CUSTOMER SATISFACTION WITH AIR SERVICE DELIVERY WITHIN KIRIBATI

BY

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ABSTRACT

Delivering high quality service to passengers is important so that airlines can survive and strengthen their competitiveness. Service quality conditions influence an airline's competitive advantage, and with it come market share, and ultimately profitability (Morash & Ozment, 1994). Since, service quality is an important factor in customer satisfaction; this study is basically conducted in Kiribati so that the level of satisfaction can be described allowing an airline and airport management to fully recognize the deficiencies of their service quality.

This thesis assessed customer satisfaction with air service delivery within Kiribati, including inter-island comparisons. The main research objective of the study was to describe the level of customer satisfaction with the service delivery of both the domestic airline and local airports.

The research method consisted of a survey regarding satisfaction with both airline and airport services. A structured questionnaire was developed using the SKYTRAX questionnaire as benchmark. The questionnaire was personally administered to the target population of domestic air travellers within Kiribati.

A stratified sampling procedure was used for this research. Each stratum represents different levels of air service availability within the Gilbert group because of geographical distance from the capital. An island within each stratum was selected as being most representative of such stratum. A total of 200 questionnaire were distributed, 50 questionnaire per stratum, of which were returned. Therefore, the final research sample consisted of 177 participants.

Results show that, irrespective of islands, customer satisfaction is poor. This indicates that air service quality does not match the expectations of customers. With respect to islands, the study also found that passengers are not satisfied with air service delivery on their respective islands, including both the domestic airline and the local airport. This study also concludes that satisfaction level is significantly different between islands, age groups and gender. Although there are service dimensions which were reported as satisfactory by customers, satisfaction levels were, overall, poor.

In conclusion, this study suggests that policy-makers as well as airline and airport management need to take workable measures to improve upon air service quality. It is important for air service providers to recognize the importance of customer satisfaction; as such satisfaction may be the pillar for business continuation in Kiribati. Air Kiribati as well as airport managers must identify and improve upon factors that could limit or prevent customer defection to alternative transport modes. These factors may include employee performance and professionalism, willingness to solve problems, friendliness, and level of knowledge, communication skills and selling skills, among others.

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CHAPTER ONE

INTRODUCTION

Air Transport plays a vital role in moving people or products from one location to another-domestic or international. Situations may warrant the movement of people or vital parts for industry as quickly as possible from one point to another. This movement of people or goods from the point of origin to their destination is an activity as important as logistics in a military exercise (Doganis, 2006). Even inside a single country, air transport may be the only means recommended if vital regions of the country are separated either by mountainous landscape or ocean.

In the case of Kiribati, air transport is the most efficient mode of transportation due to the territorial characteristics of the islands. The country is scattered over three island groups, the Kiribati (Gilbert) Group, the Phoenix Group and the Line group and stretches some 4,000km. However, this study will focus on air service quality within the Kiribati Group due to the spread of the groups and specifically because domestic air service is only available within this group (Asian Development Bank, 2009).

The domestic air service is carried out by one and only airline, known as Air Kiribati Limited. Air Kiribati is the national airline of the Republic of Kiribati and is a 100% government owned entity. It was established in April 1995 following the collapse of the former national flag carrier, Air Tungaru, which had been serving the Kiribati islands since 1977 (Trease, 1993). As the sole airline in the country, Air Kiribati is operating scheduled domestic flight services to all 16 outer-islands within the country including charters, medical evacuation and search and rescue services (SAR). As noted, medical evacuations and SAR operations are considered a priority and may

affect scheduled flights when the need arises. Air Kiribati has only two fleets, one CASA C-212-200 and one HARBIN Y-12 II.

As a national carrier and the only air transport provider, it is highly important for Air Kiribati to be conscious of other means of transportation, such as sea. Apparently, sea and air transport are based in and originate from the main island or the hub, Tarawa (South Tarawa). In this case, sea transport can be a threat and a competitor to the air transport business, especially when a local airline cannot provide a satisfying service to its customers. Therefore, Air Kiribati needs to maintain its competitiveness not necessarily through the reduction of air ticket prices, but improving service quality to enhance passenger satisfaction level. In order to do that, Air Kiribati needs to understand the importance of satisfying customers with a high quality service.

Chen, (2008) emphasized that regardless of the size of your business and whether it is product-based or service-based, success will depend on a high level of customer satisfaction. As customer satisfaction strategies are proven to enhance the service quality of the business, knowing how to provide passengers with satisfaction is vital for Air Kiribati to increase its competitive advantage. Thus, the most important factor in attracting and retaining customers is service quality as satisfied customers will maintain their loyalty to the company.

Aksoy, Atilgan, and Akinci, (2003), commented that customer satisfaction is one of the most important factors in the airline industry and is considered to be at the heart of business success in today's competitive world. Additionally, they also highlighted that satisfied customers are a positive and valuable asset to the company through positive recommendation of its services to friends, families and other potential customers. Customers have significantly diverse expectations and it is the responsibility of the marketing section of an airline in today's competitive world to maximize customer satisfaction. It is paramount for an airline to understand what passengers need and expect to enable them to provide a desired quality of service (Kossmann, 2006). Therefore, if Air Kiribati as well as the airport authorities can offer a superior quality of service this

will inevitably increase the dependability of air service/transportation in Kiribati leading to positive effects on revenue.

The expectations of customers are diverse and can be influenced by word of mouth, past experience and many more. The best way to accommodate these diverse needs and expectations is to provide the best possible service. For this reason, research and development projects should be more frequently carried out in the context of air service in Kiribati to keep pace with how customers feel towards the service quality offered to them which may in turn contribute towards the enhancement of customer satisfaction (Grigorousdis & Siskos, 2010).

Nonetheless, there are a number of contributing factors that may affect customer' satisfaction with the company's service. Understandably, the service provided can be tangible or intangible. For instance, the service-related equipment, brochures, magazines or even the service operator's uniforms are considered tangible factors which can enhance customer satisfaction with the company's service. The quality of the tangibles is easier to improve since the tangibles are concrete. On the contrary, it is difficult to evaluate the quality of service when taking the intangible factors into account such as personal needs and expectations because they are abstract (Heesawat, 2005).

Therefore, this research is focuses on domestic airports and airline services in Kiribati and the choice of this is particularly based on the importance and contribution of air transportation to the social life of the people and the economy of the country. The study will contribute to the identification of the service inconsistencies offered by the local airline and the airports based on passenger evaluation. It is anticipated that the findings from this study can subsequently help the airport and airline management to develop strategies to remedy the recognized incongruities. This study, on the other hand, is restricted to the area of passenger transportation because it deals directly with the experience of passengers during pre-flight, in-flight and post-flight in the context of aviation in Kiribati.

In Kiribati, domestic air travel has been a monopolistic market for many years carried out by the one and only air service provider, namely Air Kiribati Limited (Kiribati National Statistics Office, 2006). Therefore, this study will determine the level of passenger satisfaction under these circumstances. It is the intention of this study to determine how passengers really feel about the services offered by the domestic airline and local airports. The satisfaction level among passengers will ascertain if the airline is attempting to take advantage of the monopoly if in fact it shows a high dissatisfaction level among its customers. This study may help the airline as well airport management to recognize its performance deficiencies and to find constructive ways of improving its service quality to enhance customer satisfaction and increase marketing advantages.

The sea transport sector is now increasing in the country leading to fierce competition in the sea transportation market resulting in high discounts in fares especially to nearby islands. With low fares, it is inevitable that more people will choose to travel by sea, which would be challenging for Air Kiribati to maintain its customer base and possibly leading to negative effects on revenue (Kiribati National Statistics Office, 2006). Consequently, this study will enable the local airline and airport management to take a close look at areas of service deficiencies and hopefully find permanent solutions to improve the level of customer satisfaction.

Accordingly, the results of this study would improve the understanding of airline and airport management and other practitioners to comprehend the overall picture of their service delivery and also of passenger satisfaction levels. More importantly, the outcome of this study may contribute to the improvement of strategy formulation and resource allocation which could enhance the service quality of air transport within Kiribati. Furthermore, it will assist airline and airport management to better serve their customers and monitor and develop service quality to achieve the highest level of customer satisfaction.

The main limitations of this study are the constraints of resources, access and time. The budget required for a larger sample size and to extend coverage of this research is inadequate. For this reason, it is limiting the capacity of this study to access all the islands with airports in Kiribati or even increasing the number of participants for this study. Additionally, the choice of sampling methods depended entirely on the resources available.

Language is another limitation of this study. The translating of the questionnaire into the Kiribati language was problematic due to the limited vocabulary of the local dialects. Although, the study managed to distribute a local language questionnaire, some questions do not carry exactly the same meaning. This limitation, in particular, accounted for the limiting of the study to literate individuals or participants, notably retired employees, students and industrialized workers.

