external source i.e. advertisement or word of mouth (GrOnroos, 1988, 1991),. Security is of critical importance to customers. The customers will need to know that themselves and baggage in transit are insured & will be delivered safely. Understanding the customer is important in airline business to be able to provide the service requested by the customer, the type of baggage accepted & their transit time (Parasuraman et ah, 1988).

Access is important in air service because the customers need to have easy contact with the service provider. The aim is to meet customers' needs and provide personalization of service. Communication is important to the air service as it provides information on the supply/ delivery of passengers & baggage. It also provides information to the customers on where the luggage is on transit. Tangibles are relevant for measuring Service Quality in air service because the customer require aircraft for transporting them (Lehtinen and Lehtien,1982, Czepiel et al., 1985).

Responsiveness & reliability are applicable since they relate to what the company promises. Responsiveness is important in air service due to the requirement of the customer & the problems that need response. Reliability could be judged, for example, when the passengers will be transported. The airline staff must be courteous to the passengers and demonstrate competence in their work (Bitner 1990, Boltan and Drew 1991; Parasuraman, Zeitharnl and Berry 1988).

This paper will try see fit by bringing into the picture some of the assimilated variables from within the last two dimension in designing data collection instrument, and proceeds with the experiment henceforth. Van dyke et al criticized that SERVQUAL suffers from a number of conceptual and empirical difficulties (Thomas P.V. D, Kappelman L. A., and Prybutok V. R., 1997). Conceptual difficulties include the operationalization of peceived service quality as a difference or gap score, the ambiguity of using a single measure of service quality across different industries. Empirical problems, which may be linked to the use of different scores, include reduced reliability, poor convergent validity and poor predictive validity. Recently Jiang etal's empirical study among 168 users and 168 professionals concluded that the SERVQUAL

measure is a valuable analytical tool for IS managers (Jiang J. J, Klein G. and Christopher L C., 2002). The study found his convergent validity for the reliability, responsiveness, assurance and empathy of the SERVQUAL scales and found acceptable levels of reliability and discriminate validity among the reliability, responsiveness, and empathy scales.

## **2.7 Challenges of Airline Code Sharing**

In spite of these advantages, code sharing does not lack criticism. In Global Distribution Systems, such as Amadeus, Galileo, Worldspan, or Sabre, code sharing results in the same flight details, except for the flight number, being excessively displayed on computer screens, forcing other airlines flights to be displayed on following pages where they may be missed by passengers searching for required flights (Birgit et al., 2004). Much competition in the airline industry revolves around ticket sales (also known as "seat booking") strategies (revenue management, variable pricing, and geo-marketing). Most passengers and travel agents have a preference for flights that provide a direct connection. Code sharing achieves this. Computer reservations systems (CRS) also often do not discriminate between direct flights and code sharing flights and present both before options that involve several isolated stretches run by different companies. Criticism has been leveled against code sharing by consumer organizations and national departments of trade since it is claimed it is confusing and not transparent to passengers.

Critics also argue that baggage transfers have always been handled adequately under interline agreements, that code-sharing deceives consumers into believing they are purchasing one airline's product when they are actually purchasing another, and that, by listing the combination three times in computer reservation systems (CRS), they create 'clutter', thereby removing

competitive alternatives from the first page of the CRS screen where 85% of all flights are sold (Dempsey, 2006). Moreover, some code-sharing connections are less than consumer-friendly. Some transfer passengers onto airlines or aircraft on which they would prefer not to fly. For example, a code share can put a passenger on an ageing, small, unpressurised turbopropelled aircraft without a lavatory. Before code-sharing, passengers moved 'seamlessly' from one point to another. Throughout the history of commercial aviation, airlines have entered into a multitude of bilateral interline relationships, many facilitated under the auspices of the International Air Transport Association (IATA), which has long enabled passengers to fly between two remote points on a through ticket, paid for in a single currency, with seamless transfers of baggage and passengers from origin to destination. Indeed, among IATA's principal functions has been the co-ordination of international aviation so that passengers can move effortlessly around the world.

The most serious problem with alliances, code sharing being a form of alliance, are their anticompetitive dimensions (Dempsey, Paul Stephen, 2006). There can be little doubt that airline executives see alliances, especially when they involve code-sharing and capacity rationalisation, as a way of reducing or limiting competition. Dempsey (2006) also states that code-sharing can also result in market allocation, capacity limitations, higher fares, or foreclosure of rivals from markets, all to the injury of consumers. Consumer Reports have also described code-sharing as a "predatory weapon" (Birgit et al, 2004).