The study is constrained by time which precludes the addition of more islands to allow for the recruitment of a larger sample. This study does not, therefore, meet the pre-requisites for the reliability of surveys which aim at generalizing findings and making inferences.

1.4 Demarcation points

It is important to understand that airports have other customers beside passengers. For instance, airliners or retailers are recognised as airport customers as well (Air Transport Action Group, 2008). The focus of this thesis is on air travellers within Kiribati airports rather than the airports corporate customers and the collection of empirical data is limited to air travellers only at four identified local airports.

Additionally, this study does not focus on the managerial perspective of service quality rather the study is from a customer perspective to gain information from customers directly rather than through other stakeholders. The chosen viewpoint will enable the author to provide relevant

managerial repercussions that could contribute to the improvement of service quality for air service in Kiribati.

1.5 *Structure of Thesis*

This thesis is organised into ten chapters. Chapter one is an introductory chapter that covers the background of the study, significance of the study, limitation of the study, demarcation points and the structure of the thesis.

Chapter two is a review of relevant literature. It covers air transportation and its role, state of air transportation in Kiribati, concepts and theoretical framework; customers, customer satisfaction, significance of customer satisfaction, service and service quality; significance of service quality and the objectives of the study.

Chapter three outlines the process. It identifies the hypotheses and explains in detail the main constructs and concepts as well as their indicators and measurement in this study.

Chapter four is the methodology section focusing on the following;

- ➢ Research strategy
- ➢ Data collection
- ➢ Population
- ➢ Sampling size
- ➢ Sampling technique
- ➢ Research instruments
- ➢ Model development
- ➢ Procedure
- ➢ Ethical considerations
- ➢ Data analysis

Chapter five is a description of the samples. It describes the demographic information by distributing the samples according to specific demographic information such as; gender, age, travelling purposes, and employment status.

Chapter six is a pre-analysis of data focusing on the following;

- ➤ Clean-up of data set

- ➤ Data reduction

- ➤ Identification of new dimensions

- ➤ Correlation analysis

- ➤ Normality test

Chapter seven is a presentation of data and the analysis of results and findings for airline service dimensions and Chapter eight is a presentation of data and the analysis of results and findings for airport service. Chapter nine is the discussion of the results and findings. Chapter ten comprises the conclusion, the implications of the study and recommendations for further study.

CHAPTER 2

LITERATURE REVIEW

2.1 Development of Air Transportation

2.1.1 Brief Definition and Historical Perspective

"Air Transportation refers to a facility consisting of the means and equipment necessary for the movement of passengers or goods" (Farlex, 2011).

During the ratification of the Chicago Convention in December 1944, a prediction on the future development of International Civil Aviation was highlighted. It put forward the view that the aviation industry can greatly contribute to the stabilizing of relationships and understanding among nations and people globally. After 60 years this vision is now patently evident with air transport being accepted as a crucial part of society globally, as necessary to our daily lives as medicine and telecommunications, and essential for growth and economic affluence (Holloway, 2002). With the growing availability of affordable air travel it has allowed the expansion of aviation's role in sustaining social progression throughout remote communities as well as internationally. Air travel is now no longer regarded as a luxury commodity but rather a contributor to social and economic benefits. Air transport has given societies the opportunity to develop their economies by enhancing their capability for trade and tourism which in turn contributes to the creation of substantial benefits.

Air Transport is considered a vital global industry due to its fast and efficient development and technical achievements which make it one of the most important providers in the progress of modern civilization. Since 1949 with the arrival of the first jet airliner, commercial aviation has grown more than seventy-fold. The rapid growth in aviation commercialization cannot be matched

with any other means of transport; hence its growth has become a major contributor towards economic progress (Dale, 2009).

Furthermore, a high demand in air services has contributed to the increased influence of air transport on the global economy, creating the possibility of transferring millions of people and billions of dollars within an instant between destinations for global marketing (Holloway, 2002). This phenomenal growth in the importance of air transportation has increased considerably and reached the Pacific islands allowing them to capitalise on the importance of owning and operating commercial air services.

2.1.2 Players and Role of Air Transportation

Air transportation providers in supplying services do not function in isolation but in an environment that involves meaningful connection and interaction between several players in numerous activities with diverse resources (Dale, 2009). Some of the players in the air transport industry providing services to their customers at various locations include - airline operators, airline agencies for booking or reservations, airport personnel, management and technical personnel for maintenance and operation, and other players involved in the delivery of the required service to customers. The air transportation industry therefore needs to work with several players to fulfil its purpose along its value chain in delivering the necessary and required service to satisfy its customers (Air Transport Action Group, 2008).

Air transportation plays a fundamental role in our lives because it has allowed the transporting of vast numbers of people around the world to attend business conventions, holidays, vacations around the globe, or travel to other important events (Wensveen, 2007). Additionally, air transportation has made the shipping and delivering of goods/products easier and faster over long distances enabling consumers to receive their supplies within a short period of time. Air transportation delivery has never been easier and more convenient for people as well as cargo

without access to reliable and efficient air transport. Production companies would have great difficulty in taking advantage of competitive markets. As a result, air transportation has become an important part of any nation's economic and social environment.

2.1.3 Economic Benefits of Air Transport

The air transport industry plays a vital role in the work and leisure of millions of people. It promotes an improved quality of life and helps to improve living standards (Sheehan, 2003). Even though air transport has contributed to the enhancement of tourism, it has also contributed towards substantial economic growth for many economies. The above factors are made possible through the production of employment opportunities, escalating income from tax collection and nurturing the enhancement of secluded communities (Doganis, 2006).

The most important contribution the air transport industry has made in any given country and the global economy is its impact on the performance of other businesses as a means of growth. Its impact and efficacy on the improvement of other businesses across the whole continuum of economic activity can be best seen through the following benefits (Air Transport Action Group, 2008);

- ➢ **As a catalyst of world trade**: with the presence of air transport, countries have managed to participate in the global market through increased access to markets enabling the globalization of manufacturing. It also assists countries to concentrate on activities in which they have equal advantage and to trade with countries manufacturing other goods and services.

- ➢ **Air transport's significance for tourism:** specifically for remote communities, tourism is found to be a great supporter of airlines and airport employment.

- ➤ **Air transport's contributions towards global productivity:** an efficient and effective transport link will lead to the expansion of the markets in which companies operate, enabling them to exploit economies of scale thereby reducing costs and at the same time specializing in areas of comparative advantage. In this case, air service will allow the opening up of new markets exposing companies to stiffer competition and motivating them to become more efficient.

- ➤ **Its efficacy and efficiency towards the supply chain:** with the presence of air transportation companies can manage their deliveries more efficiently.

- ➤ **As an enabler of investment regionally and globally:** it is believed that with convenient air transport links investors are able to make convenient global choices.

- ➤ **As a stimulus for innovation:** with effective networking and collaborating between companies located in different parts of the world. A well-established transport infrastructure can also encourage greater spending on research and development by companies resulting in the increase of the size of potential markets allowing the fixed costs of innovation to extend over larger sales.

- ➤ **Providing consumer welfare benefits:** in relation to an increase in travel networks and for local airport communities, environmental factors are considered vital, such as air quality, noise and congestion in the vicinity of airports.

2.1.4 Social benefits of air transport

The impact of the air transport industry is not just the consequence of the economic activity it generates but it also provides a better quality of life to people in numerous ways that are not captured in economic index numbers (Dale, 2009). For instance; it is contributing to sustainable development, supporting remote communities and widening consumer choice. It is widely believed that air transport makes a major contribution to sustainable development by supporting

and promoting international tourism. Economic growth through tourism contributes to alleviating poverty by providing more job opportunities. These job opportunities include but are not limited to the following; an increase in tax revenue, providing tour guide services and fostering the development and conservation of protected areas as well as the environment (Kane, 2008). Additionally, as in the case of Kiribati, air transport provides an entrance to isolated communities where other transport modes are limited, thus opening them up to contact with other communities, and providing a means for the delivery of essential supplies and other services. Many essential services such as hospitals, education, mail services and many more would not be possible for people in Kiribati, given the vast distances between islands, or remote locations without the presence of air services.

Air services are believed to be the only suitable means of transport in reaching countries and communities facing natural disasters. Air transport can assist in the provision of humanitarian support through cargo deliveries, refugee transfers or the evacuation of people trapped by natural disasters (Air Transport Action Group, 2008). Moreover, airports and air transportation may be essential in circumstances where contact is a problem.

In times of natural disasters entire communities, some in isolated areas, need urgent assistance which can only be possible through the availability of airports and air transportation In certain circumstances when the airports are damaged, 'air drops' are among the first response of aid agencies to stem a humanitarian crisis. This underlies the important role of air transportation in the fast delivery of medical supplies (Wensveen, 2007).

The accessibility of air transportation also supports the growth of the tourism industry around the world allowing tourists to travel internationally to the most remote parts of the world (Graham, Papatheodorou, & Forsyth, 2008). As a result it provides substantial consumer welfare and social benefits to communities interacting with tourists. It is believed that tourism has contributed to an increase in the understanding of different cultures and nationalities which facilitates closer

international integration. Additionally, it improves living standards by widening choice through opening up cheaper access to air travel. It also increases the range of potential holiday destinations and helps to widen the range of leisure and cultural activities available in many countries. An efficient and effective air transport system offers convenience to countries in accessing global markets and supports the accessibility of remote communities promoting social inclusion (Kane, 2008). The accessibility of air services can be a critical factor in the enhancement of the quality of life where isolated communities are concerned.

Without air services reaching these islands, especially in the case of Kiribati since the islands are scattered over a large expanse of water, their participation in the modern world would be difficult and would unduly affect their quality of life. More importantly, in remote regions, air services fulfil an essential social function, connecting communities to essential services (Holloway, 2008), such as hospitals, further education and better governance. Therefore, with the availability of air transportation, communities have the chance to engage in many other programmes that would support social activities. Such programmes comprise initiatives in education and training, as well as local cultural and sporting events. This involvement allows these distant communities to stay connected. However, it is important to note that without airports remote islands will never be accessible by air transport making it relevant in this thesis to include a discussion on the significance of airports and their implications where air transportation is concerned.

2.2 Importance of Airports to Air Transportation

An airport is a gateway to any destination, be it a city or a remote island. With the existence of an airport, it makes the visit easy and convenient for business and leisure in that island or city. A city or an island without an airport would not be accessible and would remain isolated (Doganis, 2001). Recently the importance of airports has been recognized globally as an important infrastructure of air transportation, more importantly renowned as the first and last impression of a

particular city. It enables the connection of different people with varying levels of expertise in many different areas, which can be shared and enhanced among them. Airports are, therefore, essential to the growth and functioning of air transport services.

2.2.1 Implications of Airports

It is normal to view airports as an economic asset to the community they serve, in the sense that they offer employment to local residents and contribute to the growth of business opportunities for entities engaged in aviation oriented activities (Doganis) such as maintenance and repair of aircraft, fuel sales, flight training, and air charter services. Nevertheless, these have considerable impacts on the social life of communities both positively and negatively, particularly those having access to air service and living in close proximity to airports (Holloway). It should be noted that a community's airport allows the community to access other national air transportation system, by supporting personal and business travel. Additionally, an airport serves the community by providing a convenient location to receive and send shipments of goods.

Apart from the fact that airports are major contributors to the economy, they also offer many non-economic benefits, such as emergency transportation access for medical and emergency response personnel and equipment, pilot training, and the community's access to better services that guarantee an improvement in their quality of life. The social impact goes far beyond the direct effect of an airports operation on its neighbours to the wider benefits that air service accessibility brings to regional business interests and to consumers (Holloway, 2008). Airports provide an essential infrastructure to support air transport, which allows the growth of the community as well as being commercial entities in their own right, capable of generating returns on investment to the benefit of their shareholders, other stakeholders and to society as a whole.

Airports are regarded as an interesting target for service quality studies and within them a vast number of customers use a diverse supply of varying services. Freathy and O'Connell (2000) note that airports have largely been in the realm of government entities. The above claim is reflected in the Kiribati scenario where airports are owned and regulated by the government. Consequently, development at airports has been slow due to low levels of competition within its services   Additionally in Kiribati, airports have traditionally operated at a low service levels comprising travel formalities such as security checking, checking-in processes and other associated services to transferring of people from one destination to another. As a result there have been few studies of service quality expectations within Kiribati airports. Additionally, the effortless airport setting may also be another contributing factor. The airport has few additional services and in most cases do not meet customer expectations. Recently, in most countries, airports have introduced commercial activities as a way of bringing extra income to their business. In lieu of that, airports have become highly commercialized destinations where more and more income is generated in retailing and other service operations (Bitner M. , 1992).

It is important to understand that the consumers of airport facilities and services consist of diverse groups such as passengers, airline employees, concessionaires, tenants, visitors or local residents. This is what prompts this study to include a passenger evaluation on the airport to assess their satisfaction level on the present activities offered at their designated airports. Due to the diverse range of customers gathered in one setting, it is the responsibility of the airport to understand its passengers' expectations and be able to provide the most appropriate and adequate services that will meet their needs. In some countries airports are encouraged to expand their production activities (Fodness & Murray, 2007; Freathy & O"Connell, 2000) to attract higher profits without an in-depth study of customer expectations. As discussed in World Airport

Week, cited by Fodness and Murray (2007), air travellers were found to spend less time in the airport between half to one hour at the maximum and do not have time to use commercial activities available at the airport. In this case, it is not really clear how airports should be designed or operated to meet these diverse expectations. Therefore, either commercialized airports or traditional ones could not really convey a clear picture of how airports should be operated as passengers hold different expectations. This needs to be studied further to get a better view on the quality of the service at airports in regard to diverse customer expectations.

Furthermore, Fodness and Murray (2007) argued that regardless of the traveller or the purpose of the trip, customers are at the airport only to transfer from ground to air, or transit from one airline to another. Accordingly, an airport is regarded as a transition point rather than a destination. Similarly, Freathy and O'Connell (2000) conclude that going to an airport is primarily about catching a flight. This perspective would provide a better background for decision makers and authorities to see passengers' expectations from a transit point. Contrastingly, Graham, Papatheodorou, & Forsyth, 2008 scrutiny considers airports as service facilities and regards them as not only a transit point but also a destination. It is becoming apparent that Graham et al., standpoint provides a completely new perceptive of what passengers or any customer expects from an airport being a destination. Undoubtedly, this tactical look can be found in the new generation of leading airports that distinguish themselves by being both a transfer point and a provider of service quality.

However, in the context of Kiribati, airports are commonly treated as transit points where none or very few commercial activities are found at local airports. It is the approach of regulators that regard airports as a place of catching a flight only which limits further development in allowing the expansion of commercial activities. It is therefore anticipated that this study may shed some light into what customers really feel about the services currently offered at Kiribati airports which in turn could be used to improve the quality of services to meet the customer's needs.

Since the study took place in the context of Kiribati, it was necessary to have a sound knowledge of important facts about air transportation in the country as well as brief history of the service provided.

2.3.1 Air Transportation in Kiribati

Within the Pacific region air transportation is a crucial requirement as a public utility in spite of the country's size and economic status (Cole, 1998; Doganis, 2001; Kane M. R., 2008; Graham, Papatheodorou, & Forsyth, 2008). However, the cost of running an airline is high in the scarcely populated and remote Pacific Island communities, which makes Government support vital in sustaining these national airlines to make their operation viable. Kiribati is a classic example of this scenario, where airline management strategies, operational practices and customer satisfaction on air transportation need to be addressed.

If Air Kiribati were to implement the world's best practices in customer satisfaction, it would give a better chance of continual viability and further contribute towards economic sustainability in the future; delivering increased social and economic benefits to all its stakeholders and the country as a whole (Holloway, 2008). Findings published in literature indicate that companies characterizing service excellence managed to satisfy their customers and this contributes towards their survival in the market (Parasuraman A. , 2000). Therefore, any service organization, such as Air Kiribati, needs to provide a quality service to its customers to satisfy them and to remain competitive in the market.

The Republic of Kiribati is one of the most remote and geographically dispersed countries in the world. It consists of 33 low lying atoll islands in three main island groups, namely the Gilbert, Line and Phoenix groups, scattered over 811 square km of the central and western Pacific (Trease,

1993). Due to vast distances between the islands, Kiribati faces many challenges in developing and maintaining sustainable internal, regional and international transport and communication linkages, all of which are crucial to the economic development and social well-being of its people. For those reasons, the provision of air transportation would reduce the travelling time between islands which usually take three weeks by boat. The vast distances between the three groups of islands in Kiribati is challenging for a domestic airline in providing air services to all of them. Infrastructure inefficiencies along with limited competition are making market access difficult and expensive for Air Kiribati.

Kiribati has the smallest region for air services in the world, reflecting its low income and lack of air transport infrastructure and therefore domestic air services can only be available in one group known as the Gilbert group, where the capital of the country is located and is the centre of administrative functions with the majority of the population residing on it (Trease). The provision of air transportation within this group has allowed access to remote areas or communities where other transport modes are limited, therefore opening up opportunities and contact with other communities as well as providing a means of delivery of vital supplies. Crucial essential services, such as education, hospitals, mail, telecommunications and many more would not be possible or available for people in these remote areas if air transportation was not provided.