## **2.8 Studies Undertaken in Capacity and Airline Service Quality**

### **2.8.1 Overseas**

There are a few publications touching on code sharing agreements in the airline industry which the author of this project has come across. The European Competition Authorities' (2004)

published "Code Sharing Agreements in Scheduled Air Transport - The European Competition Authorities' perspective". Steer Davies Cleave, Beaumont & Son and Lewis Scard Consulting (2003) published Competition Impact of Airline Code-Share Agreements.

## **2.8.2 Local**

No article has been published locally related to capacity sharing among airlines operating in Kenya. However, there are a few publications related to Service Quality. Masinde (1986) studied the Perceived Quality of Service in the Airline Industry using Kenya Airways as the case study. Mwenda (1987) studied the Perceived Quality of Port Services; the case of Kenya Airports Authority (KPA) while Muriithi (1996) conducted an Analysis of Customer Service offered by Kenyan Commercial banks. Njoroge (2005) looked at Customers Perception of Service Quality in a Decentralized System in the Public Utility Sector in Kenya. Gituanja E. W. (2006) looked at Perception of Service Quality: a case of Jomo Kenyatta International Airport (JKIA) while Muluka (2008) tackled Freight Customers' Perception of Service Quality by Rift Valley Railways. This research is, however not aware of any local study that has been undertaken on Capacity Planning or Code Sharing among Kenyan airlines.

## **2.8.3 Knowledge Gap**

Based on the previous articles which have been published, this area presents an area which has not been researched on. It is hoped that with this project, airlines operating in Kenya managements will be able to understand better the various challenges their customers face as a result of booking customers on one airline and having them fly on another airline. The study will also help airlines operating in Kenya managements assess the impact on quality of service offered to customers and know their key roles of spearheading quality management and

improvement. Other airlines will also be able to make judgment on the challenges facing their customers as a result of code sharing agreements and come up with ways of improving customer satisfaction to their passengers.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter provides the operational framework within which data was be collected and analyzed. It describes the research design employed, the study population, sample size and selection, collection of data and analysis, the research instruments used, the research procedure followed, measurement of variables, reliability and validity of instruments.

### **3.2 Research Design**

The study employed a descriptive survey research. The descriptive approach is considered the most appropriate for this study because, descriptive studies report the way things are for understanding the status quo (Mugenda & Mugenda, 1999), and often result in formulation of important principles of knowledge and give solutions to significant problems (Kombo & Tromp, 2006). Kumar *et al*, (1993) notes that this approach is consistent with the general recommendation to use informants who are most qualified to report on the issues under investigation.

### **3.3 Population**

The objectives of the study are to establish the impact capacity sharing has on service quality and the various challenges to capacity sharing strategies employed by selected airlines operating in Kenya. Since the focus of the study is on business operations, the targeted respondents comprised passengers booked on any of the airlines under study and are connecting other flights where there is code sharing agreement. It is noted that Kenya Airways has code share agreements



with Precision Air, RwandAir and KLM and the passengers involved in study had used Kenya Airways during one part of their journey. The questionnaire was designed for collection of data of nominal, ordinal and interval levels of measurement.

### **3.4 Sampling Size**

The population of the study was gotten at the airport and a sample size of 50 was used. A sample size of 50 was expected to significantly reduce the percentage of error since error percentages decrease with increased sample size (Kombo & Tromp, 2006). The sample size consisted of passengers who are flying Kenya Airways after being booked into the airline by other operators (either Precision Air or RwandAir or KLM) and vice versa. The sampling sizes from each airline are representatives of the total number of passengers who were booked on one of the selected airlines under study and ended up travelling on another airline. The data used is that available from Kenya Airways for the period April 2010 to September 2010 and consists of passengers booked on Kenya Airways and travelled on part of their journey by KLM and vice versa; passengers booked on Kenya Airways and travelled on part of their journey by Precision Air and vice versa; and passengers booked on Kenya Airways and travelled on part of their journey by RwandAir and vice versa. See appendix 4 for the data. Based on data in appendix 4, the number targeted consisted of passengers booked by the four airlines in the following proportions: 25 by Kenya Airways, 20 by KLM, 4 by Precision Air and 1 by RwandAir.

### **3.5 Data Collection**

The evaluation was conducted through questionnaires of a sample that reflects the composition of the targeted population as indicated in section 3.4. Information was collected through a questionnaire that captured both quantitative and qualitative data relating to the variable factors

involved. The questionnaire began with general information in section A which contained information about the passengers whereas section B contained information on various quality attributes while section C contained details of the challenges the passengers have gone through and how they see how some of the challenges can be addressed. Short interviews based on questionnaire questions were also conducted for passengers who could not get time to fill the questionnaires. The questionnaires were administered on a fill in and pick on the spot basis.