2.3.2 Brief Historical Overview of air service in Kiribati

Ever-since the establishment of an air service in 1977, the air transport industry in Kiribati was monopolized by a government controlled airline, Air Tungaru, which collapsed in 1995, (AirKiribatiLtd, 2002),and was replaced by another national carrier, Air Kiribati. With this latter operator, the monopoly continued until January, 2009, when a privately owned airline, Coralsun Airways, came into existence. The inception of this new airline introduced an affordable airfare and reliable service within the country. Both airlines served commercial flights domestically linking

all islands in the Gilbert group, Republic of Kiribati, with their base as Bonriki International Airport. The Line and Phoenix groups are too far for direct flights from the main island of Tarawa.

Unfortunately, Coralsun Airways did not survive due to excessive operational costs. This airline only managed to survive the competition for less than a year. The high cost of fuel including along with other related operational costs made it difficult for this airline to generate sufficient income for its survival, especially in the case of Kiribati where the demand for air services is low. The fierce competition between the two airlines had put Coralsun Airways out of service leaving Air Kiribati to enjoy a monopoly of the air transport industry once again.

2.3.3 Important facts about air service in Kiribati

Presently, the domestic air service is provided by Air Kiribati flying between the outer-island airports of the Gilbert group: (Makin, Butaritari, Marakei, Abaiang, Maiana, Kuria, Aranuka, Abemama, Nonouti, TabNorth, TabSouth, Beru, Nikunau, Onotoa, Tamana and Arorae) and the Capital island, South Tarawa.
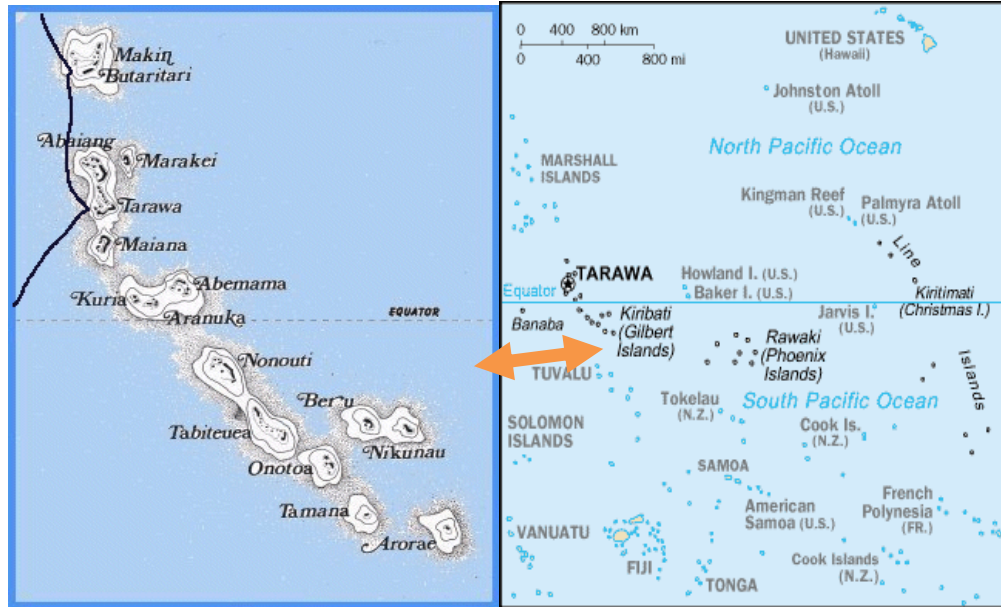
Figure 2.1(a) Map of islands within
Gilbert Group.

Figure 2.1(b) Map showing all three groups
of islands within Kiribati

Source:(infoplease.com,2011)

Figure 2.1(a) represents a list of islands within the Gilbert group where the air service is available at the time of this study. Figure2.1 (b) shows a list of islands of three groups of islands, Gilbert, Phoenix and the Line within the Republic of Kiribati.

The provision of an air service in the country is crucial due to the diverse separation of islands within the Republic of Kiribati. However, at the time of this study an air service is only available in the Gilbert group of islands. It is not viable for the local airline to offer an air service throughout the country, to all three island groups, due to lack of air service infrastructure support along with the fact that the distances are too great.

Ever since the inception of Air Kiribati in 1995, it had been financially supported by the government making it a 100% government entity. However, the government's financial support was terminated in 2009 and the company was given freedom to decide on its fares and management of its operation without further interference from the government. This sudden financial cut off has forced the airline to find ways of reducing its operational costs. With the

establishment of new management for the airline, a restructure of the company took place. The reshuffle of the company has led to the redundancy of half its permanent employees, which was devastating to those concerned, however the company was left with limited choices and after careful consideration redundancy was found to be the best resolution towards its high operational costs.

Although the company has managed to cut costs on staffing, maintenance costs are another financial issue because of the age of the fleet. Regular and consistent maintenance programmes need to be adopted. Air Kiribati operates only two aircraft, one Harbin Y-12 of Chinese origin and one CASA C212-200 a Spanish manufactured aircraft acquired in the 1990s. Due to lack of financial capacity, the airline finds it difficult to acquire newer fleets which would in turn contribute towards the reduction of its maintenance costs. As a result, maintenance costs remain a problem for the airline causing frequent operational disruption and in turn causing dissatisfaction among its customers.

2.3.4 Regulatory Bodies in Air Kiribati

The main regulatory bodies are the Directorate of Civil Aviation under the Ministry of Communications, Transport and Tourism, as well as the Board of Directors consisting of Chairman, Vice Chairman and other official members. The main objective of the Directorate of Civil Aviation Office (DCA) is to take measures to ensure safety standards are strictly adhered to by the operator during operation in line with International Civil Aviation Organization's regulations and Civil Aviation Act of Kiribati 2004. It is the responsibility of the DCA office to carry out routine checks on such regulations and standards to ensure the operator's compliance.

Nonetheless, the Board of Directors is the steering wheel of the company in such a way that it has to make sure that all employees are working in accordance with the rules and regulations of

the laid down by the company. It is also the responsibility of the Directors to monitor the progress and the performance of the company from time to time and to keep track of its revenue performance. Since the government has given full freedom to the airline to decide on its operation without interruption, it is imperative that the company earn a substantial profit to meet its operational costs to allow continuous operation, because the Government will not further subsidize its excessive operational costs. More importantly, this one and only air service provider in Kiribati needs to realize the importance of service as air transport is necessary to enable the full participation of remote communities in terms of national development. Once again a full understanding of the theory and abstract structure of customer satisfaction will facilitate the company to boost its market potential within the transportation industry in Kiribati.

2.4 Concepts and Theoretical Framework of Customer Satisfaction

2.4.1 Defining Customer

The term 'customer' is used to explain the end-users of a product or a service. According to one explanation, customer is a generic term referring to a person or business that purchases a product or service from one company or another person (Dictionary, 2011).

The term is commonly used to refer to the end user of a product or organization. Generally there are primary customers where an organization's work is primarily focused. For instance in this study customers of concern or primary customers are those who have experience in the services offered by a domestic airline in Kiribati, Air Kiribati Limited, and definitely have experience with the services offered by their home-based airports .

2.4.2 Who are the customers?

There are several categories of customers, such as internal and external. Internal customers refer to staff or employers within the company whereas external customers refer to stakeholders of the organization. But it should be noted that for any organization there are primary customers at which an organization's work is primarily designed to help. For instance in this study customers of concern or primary customers are those who have experience in the services offered by a domestic airline (air travellers) in Kiribati, Air Kiribati Limited, and have some experience with the services offered by local airports and have access to them.

For the purpose of improving customer satisfaction it is important for an organization to initially identify its primary customers. However, customers are similarly important to an extent that these groups may have considerable influence within the air travellers' domain. In order to obtain their cooperation, it is the responsibility of the management to understand that they too will benefit and this may require special incentives (Kossmann, 2006).

2.4.3 The Importance of the Customer

Customers are the key components of an organization since they are considered the resource upon which the success of an organization depends. The importance of customers is best reflected in the following points (Paul, 2005);

➢ Without customers an organization would not exist

➢ Organizations are dependent upon customers, therefore it is crucial for an organization to develop customer satisfaction and loyalty otherwise they will lose their customers and become unprofitable.

- The primary objective of an organization's existence is to fulfil the needs of their customers to remain loyal to ensure they keep buying from them or continue using the services offered

- Repeat business is the backbone of any business allowing the provision of revenue and therefore certainty for the company

- Customers enable the business to achieve its objectives

2.4.4 Concept of Customer Satisfaction

With ever-increasing competition for market dominance, customer satisfaction has received great attention and interest among scholars and practitioners because of its contribution towards the enhancement of business strategies and goals for all business activities in today's competitive market (Bearden & Teel, 1983). For the purpose of this study, it is important to comprehend this term in detail as conceptualized in this study.

- Oliver (1997) described customer satisfaction as the consumer's response to the overall product or service experience

- Bitner and Hubbert (1994) comprehended customer satisfaction as the culmination of the observed and the desire

- Westbrook and Reilly (1983) viewed customer satisfaction as an attitudinal judgement following a purchase or a series of consumer product interaction

- Customer satisfaction is a psychological concept that engages the emotion or welfare and delight as the consequence of what is achieved or anticipated from a product and/or service (Churchill & Suprenant, 1982)

- Customer satisfaction is an experience-based assessment made by the customer of how far his own expectations about the individual characteristics or the overall

functionality of the service obtained from the provider have been met (Parker & Mathews, 2001)

➢ Customer satisfaction is a person's feeling of pleasure or disappointment resulting from comparing a product's performance in relation to his or her expectations (Kotler, Bloom, & Hayes, 2002)

Satisfaction is a complex concept in itself which makes it difficult to describe and quantify. As described by Oliver (1997), satisfaction is a complex concept making it challenging to come up with a common definition. However, studies on the topic of "customer satisfaction", as critically reviewed by marketers as well as scholars and practitioners have expressed several relevant dimensions of the concept.

➢ **Satisfaction as a multi-dimensional concept:** customer satisfaction is a multifaceted concept relating to diverse magnitudes of numerous involvements with a product/service provider. In most studies, the definition of customer satisfaction relates to the quality of a service or a product offering (Brady & Cronin, 2001; Brysland & Curry, 2001; Kotler & Keller, 2006); however Garland and Westbrook (1989) associate the meaning of customer satisfaction with other non-quality dimensions. These involve an on-going business relationship or with price-performance, satisfaction with the time or service delivery or the service experience, service context and overall satisfaction of an organization's performance (Gronroos, 2000; Edvardsson, Roos, & Gustafsson, 2005). With a product or service there can be numerous dimensions, for example; what the product offers, product or service reliability, timeliness, and friendliness of the organization providing a service and so on. In relation to the purpose of what a customer wants to achieve, one can relate satisfaction to any item of interest. For instance in this study customer satisfaction is defined in relation to any dimension

connected to the quality of the service delivered by a local airline and local airports in Kiribati.

➢ **Satisfaction with item-specific and overall performance:** satisfaction is related to a specific aspect of a product or a service (Cronin & Taylor, 1992). For instance in an airline company, satisfaction can be related to the following specific attributes such as the checking-in process, boarding call, cabin crew performance, or on-board services. Customer satisfaction can also be related to the overall performance of a product/service or overall performance of an organization's product or service. Considering satisfaction as an attribute specific or overall performance depends on what one is interested in, if the interest is more of achieving market value, then attribute-specific would provide more useful insights to practitioners to an extent that a specific dimension of a service meets customer expectations or desires. In contrast, if the interest is to accomplish academic value, then the measure has to focus on the provision of useful information to academics and other stakeholders for the purpose of generalizations which may result in further research. However, the purpose of this study is to determine the satisfaction level of air travellers in relation to the overall performance of a local air service provider as well as service deliveries in local airports in Kiribati.

➢ **Levels of Satisfaction:** Satisfaction can be characterized on different levels as per a customer's evaluation. For instance, some customers may express a negative feeling towards a service or a product while others may express a positive feeling towards it. Different customers evaluate a product or a service differently making them either highly satisfied (positive feeling) while others may feel highly dissatisfied (negative feeling). Kossman, (2006), defined customer satisfaction as preventing complaints from customers by trying to meet or exceed their

expectations. Nevertheless, the lack of complaints does not mean that customers are fully satisfied with the service or product provided but rather agree with what they receive based on intrinsic merit. Therefore, in this study satisfaction is defined in both negative and positive terms.

2.4.5 Significance of Customer Satisfaction and its Measurement

Many firms have utilized the customer satisfaction measurement as a means of improving business intelligence, better decision making, enhanced customer relations, and an improved quality of service and product offerings (Grigorousdis & Siskos, 2010). Customer satisfaction measurement is paramount in any type of business organizations. The measurement of customer satisfaction is also contained in the main principles of continuous improvement of contemporary innovation (Doole & Lowe, 2008). In fact, measurement is part of the five main functions of management science in relation to the understanding, analysis and the improvement of contemporary innovation. According to one philosophy, if you cannot measure something, you cannot understand it. Actually, customer satisfaction needs to be measured and translated into a number of quantifiable parameters (Grigorousdis & Siskos, 2010), which helps an organization to better understand its customers and be in a better position to offer a superior quality of service.

Recently, many researchers have commented on an increase of the significance of customer satisfaction among other theories, which lead to the knowledge that customer satisfaction dimensions are the most reliable feedback for the enhancement of a firm's performance to raise satisfaction levels among customers. Customer satisfaction is the most dependable feedback, taking into account the fact that it provides an effective, direct, meaningful and impartial approach to customers' preferences and expectations. In this way, it supports the perspective that customer satisfaction is considered as the standard of performance and a standard of excellence for any business organization (Kossmann, 2006).

Additionally, in Smith (2007), customer satisfaction is the measurement of how well the company's products or services meet or exceed customer expectations. It is stated that the Customer satisfaction measurements are the overall psychological evaluation that is based on the customer's lifespan of merchandise. Measurements of customer satisfaction is a strong forecaster of customer retention, loyalty and repeat purchase and is therefore critical to any product or service a company can provide. The quantification of satisfaction involves three psychological elements for assessment of the product or service experience: cognitive (thinking/evaluation), affective (emotional-feeling/like-dislike) and behaviour (current/future actions).

Such validation is associated with Oliver's (1993) analysis that consumer satisfaction was first viewed as the consumer's accomplishment response. Conversely, Oliver further interprets that satisfaction also involves situations that are not restricted to simple profligacy and can also be considered as a process as well as an outcome. In recent studies Oliver empirically presents a validated model of customer satisfaction which clearly explains the specified interpretation. With that authenticated model of customer satisfaction, it was revealed that determinants of satisfaction are subject to both positive and negative affective (emotional) responses and cognitive disconformities (Vavra, 1997; Brady & Cronin, 2001).

> Customer Satisfaction needs to be clearly defined and endorsed as a process or an outcome and the issue has led to substantial debate in customer satisfaction literature. Comprehensive studies conducted by Parasuraman et al (1988) and in Oliver (1980) mentioned that satisfaction is conceptualized as a process and was held up to classical scrutiny by most scholars at that time. In this conceptualization, it is assumed that customer satisfaction is a result of satisfaction from the process of comparing perceived performance and expectations or desires (Khalifa & Liu, 2002). This perception has been grounded

by the expectancy disconformity theory suggested by Oliver (1980), where "customer is satisfied if the performance of a product/service is equal to his/her expectations regarded as positive disconformity and he/she is dissatisfied if the product/service performance is perceived to be below his/her expectation regarded as negative disconformity." Therefore, recommending satisfaction as a process, satisfaction is not engrossed in this case but rather the qualifications to satisfaction, which occur primarily during the service delivery process (Grigorousdis & Siskos, 2010).

On the contrary most recent studies regard satisfaction as an outcome or a consequence during the course of consumption of a service; it is regarded as a post-purchase experience (Groonroos, 1984; Leonard & Sasser, 1982). This interpretation has its origins in motivation concepts that hypothesize that people are compelled by the desire to satisfy their needs, (Hensel, 1990), or their behaviour is driven by the need to achieve relevant goals. In this way satisfaction is viewed as a goal to be achieved and can be described as consumer contentment response (Groonroos, 1984). In the context of this study, customer satisfaction is defined as a process due to the fact that air travellers' evaluations are concerned with the actual experience of the air service delivery process and not just an outcome that customers strive to achieve.

➢ Customer satisfaction as a cognitive and affective response is another debatable issue in customer satisfaction literature; hence a clear definition needs to be reached as to whether customer satisfaction is a cognitive response or an effective response. Although satisfaction has been widely conceptualized as a process by many scholars its nature remains unclear. While some authors maintain satisfaction as a cognitive response which encompasses an evaluation

of product/service offerings from a provider against expectations, others believe satisfaction as an emotional or affective state of mind that is formed through the progress of service delivery at which customers encounter service experiences that affect their emotions. Nevertheless, the following authors; Oliver, 1993; Gronroos, 2001; Wong, 2004; Edvardsson et al, 2005; Pakdil and Aydin, 2007; and Park, 2007, believe that satisfaction is both cognitive and affective. This belief depicts that customers do not only consume an offering which they cognitively appraise, but their participation in the service production and delivery process allows them to emotionally assess the service quality. Consequently, this study conceptualizes customer satisfaction as cognitive and affective since we believe customers express their satisfaction with the service quality cognitively and emotionally.