### **3.6 Data Analysis**

The data collected was analyzed through quantitative and qualitative techniques. First using the Statistical Package for Sciences (SPSS). Data was then presented in the form of frequency counts, percentages, tables and pie charts (Cooper & Schindler, 1998) for ease of interpretation. The gap analysis model originally developed by Zeithaml, Berry, and Parasuraman in 1988 was then used to analyse service quality.

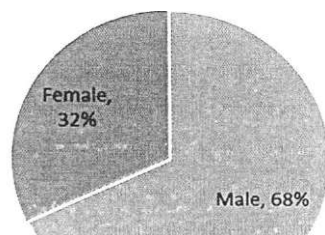
## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.1 Introduction

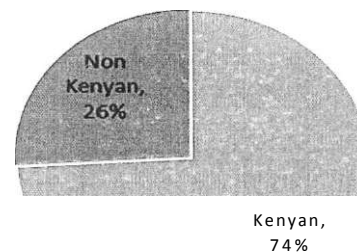
This section provides the data analysis and findings of the study. The data has been analysed using frequencies, means, standard deviations and factor analysis. It is presented in tables, pie charts and graphs.

### 4.2 Data Analysis and Results

The data collected was analyzed using the Statistical Package for Sciences (SPSS) and then presented in the form of frequency counts, percentages, tables and pie charts (Cooper & Schindler, 1998) for ease of interpretation. The gap analysis model originally developed by Zeithaml, Berry, and Parasuraman in 1988 was then used to analyse service quality. The gap analysis model was used to achieve the first objective while the second objective was tested from the pie chart obtained from analysis of question 11 of the questionnaire. Presented below in pie charts are background information of the respondents from which data analysis has been based.



**Figure 4.1: Proportion of Respondents by gender**



**Figure 4.2: Proportion of Respondents by nationality**

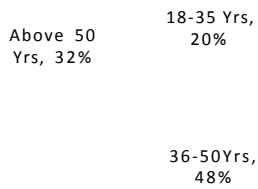


Figure 4.3: Proportion of Respondents by Age Range

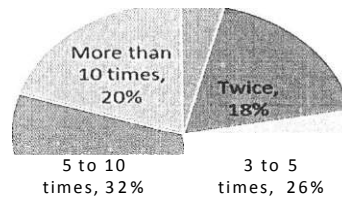


Figure 4.4: Proportion of Respondents by Frequency of Flights

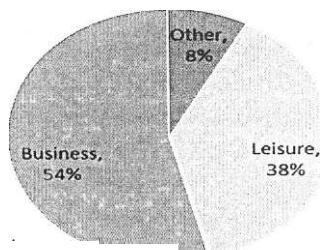


Figure 4.5: Proportion of Respondents by Reason For Travel

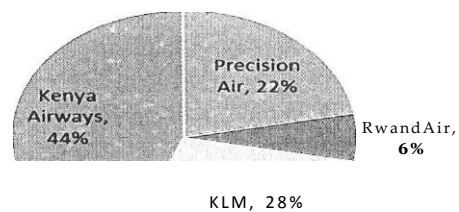


Figure 4.6: Proportion of time respondents used the airline under study as the Marketing Carrier

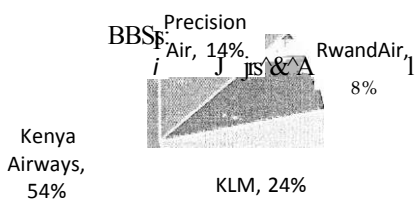


Figure 4.7: Proportion of times the respondents used the airlines under study as the operating carrier

### **4.2.1 Service Quality and Passenger's Satisfaction**

A widely used method of measuring service quality is the gap analysis model, originally developed by Zeithaml, Bery, Parasuraman in 1988, shown in Figure 2.1 (Gronroos, 2000). The model concentrates on five 'gaps' which can impair the extent of service quality delivered. This study focused on gap 5: the difference between the airline passengers' experiences and expectations of service. The result can either be positive (experience was better than the passenger thought it would be) or negative (the experience was worse than expected). Although the other four gaps are also important factors in service quality, gap 5 is the only that can be determined solely from the data collected from airline passengers; in order to determine the other gaps, we would require the data from the airline itself. Gap 5 was measured by the following five determinants of service quality; they are 'Tangibles', 'Reliability', 'Responsiveness', 'Assurance', and 'Empathy'. Details from these attributes are presented in Appendix 5. The results of gap 5 would help achieve the first objective of the study which was meant to investigate the impact of code sharing on the quality of service to passengers. Appendix 5 shows the various attributes of service quality dimensions measured.