2.4.6 Customer satisfaction in air service within Kiribati

The state of satisfaction in the quality of air service delivery is not clear as there has not been any empirical study previously carried out on the issue. According to a discussion paper on Kiribati Social and Economic Report (Asian Development Bank, 2009), the author emphasized that domestic air services are far from reaching a satisfactory standard in its service offering due to the lack of air support infrastructure. However, according to the (Kiribati Government, 2008) it is mentioned that the goals set by the government in regard to air transportation have only partly been met – especially in respect to the development in rural areas – and the quality of air service is still low and has in fact deteriorated in other areas. There is therefore a widespread dissatisfaction with the general air transport development in Kiribati among travellers or users as well as policy makers and administrators.

In order to measure the factors that drive customer satisfaction they need to be examined. According to the work of many scholars and practitioners, it has been found that customer satisfaction is determined by the experiences a customer has on the quality of a service (Swan & Combs, 1976; Westbrook & Reilly, 1983; Parasuraman et al., 1988; Oliver, 1993; Sultan & Simpson, 2000; Gronroos, 2000; Parker & Mathews, 2001; Kotler & Keller, 2006). In general, it is accepted by academicians that service quality primarily relates to the perception of the product/service by customers. A number of empirical studies have shown that customer satisfaction is not driven by cognitive dimensions of customer perception of service quality but also by affective dimensions which have an impact on post-purchase behaviour as well as expectation.

Swan and Combs (1976) were among the first to argue that satisfaction is associated with performance that fulfils expectations, while dissatisfaction occurs when performance falls below expectations. In addition, Bitner and Hubbert (1994) view satisfaction as a discrepancy between the observed and the desired and this is consistent with value-precept disparity theory (Westbrook & Reilly, 1983) which was developed in response to the problem that consumers could be satisfied by aspects for which expectations never existed. The value directive theory views satisfaction as an emotional response triggered by a cognitive evaluative process (Parker & Mathews, 2001).

One important customer satisfaction study conducted by Sultan and Simpson (2000) was based on examining the customers' perceptions and expectations. In this study nationality was used to determine its influence on consumer's perceptions and expectations. Therefore, expectations and perceptions are also considered determinants of customer satisfaction. The study was carried out on United States and European airline customers with an objective of investigating nationality

influences on customer satisfaction. Additionally, the study also determined that some aspects can be generalized for all nationalities. Later, a comparable study was carried out by Lu and Ling (2008), dealing with cross-cultural influences on service quality attributes and customer satisfaction. From their study, the findings were applied to compare Chinese and Taiwanese customers.

The above study is related to this research with its main objective being to evaluate the satisfaction level of air travellers in Kiribati. With participants from four different islands, the survey was investigating the difference in satisfaction levels among travellers from different islands and to determine if some characteristics can be generalized to the air travelling population within Kiribati.

2.4.8 Customer Satisfaction and Behaviour Intentions

Customer satisfaction impacts the behaviour of customers in terms of perception and expectation of the service or product offered by a company. It is believed that customer satisfaction will lead to customer loyalty and retention which in turn drives profitability and success of the company (Kossmann, 2006). In many studies, customer satisfaction is positively correlated with customer re-purchase, likelihood to recommend, positive word of mouth, customer loyalty and retention. On some levels customer satisfaction can be negatively correlated with consumer complaints and switching intentions (Bearden & Teel, 1983). For this reason, it would be misleading for a company to assess or use customer loyalty trends to conclude that customers of an organization are satisfied without a proper study carried out on the behaviour or intention of a customer.

It is important to note that customer loyalty and retention are not always attributable to customer satisfaction. This is due to the fact that customers may not be satisfied with the service/ products but may find it difficult to leave because of the circumstances he/she is facing. This is mostly common in services context. For instance as in the case of air service provider in Kiribati,

customers or air travellers do not have a choice apart from the current airline as there are no others available in the country. Such customers may find the service unsatisfying but are forced to remain as customers because they do not have a choice. This could be implied as forced loyalty which is affected by situational factors and monopoly.

2.4.9 Customer satisfaction framework

A study carried out by Chen's (2008) focuses on the intended behaviour of airline passengers and how it is influenced by the customers' expectations, perceptions and satisfaction concerning the quality of the service offered. Consistencies between these variables shall be demonstrated by means of an equation framework. As shown by the research every variable affects the next variable which means that the expectation influences the customers' perception of the service that in turn affects the establishment of a certain perceived value and in turn creates the degree of customer satisfaction. From this, the behavioural intentions of a customer can be derived. Thus, Chen introduces a chain of relationships between single variables. He also utilizes a number of attributes that are crucial for service quality. These are classified into employees and facilities, product, transactions and reliability.

The presentation of service quality attributes as determinants of customer satisfaction level is eminently suitable and will be applied into this dissertation as well. Service quality has yet to be successfully achieved as a measure of the perception of products/service and an explicit conceptualization (Brady & Cronin, 2001). Extensive research was done on the measurement of service quality, but few advances were made on what to measure. The framework most commonly referred to in the measurement of service quality was the analysis of the gap between performance perceptions and performance expectation and known as SERVQUAL, in which five elements are considered: tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman, Zeithaml, & Berry, 1988).

A study conducted by Brady and Cronin (2001) found that service quality causes satisfaction and holds well across diverse cultures They suggested that service practitioners should provide quality service as a means of improving satisfaction judgments which is also the standpoint of this study. The customer is the key factor ascertaining how successful an organization will be in customer relationships (Reichheld, 1996). Similarly, total quality management (TQM) is based on the delivery of customer satisfaction and is "a management approach of an organization centred on quality based on the involvement of all its members and of customer satisfaction" (Doyle, 2002). The accomplishment of true customer satisfaction involves a customer oriented culture, an organization that is focused on the customer employee empowerment process and ownership team building (Doole & Lowe, 2008). Despite extensive empirical studies on airline service quality and passenger satisfaction, the issue is still debated due to variations in context (Park, Robertson, & Wu, 2004).

2.5 Service Quality

2.5.1 Definition of Service

The meaning of Service as found online, (Freedictionary, 2011), is defined as "a type of economic activity that is intangible, is not stored and does not result in ownership. A service is consumed at the point of sale. Services are one of the two key components of economics, the other being goods. Examples of services include the transfer of goods, such as the postal service delivering mail, and the use of expertise or experience, such as a person visiting a doctor".

According to Kotler, (2006), companies provide some services with its offerings to the marketplace, which can be minor or major part of the total offering. Five categories of services are also discussed in Kotler which could be offered by companies;

- Pure tangible - in this category, it is acknowledged as no service accompanies the product, such as soap, pen, sugar, salt, etc.

- Tangible goods with accompanying services – it is believed that a product is accompanied by one or more services such as a car, computer, mobile phones and more

- Hybrid – this category takes into account equal parts of products and services, for instance, people visiting restaurants both for food and pleasure

- Major Services with accompanying minor goods and services - in this case, the offering consists of a major service along with further services or supporting products, e.g airline passengers buy transportation services.

- Pure Service – this category consists mainly of a service, such as baby sitting, psychotherapy.

In addition to those categories, a service possesses four major characteristics which could not be found in products;

- Intangibility - with this characteristic, a service cannot be seen, tasted, felt or heard before they are bought

- Inseparability – the service is regarded as inseparable due to the fact that they are produced and consumed instantaneously

- Variability – with a variable characteristic, services are said to be very changeable depending on the provider, as well as when and where they are provided

- Perishability – this characteristic refers to a circumstance where services cannot be stored

The meaning of service quality is not an easy concept to define as it may refer to many attributes such as the experience of encounters with the service, moments of truth, the evidence of service, image, price and so on. Nevertheless, quality refers to the notion that a company should provide goods and services that completely satisfy the needs of both internal and external customers. Quality serves as the bridge between the producer of goods/services and its customer (Kotler & Keller, 2006). Therefore, in contrast to customer satisfaction, service quality can be defined as the difference between customers' expectations for service performance prior to the service encounter and their perceptions of the service received (Parasuraman, et, al., 1988). Service quality theory (Bitner & Hubbert, 1994) predicts that clients will judge that quality is low if performance does not meet their expectations and quality increases as performance exceeds expectations. Hence, customers' expectations serve as the basis on which service quality will be evaluated by customers. It is implied that as service quality improves the satisfaction with the service will increase which would inevitably result in an intention to reuse the service.

In the mind-set of any service provider it is imperative to develop and provide offerings that would satisfy customer needs, which in turn would justify their own economic endurance. In order for a service provider to accomplish this objective it is crucial for them to understand how customers evaluate the quality of service offerings, how they choose one organisation in preference over the other and on what circumstances they give their long term support. The prime objective of the service provider is indistinguishable to that of the tangible goods (Bei & Shang, 2006)

Extensive studies have suggested that service quality is among the most dominant themes in services research. During its infancy, service quality research has been directing its consideration

on consumer behaviour and the confirmation/disconfirmation paradigm (Gummesson, 1991). According to this prototype customers compare the quality they have experienced to that of their prior expectations as they consume a product (Smith, 2007), which leads to an emotional reaction established in the satisfaction/dissatisfaction with the products or services purchased. Accordingly, instead of using quality concepts from manufacturing services, marketing researchers based their work on developing a service quality concept on models from consumer behaviour (Groonroos, 1984). Following extensive research on the so-called perceived service quality model, it has been recognized that customers evaluate service quality by comparing the service provider's actual performance perceptions with what they believe service performance would be based on their experience (Gronroos, 1984; Parasuraman, et al, 1985; Carman, 1990; Babakus & Boller, 1992; Bitner & Hubbert, 1994; Tsaur, Chang, & Yen, 2002; Aksoy, Atilgan, & Akinci, 2003; Chen & Chang, 2005).

Groonroos, (1984), defined service quality as the degree to which the service delivered matches customer expectations. If one organisation is offering quality service, it is regarded as in compliance with customer expectations. The following service quality researchers, Parasuraman, Berry and Zeithaml (1988) confirmed that service quality can be measured using the SERVQUAL instrument and managed using expectations – the performance gap model (Carman, 1990; Bitner & Hubbert, 1994; Brady & Cronin, 2001; Jevons, Gabborr, & Chernatony, 2005). Jevons, Gabborr, and Chernatony emphasized that a company offering a superior quality of service would stand out from a crowd of look-alike competitive offerings.

The customer's perception of the quality of service is based on the degree of similarity between expectations and experience. Where comparability is apparent, the customer is deemed to be satisfied; however, in many cases, this will not be enough to create a competitive advantage. More and more, there is a need to offer superior service, (Kossmann, 2006), and to exceed customer expectations to delight the customer, as opposed to merely satisfying his/her needs.

Bitner and Hubbert, (1994), highlighted that when measuring customer satisfaction with service quality, it is important to examine the service quality concept and the dimensions it has. The above authors further stated that service quality is linked to a consumer's overall impression of the relative high quality of the organization and it is the combination of service performance, which ascertains the degree of customer satisfaction of all the services. Many scholars and researchers have noted the importance of service quality and its effect on the organization. For instance, Parasuraman, et. al., (2001), claimed that delivering high quality in the service industry has been renowned as the most effective means of assuring that a company's offerings are exceptionally located in a marketplace. Chang and Yeh, (2002) emphasized the importance of service quality and commented that businesses should be concerned with service quality issues because problems with service quality can result in customer loyalty declining by 20%. Additionally, the level of customer satisfaction has a direct relationship to the quality of service; in such a way that good quality of service gives better customer satisfaction whereas bad quality of service results in poor customer satisfaction.

Every business whether it is a product or service, both encounter challenges in marketing their products in a global competitive environment (Abraham, 2006). While attracting customers is essential to business success, retaining customers is paramount. Due to a change in the economic, business, cultural and political environment, consumers can resort to changes in their preferences. These changes on the part of consumers may provide either positive or negative impacts on the business of modern firms (Aksoy, Atilgan, & Akinci, 2003). Accordingly, these firms have to make their business plans more comprehensive and effective, and need to use adequate and appropriate tools for service quality with fewer interruptions. As customers vary in age, degree, mobility patterns, income, educational levels, etc., it is the responsibility of the

marketing managers to comprehend the behaviour of consumer groups and develop products that can cater for their needs (Jevons, Gabborr, & Chernatony, 2005). Respectively, this will assist managers to gain advantages over their competitors and make predictions to suit its customer's preferences.

Service marketing is different from product marketing because of intrinsic differences in services as compared to products. The services are "intangible, inseparable, variable and perishable". Academicians and researchers have proposed several approaches to service quality; such as dimensions of service quality, gap analysis, the design approaches and direct application of quality experience from goods to services. Parasuraman et al., (PZB),(1985), identified ten determinants of service quality that relate to service namely assurance, empathy, reliability, responsiveness, tangibility, competence, communication, understanding the customers, access and security. Later, PZB (1988) redeveloped this model and came up with five dimensions known as: assurance, empathy, responsiveness, reliability and tangibility.

2.6 Model Development

2.6.1 SERQUAL Model

Satisfaction surveys traditionally examine the current level of satisfaction while focusing on customer perceptions. These approaches ignore measuring customer expectations, but are central to improving performance. Inadequate information provided in respect to the expectations from the quality of services and feedback from customer surveys can be very misleading from the viewpoint of policy and operations (Chang & Yeh, 2002; Aksoy, Atilgan, & Akinci, 2003; (Seth, Deshmukh, & Vrat, 2005). This means that in order to correctly measure the satisfaction aspect you cannot take into account only the perceptions aspect, but must also address the expectations aspect. As stated in Brady & Cronin, (2001) SERVQUAL has been commonly used as an

acceptable approach to measure service quality in the last two decades. SERVQUAL consists of a double graduated table for measuring customer expectations and a double graduated table for measuring customer expectations towards the service quality (Babakus & Boller, 1992; Bitner & Hubbert, 1994; Parasuraman et al., 1988). The scale includes 22 items for measuring the perceptions and 22 items for measuring expectations which were later redeveloped and reduced to 10 dimensions.

The main purpose of establishing different studies was to allow the developers to create reliable measurement tools that will allow comparison between different services. The most commonly acknowledged measurement tool ever developed includes 10 dimensions which were later redeveloped and reduced to 5 dimensions such as: (1) Tangibles (2) Reliability (3) Responsiveness (4) Assurance (5) Empathy (Parasuraman et al., 1988; Chang & Yeh, 2002; Bei & Shang, 2006; Lu & Ling, 2008). Theoretically, this allows the comparison of performance between surveys and allows the presentation of separate consequences for each one of the service dimensions. Therefore, it is worth noting that each dimension should be given significant attention when calculating the overall service quality from surveying the view of the participants. In earlier studies Reliability was verified as having the highest level of importance while the Tangibles dimension has the lowest (Parasuraman et al., 1991; Brysland & Curry, 2001).

In Carman, (1990), Parasuraman et al., (1991), Babakus and Boller, (1992), and Chen & Chang, (2005) stated that SERVQUAL was not only used as the measuring tool for service quality but was also employed to examine the reliability and validity. Notwithstanding its growing and widespread application, SERVQUAL has been considered a major controversial topic by many researchers. Theoretically criticized the SERVQUAL model had failed to demonstrate economic, statistical and psychological theory. Contrastingly, Fodness & Murray, (2007) stated that in spite of such criticisms, the SERVQUAL tool has gained broad support both theoretically and practically in other studies dealing with customer service quality.

Parasuraman et al. concluded from their 1985 study that consumers evaluated service quality by comparing expectations to performance on ten basic dimensions. The model (Parasuramanet al., 1988) was initially developed by writing a set of about 100 questions that asked consumers to rate a service in terms of expectations and performance on specific attributes that were thought to reflect each of the ten dimensions. Later, the data were analysed by grouping together sets of questions that all appeared to measure the same basic dimension, such as reliability. After the reconstruction of the model, it remained with five basic dimensions replacing the initial 10 basic dimensions. These five dimensions: assurance, empathy, reliability, responsiveness and tangibility, are now commonly applied in recent studies.

A very similar approach is being carried out on the service quality attributes applied in this study which were adopted from the SKYTRAX study. The grouping of the basic attributes was done theoretically, where a group or sets of questions were grouped together to form one dimension that best describes those sets of questions. This regrouping of the attributes into smaller dimension for this study can be accessed in Chapter 3, Section 3.41, Table 3.1 and 3.2 for airline and airport dimensions respectively. It is clear that from 28 airline attributes, it is being reduced to 6 variables/dimensions, and from 15 airport attributes are being reduced to 5 variables which then become the main variables for analysing data collected for this study.

Though the Parasuraman et al., model is commonly used in the field of this study there were also other empirical studies being carried out by other researchers who proposed different dimensions of evaluation criteria in assessing service quality. For instance, a study conducted by Gourdin, in 1988 has come up with three dimensions as the basis of evaluation criteria in the field of an airline service quality. Such dimensions are; price, safety and timeliness. In addition to that, Elliot and Roach (1993), have exploited the following six attributes as guidelines in the evaluation of

service quality, again in the field of air service quality. The six attributes are; timeliness, the luggage transportation, the quality of food and beverages, seat comfort, the check in process and inboard service. Not only those but another empirical study by Ostrowski, O'Brien and Gordon's (1993) have applied different service quality attributes such as; timeliness, food and beverage quality, and comfort of seat, when investigating the service quality and customer loyalty within an airline context. Truitt & Hayness, (1994), employed the following dimensions; check-in process, the convenience of transit, the process of luggage, timeliness, seat cleanliness, the food and beverage quality and the handling of customer complaints as their attributes for measuring service quality.