Respondents were asked to separately evaluate each service attribute, according to the gap between their perceptions and expectations, using a five-point Lickert scale: 'Far below Expectations', 'Below Expectations', 'Meet Expectations', 'Above Expectations' and 'Far above Expectations'. Five different scores were assigned: 1, 2, 3, 4, 5, to represent this five point scale.

One sample T Test is used for data analysis. The sample T test procedure tests whether the mean of a single variable differs from a specified constant. This test assumes that the data are normally distributed; however this test is fairly robust to departures from normality. The sample size in the

study was 50 and based on 'Central Limit Theorem' the data is presumed to be normally distributed approximately. However, it should be noted that a total of 37 questionnaires were collected and used for analysis representing a 74% response rate. A 95 % confidence interval for the difference between the mean and the hypothesized test value was supposed. Satisfied passengers must have received perceptions equal to or more than expectations. The hypotheses are used to test the emerging research questions in problem statement section 1.3. So the hypothesized test value in the study is 3 and it can split passengers into satisfied and dissatisfied passengers and the null and alternative hypotheses as below:

Null hypothesis  $H_0:p>3$

Alternative hypothesis  $H_0:p<3$

We specify the level of sampling error (0.05). The scores of each attribute are then tabulated; the results found as below. As shown, in most items, there are negative mean differences and it cannot be said that our test value is located in 95% confidence interval of the difference. In other words, in most items, the null hypothesis can be rejected because the calculated value is larger than the critical value.

**Table 4.1: One- Sample Test**

One-Sample Test

Test Value = 3

		t	df	Sig. (2- tailed)	Mean differen ce	95% Confidence Interval of the Difference	
						Lower	Upper
TAN1	Appearance of the inflight facilities (modern and clean)	9.138	229	0.000	0.383	0.300	0.465
TAN2	Appearance, attitudes, and uniforms of the inflight attendants	-14.756	229	0.000	(0.878)	(0.996)	(0.761)
TAN3	Variety and quality of inflight meals	-5.634	229	0.000	(0.365)	(0.493)	(0.237)
TAN4	Variety and choices of inflight entertainment facilities	-21.268	228	0.000	(1.135)	(1.241)	(1.030)
TAN5	Providing visually appealing equipment	-18.311	229	0.000	(1.030)	(1.141)	(0.920)
REL1	Efficiency of the check in process	-10.785	228	0.000	(0.616)	(0.728)	(0.503)
REL2	Transfer service and efficiency at the departure airport	-13.655	228	0.000	(0.782)	(0.894)	(0.669)
REL3	Remedial procedures for delayed or missing baggage	-1.661	229	0.000	(0.091)	(0.200)	0.017
REL4	On time performance of scheduled flights	-12.360	229	0.000	(0.643)	(0.746)	(0.541)
REL5	Providing ground/ in-flight services consistently	-14.327	228	0.000	(0.725)	(0.825)	(0.625)
REL6	Performing the services right the first time	-14.030	229	0.000	(0.796)	(0.907)	(0.684)
RES1	Capable of response to emergency situations	-8.941	229	0.000	(0.470)	(0.573)	(0.366)
RES2	Keeping customers informed when services will be performed	-14.743	229	0.000	(0.796)	(0.902)	(0.689)
RES3	Prompt attention to the passengers' specific needs	-14.983	229	0.000	(0.803)	(0.909)	(0.698)
RES4	Understanding the specific needs of passengers	-8.584	229	0.000	(0.529)	(0.650)	(0.407)
RES5	Prompt response of the airline employees to your request or complaint	-18.866	229	0.000	(1.048)	(1.157)	(0.938)
RES6	Capacity to respond to delayed or cancelled flights	-20.421	229	0.000	(1.152)	(1.263)	(1.041)
ASS1	Sincerity and patience in resolving J passengers' problems	-9.048	229	0.000	(0.604)	(0.736)	(0.473)

ASS2	Probability of flight breakdowns	-10.789	228	0.000	(0.585)	(0.692)	(0.478)
ASS3	Safety performance of the airline	-7.148	228	0.000	(0.459)	(0.585)	(0.332)
ASS4	Knowledgeable and skillful provision of services	-6.225	229	0.000	(0.357)	(0.469)	(0.244)
ASS5	Sincere and responsive attitude to passenger complaints	-2.262	229	0.025	(0.117)	(0.220)	(0.015)
ASS6	Employees instill confidence to passengers	-0.983	229	0.327	(0.057)	(0.170)	0.057
ASS7	Employees are consistently courteous	0.696	229	0.487	0.039	(0.072)	0.150
ASS8	Knowledgeable employees to answer customer questions	-2.719	229	0.007	(0.187)	(0.322)	(0.051)
EMP1	Numerous, easy-to-use ticketing channels	-5.006	229	0.000	(0.304)	(0.424)	(0.185)
EMP2	Convenient flight scheduling	-2.352	229	0.020	(0.126)	(0.232)	(0.020)
EMP3	Spontaneous care and concern for passengers' needs	-8.223	229	0.000	(0.483)	(0.598)	(0.367)
EMP4	Frequent cabin service rounds by in-flight attendants	-6.872	229	0.000	(0.391)	(0.504)	(0.279)
EMP5	Having a sound loyalty program to recognize you as a frequent customer	-35.106	229	0.000	(1.478)	(1.561)	(1.395)
EMP6	Having a sound mileage program	-35.980	229	0.000	(1.483)	(1.564)	(1.401)
EMP7	Having other travel related partners e.g. hotels, car rentals, and travel insurance	-44.904	229	0.000	(1.617)	(1.688)	(1.546)

According to the table above, and from the views of travelers, it can be seen that the perceptions of service quality attributes, for the airlines under study, were worse than expected in most cases and the service scores had negative values. The top three attributes were: TAN1, ASS7 and ASS6. As for the passenger's perception of the service quality of the airlines under study, the worst three quality service attributes were: EMP7, EMP6 and EMP5, based on the obtained t values.

But in a few items, the null hypothesis cannot be rejected and it shows that with 95 percent confidence, passengers are satisfied in some parts of the performance of the airlines they



travelled by. They are TAN1, REL3 and ASS7. However, in most items, the null hypothesis is rejected and this means that the general perception of passengers is that performance of service quality of the airlines they ended up travelling by is worse than expected. In comparison of the five group items (i.e. Tangibles, Reliability, Responsiveness, Assurance and Empathy), the first attribute was Assurance. The others in priority were Tangible, Reliability, Responsiveness and Empathy. So we can conclude that empathy items were the worst expected from the point of view of passengers.

The respondents were also asked to prioritize the five attributes in order of importance to them. The result is shown in the below table in descending order, Tangibles, Reliability, Assurance, Responsiveness and Empathy had higher importance and priorities. Furthermore, the lower and upper bound with 95% confidence interval for means of five attributes were calculated as shown below.

**Table 4.2: Priorities of 5 figures by Passengers**

Descriptive			Statistic	Std. Error
Tangibles	Mean		2.44	0.06
	95% confidence interval for mean: Lower bound		2.32	
	Upper bound		2.56	
Reliability	Mean		2.90	0.09
	95% confidence interval for mean Lower bound		2.72	
	Upper bound		3.07	
Responsiveness	Mean		4.85	0.07
	95% confidence interval for mean Lower bound		4.71	
	Upper bound		4.99	
Assurance	Mean		4.79	0.10
	95% confidence interval for mean Lower bound		4.60	
	Upper bound		4.97	
Empathy	Mean		5.99	0.08
	95% confidence interval for mean Lower bound		5.84	
	Upper bound		6.14	

Hence, we can note that with 95 percent confidence the tangibles is in higher priority and empathy is in lower priority for the passengers.

### 4.2.2 Challenges of Code Sharing

The pie chart below the proportions of challenges experienced as a result of code sharing based on the data obtained. Some respondents indicated that they had not experienced problems with

code shared flights. Out of the 37 respondents whose data were analysed, 25 indicated that they had experienced challenges with code shared flights, the result of which is presented in the pie chart below. Problems stated by passengers arising from code sharing arrangements were, in the order of highest count to least count are: missing flights due to flight codes , transfer to an airline one does not like, baggage transfer problems, baggage capacity limitations, and payment of higher fares

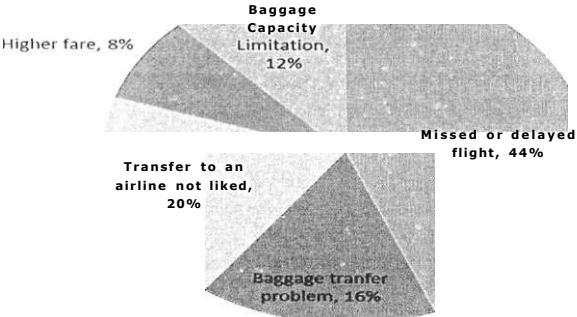


Figure 4.8: Challenges of code shared flights

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary**

In the questionnaire, differences in passengers perception and expectation have been examined in connection with the four airlines under study, including the five dimensions of services defined by GrOnroos with 95 per cent confidence. The five dimensions of service quality have been prioritized according to passengers expectations. All the 32 attributes have been tested to find out satisfaction level of passengers. With these together with responses to questions on challenges of code sharing the research questions have been addressed and answered.

### **5.2 Conclusion**

Based on the results obtained from service quality measurements, airlines need to explore the service expectations and perceptions of customers so as to stay alive in the industry's increasing competition. Knowing accurately what customers want make successful service companies able to give exactly what customers want by customizing the product or service and delight them and to make a core competency to overcome their competitors. The study explored and evaluated customer satisfaction levels in selected airlines. Gronroos (2000) model was used to measure service quality.

It was observed that passengers were not satisfied with the 5 dimensions of Gronroos. Service quality model. But in 3 attributes out of 32, there was satisfaction of passengers. It was not surprising that tangibles (physical facilities, equipment, and appearance of personnel) in

passengers view was the most important aspect and gained the highest mean. The second is feature in order to most important was reliability (ability to perform services dependably and accurately). Basis was on passengers attitude, reliability was placed on third position. "Performing the services right the first time", "providing ground/ inflight services consistently" and "transfer service and efficiency at departure airport"

The third in order to most important features was assurance (knowledge and courtesy, ability to inspire trust and confidence) and in travelers' view, it was in the first place. But still we infer that passengers perceive less than what expect in assurance items. For example, a number of passengers made more complaints about sincerity and patience in resolving passengers' problems. The fourth feature in order to most important features was responsiveness (willingness to help customers and provide prompt service) and in travelers' view, it was in the fourth place. This shows that the airlines have not tried hard to improve their responsiveness as it still seems they require paying attention more to customers' needs. The fifth and the last feature in order to most important features was empathy (caring, individualized attention) and in travelers' view, it was in the fifth place. So management of airlines should change their mind about delivering services to their customers. As expected, warmth and supportiveness in behaving with passengers can create impressive results.

### **5.3 Recommendations**

It can be inclusively inferred that passengers are not satisfied with the perceived services of the code shared flights and it warns managers of these airlines to focus on passenger expectations. They should gather more information about passengers' attitude and prepare plans to improve

the weak points. Based on findings, it is suggested that managers focus on tangibles first. Managers should not withhold visually appealing equipment in planes because passengers usually have to spend long hours in plane while flying. Old and worn out equipment constitute boring equipment and airlines should devote resources to improve their equipment. Airlines should also improve their reliability. They not need to spend more money on this and it can be achieved in a short term plan. For assurance, there is need for airlines to train their employees and evaluate their performance constantly. Employees should be trained frequently and it should also be noted that the behavior of employees is often instrumental in bring about desired outcomes. As earlier stated, responsiveness is the willingness to help customers and provide prompt service. All employees have to do some marketing bearing in mind that customers are the core of organisations. Responsiveness can be achieved in short, medium and long terms and managers should give priority to required actions for achieving effective and immediate outcomes. To improve empathy, managers of airlines should study their target market precisely and recognize customers attributes and their demands; what they really want and how they can be satisfied. Numerous and easy to use ticketing channels and convenient flight scheduling are the first things that passengers expect from airlines, however expanding sales channels require investments.

#### **5.4 Limitations of the Study and Suggestions for Further Research**

This study looked at airline services generally. More focused research in different parts of the airline services e.g. ticketing and catering would be of further interest. The study had several limitations. First, this study has been limited on a few airlines. Further research should be done to examine similar research objectives for other more airlines. Second majority of the customers

examined were Kenyans and they may have been bias attitude towards other three non Kenyan airlines. Third, satisfaction of customers have been measured for only four airlines and it is valid and reliable for only these airlines, it is suggested to study other cases (airlines) which are similar to the ones studied and compare results.

The study adopted Gronroos model to measure service quality for airline industry. It would be of interest to conduct research regarding Gronroos model in different industries. The views were collected only from passengers. It would be further interesting to collect the views of managers of airlines so as as to know some of the challenges they may be facing as a result of code sharing ventures. Mangers of the examined airlines have identified passengers' attitudes and opinions about their provided services and in result they can create modifications and strengthen their weak points to increase satisfaction level among their customers. Also their airlines managers can use these results to measure and compare with their passengers' satisfaction.

## **5.5 Contributions**

The major contributions of this study were:

- ® The examination of consumer expectations and perceptions of service quality in airline setting.
- o The application of the service quality model in the airline setting.
- ® The attributes that customers have satisfaction in it have been determined and also attributes that have less satisfaction for the airlines customers have been shown

® The five Dimensions of Gronroos model have been prioritized in this study and 32 attributes have been derived and found by interview and questionnaire

Customer expectations and perceptions of service quality among the airlines were examined by Gronroos model. The result can be used by airline managers and other airlines managers to create plans for expanding and increasing market share. Also other airlines' managers can use these results to measure and compare with their passengers' satisfaction.



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## APPENDICES

### Appendix 1: Transmittal Letter

#### Transmittal Letter

Dear Respondent,

**RE: CAPACITY SHARING ISSUES AMONG AIRLINES OPERATING IN  
KENYA**

I am a student undertaking an MBA in Operations Management at the University of Nairobi. This research is intended to explore the operations of selected airlines operating in Kenya with a view to establishing information on **"Capacity Sharing and Quality of Service Among Selected Airlines in Kenya."** This is a requirement to complete my MBA course project at the University of Nairobi. The outcome of this study is expected to inform the documentation of airline capacity sharing strategies that will, in future, benefit airline practices necessary for enhanced competitive advantage.

I intend my approach to this survey to be both consultative and ensure that it is not disruptive to your schedule of activities. I kindly request you to provide the required information by responding to the questions in the questionnaire. The information required is purely for academic purposes and will not be mentioned in the research. A copy of this research project will be made available to you upon request. I will appreciate your cooperation in this academic exercise.

Thanking you in advance.

Sincerely yours,

## Appendix 2: Questionnaire

### Questionnaire

This survey requests your views on selected airlines operating in Kenya. There are no wrong or right answers. Please provide answers to the following questions by ticking against the most suitable alternative or giving narrative responses in the spaces provided.

#### A. RESPONDENT'S BACKGROUND INFORMATION

*Please fill in the box next to the right response*

Name (optional)

1. Gender                      Female Q      Male Q

2. Nationality

    Kenyan                      ●

    Other                              Specify

3. Age Range:              18-35 Yrs      ●

                                    36-50 Yrs      ●

                                    Above 50 Yrs      •

4. Number of times you have flown (travelled by air) over the last 2 years

    a. Once                              Q

    b. Twice                              Q

    c. 3 to 5 times                      Q

    d. 5 to 10 times                      •

    e. More than 10 times

5. Reason why you have travelled by air the greatest number of times during the above stated occasions
- a. Business
  - b. Leisure
  - c. Other • Specify
6. Number of times you have flown any of the following airlines operating in Kenya: Kenya Airways, KLM, Precision Air, and RwandAir.
- a) Once ●
  - b) Twice ●
  - c) 3 to 5 times ●
  - d) 5 to 10 times ●
  - e) More than 10 times ●
7. Number of times you have booked any of the above airlines in (6) operating in Kenya and ended up flying in another airline for all or part of the journey:
- a) Once Q
  - b) Twice
  - c) 3 to 5 times Q
  - d) 5 to 10 times •
  - e) More than 10 times Q
8. If yes, please indicate the airline you booked and the one you flew in for whole or part of your journey
- Airline Booked
- 
- Airline flown in-

**B. SERVICE QUALITY EXPECTATIONS**

9. The following set of quality dimension relate to your feelings about the airline you ended up travelling by to the one you booked. For each statement, please rank them to the extent to which you believe the other airline meets your expectations (perception).
- (1) Far below Expectations



(2) Below Expectations

(3) Meet Expectations

(4) Above Expectations

(5) Far above Expectations

		(1)	(2)	(3)	(4)	(5)
1.	Appearance of the inflight facilities (modern and clean)					
2.	Appearance, attitudes, and uniforms of the inflight attendants					
3.	Variety and quality of inflight meals					
4.	Variety and choices of inflight entertainment facilities					
5.	Providing visually appealing equipment					
6.	Efficiency of the check in process					
7.	Transfer service and efficiency at the departure airport					
8.	Remedial procedures for delayed or missing baggage					
9.	On time performance of scheduled flights					
10.	Providing ground/ in-flight services consistently					
11.	Performing the services right the first time					
12.	Capable of response to emergency situations					
13.	Keeping customers informed when services will be performed					
14.	Prompt attention to the passengers' specific needs					
15.	Understanding the specific needs of passengers					
16.	Prompt response of the airline employees to your request or complaint					
17.	Capacity to respond to delayed or cancelled flights					
18.	Sincerity and patience in resolving passengers' problems					
19.	Probability of flight breakdowns					
20.	Safety performance of the airline					
21.	Knowledgeable and skillful provision of services					
22.	Sincere and responsive attitude to passenger complaints					
23.	Employees instill confidence to passengers					

24.	Employees are consistently courteous					
25.	Knowledgeable employees to answer customer questions					
26.	Numerous, easy-to-use ticketing channels					
27.	Convenient flight scheduling					
28.	Spontaneous care and concern for passengers' needs					
29.	Frequent cabin service rounds by in-flight attendants					
30.	Having a sound loyalty program to recognize you as a frequent customer					
31.	Having a sound mileage program					
32.	Having other travel related partners e.g. hotels, car rentals, and travel insurance					

10. Kindly rank the Service Quality dimensions below in order of their importance to you (expectations).

(1) Not Important at all

(2) Not Important

(3) Somewhat Important

(4) Important

(5) Very Important

	(1)	(2)	(3)	(4)	(5)
Assurance: Knowledge and courtesy, ability to inspire trust and confidence					
Reliability: Ability to perform service dependably and accurately					
Empathy: Caring, individualized attention					
Responsiveness: Willingness to help customers and provide prompt service					
Tangibility: physical facilities, equipment and appearance of staff					

**C. CAPACITY SHARING INFORMATION**

11. The following are some of the challenges passengers may experience as a result of booking one airline and travelling on a different airline as a result of code share arrangements. For each of the following questions, give a YES or NO response by ticking the appropriate column. Base your answers on the airlines you indicated in (8)

		YES	NO
a)	Have you ever missed a flight or delayed in checking in due flight code of a connecting flight		
b)	Have you ever experienced a baggage transfer problem as a result of connecting a different flight you had not booked		
c)	Have you ever been transferred to an airline you don't like?		
d)	Have you paid for higher fares as a result of connecting different airlines under code share arrangement?		
e)	Have you experienced limitations to your baggage capacity/ baggage allowance as a result of connecting different airlines under code share arrangement		

12. What other information would you like to provide to help the airline you booked effectively manage its capacity shares?

### **Appendix 3: List of Selected Airlines Under Study**

1. Kenya Airways Limited
2. Precision Air
3. RwandAir
4. KLM

**Appendix 4: Passengers Numbers Travelling on Code Share Arrangements  
for the Period April 2010 to September 2010**

		<b>TO/FROM</b>				
<b>FROM/TO</b>		Kenya Airways	KLM	Precision Air	Rwandair	TOTAL
	Kenya Airways		13456	2004	756	16216
	KLM	8790		X	X	8790
	Precision Air	2890	X		X	2890
	Rwandair	586	X	X		586
	TOTAL	12266	13456	2004	756	
GRAND TOTAL (TO &FROM)		28482	22246	4894	1342	56964

## Appendix 5: Service Dimensions and Measurement

TAN1	Appearance of the inflight facilities (modern and clean)
TAN2	Appearance, attitudes, and uniforms of the inflight attendants
TAN3	Variety and quality of inflight meals
TAN4	Variety and choices of inflight entertainment facilities
TAN5	Providing visually appealing equipment
REL1	Efficiency of the check in process
REL2	Transfer service and efficiency at the departure airport
REL3	Remedial procedures for delayed or missing baggage
REL4	On time performance of scheduled flights
REL5	Providing ground/ in-flight services consistently
REL6	Performing the services right the first time
RES1	Capable of response to emergency situations
RES2	Keeping customers informed when services will be performed
RES3	Prompt attention to the passengers' specific needs
RES4	Understanding the specific needs of passengers
RES5	Prompt response of the airline employees to your request or complaint
RES6	Capacity to respond to delayed or cancelled flights
ASS1	Sincerity and patience in resolving passengers' problems
ASS2	Probability of flight breakdowns
ASS3	Safety performance of the airline
ASS4	Knowledgeable and skillful provision of services
ASS5	Sincere and responsive attitude to passenger complaints
ASS6	Employees instill confidence to passengers
ASS7	Employees are consistently courteous
ASS8	Knowledgeable employees to answer customer questions
EMP1	Numerous, easy-to-use ticketing channels
EMP2	Convenient flight scheduling
EMP3	Spontaneous care and concern for passengers' needs
EMP4	Frequent cabin service rounds by in-flight attendants
EMP5	Having a sound loyalty program to recognize you as a frequent customer
EMP6	Having a sound mileage program
EMP7	Having other travel related partners e.g. hotels, car rentals, and travel insurance