Conversely, with this dissertation different dimensions of service quality are applied. These dimensions are extracted from the SKYTRAX study, which were used worldwide in assessing the satisfaction level of air travellers in regard to their past experiences of an airline and airports. These dimensions are as presented in the table below, however this is a modified list, the original SKYTRAX list can be accessed in Appendix A.

As discussed earlier these attributes were then reduced to six variables for airline and 5 variables for airports, the table below contained the original attributes used during the collection of data for this study.

Table 2.1: The evaluation criteria for airline service quality

Operations	Attributes
Check-in process	Waiting time
	Check-in efficiency
	Staff enthusiasm
	Problem solving
	Staff grooming and appearance
Boarding procedures	Boarding system efficiency
	Assistance during boarding
	Boarding priority
Cabin staff performance	Communication skills

	Grooming and appearance of staff
	Cabin service efficiency
	Cabin presence throughout flight
	Friendliness of staff
	Staff interaction with passengers
	Staff enthusiasm and attitudes
	Standards of performance
On-board products	Seating comfort
	Cleanliness of cabin
	Value for money
	Total product consistency
Destination service	Staff assistance
	Bag delivery time
Overall airline performance	Flight schedules
	Airfares
	Booking system
	Product and service information
	Communication skills
	Customer service

Table 2.2: The evaluation criteria for airports service quality

Attributes	
Availability of public transportation	Staff friendliness
Easy access of public transportation	Communication skills
Terminal comfort	Toilet cleanliness
Terminal cleanliness	Smoking regulation
Seat facilities	Baggage delivery time
Check-in facilities	Airport accessibility
Terminal signage	Courtesy of staff
Boarding call	

CHAPTER THREE

THESIS MODEL AND HYPOTHESIS

3.1 BACKGROUND TO THE CONCEPTS AND PROCESS

3.1.1 Background of study

The primary focus of the study is propelled by the need to empirically measure customer satisfaction on the quality of service delivery by a domestic airline and local airports within Kiribati. The state of customer satisfaction with service delivery is not clear as there is little documentation on the issue. Since the establishment of Air Tungaru in 1977, which was the former domestic airline in Kiribati, until Air Kiribati arrived on the scene in 1995, where air service has been monopolized ever since. Despite this situation, the airline appears to be operating in a negative revenue situation resulting in downsizing of its staff (AirKiribatiLtd, 2002). This could be an indication of poor service quality discouraging customers from remaining loyal and continuously using the service offered by the domestic airline as well as home-based airports.

Therefore, a domestic airline and the airports need to seek ground-breaking ways that would contribute towards the improvement of their service quality, and enable them to retain their customers and attract new ones. In doing so, it will facilitate new ways of generating additional streams of revenue. One possible avenue is to continuously monitor their performance through research and development which could allow them to recognize their shortcomings in customer service. In return it will allow them to offer a high quality of service to its customers, providing them with satisfaction and encouraging them to use the service consistently increasing their customer loyalty.

In view of the above, the main focus of this study is:

Are customers satisfied with the service quality delivered by a domestic airline and local airports within Kiribati?

For the above focus, the main purpose of this study is to evaluate, analyse and compare the level of satisfaction of air service among air travellers from 4 islands within Kiribati. A study on all islands was not possible due to constraints of time and budget. For these reasons the researcher is compelled to choose the most representative islands for conducting the study. There were four islands at which the study was conducted, three are known as outer-islands and the fourth is the main island, which is Tarawa commonly known as South Tarawa. The three outer-islands are Abaiang, Abemama and TabNorth and were chosen on the following basis;

➢ Representative of other islands lying in the same dimension or distance from the main island, Tarawa.

➢ Have a higher number of scheduled flights and are more populated than the other islands

➢ These islands are not only served by air but sea transport as well and provide quite a competitive situation in terms of transportation

➢ Quite close to the main island, Tarawa, and the travelling to and from is more accessible than the more distant islands, which would make it easier for the researcher to travel back and forth

3.1.2 Details of the four islands involved in the study

Tarawa is divided into two parts, North and South, and it is South Tarawa that is called the Capital of Kiribati and where the main activities are concentrated, such as airport, government offices and the centre of bureaucracy. The locations of the identified islands are as shown in the map below (Figure 3.1) with a brief description of each island.

Abaiang on the other hand is found North of Tarawa and as can be seen on the map it is quite close to Tarawa and can be easily accessed by small boats apart from air transport. Abemama lies south of Tarawa and is accessible both by air and sea transport on a regular basis but not as frequent as Abaiang. Air Kiribati is flying three scheduled flights a week and in high peak season such as;- School holidays, National holidays and Christmas breaks where more flights would be arranged to meet the demand, depending entirely on the availability of aircraft and crew.

Tabiteuea is the fourth island involved in this study, and can be found further south of Abemama. Tabiteuea is divided into two islands, known as Tabiteua North (TabNorth) and Tabiteua South (TabSouth). However, this study is only conducted on TabNorth due to the fact that it is a hub for the Southern islands and is used as a fuel depot because of its suitable location to the Southern islands. For this reason, TabNorth is visited every day for refuelling purposes when operating to the southern islands.
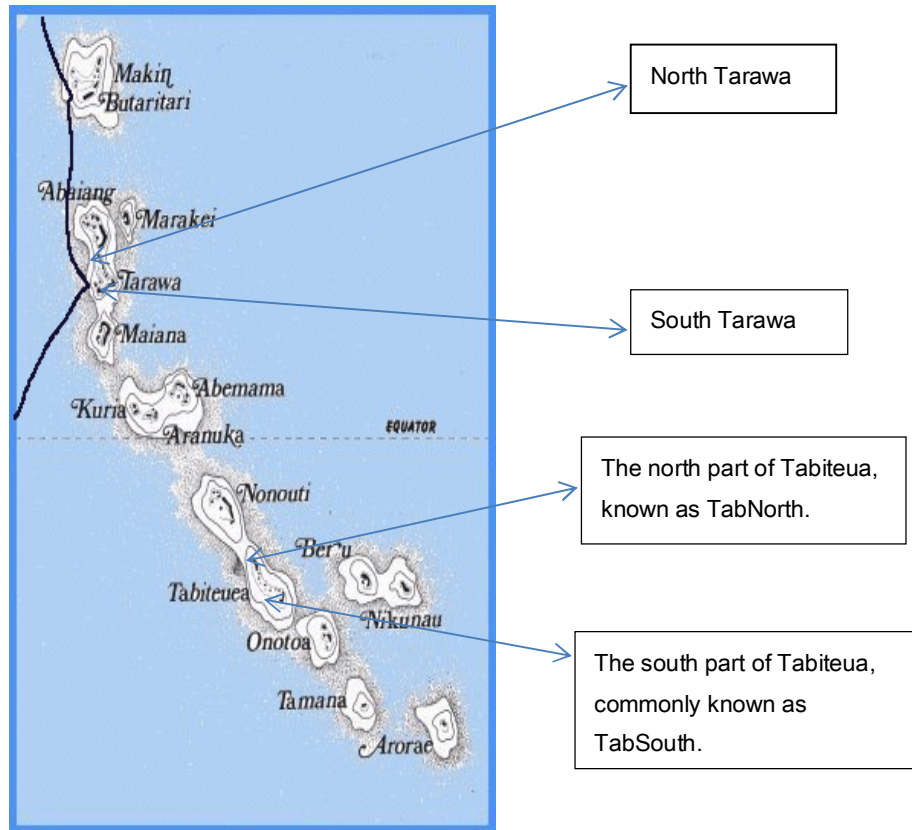
Figure 3.1 Map of the Gilbert Islands group (Republic of Kiribati)

Source: (*infoplease,2011*)

The following are the specific objectives for this study;

1. To measure and describe customer satisfaction with air service quality delivered by the domestic airline and local airports in respect of and regardless of which islands the air travellers come from.

2. To measure and compare satisfaction level of air travellers between islands

3. To compare the satisfaction level among the airline and airport service quality per island.

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The following explains how the research constructs and concepts in the hypothesis will be identified. According to many authors there are various steps involved in the identification of concepts in a hypothesis. In this study identification involves the following steps;

a. Definition of various dimensions to the theories

b. Identification of and clear definition of the concepts in the hypothesis

c. Specification of variables for each dimension of concepts

d. Specification of components/indicators of each variable

e. Specification of measurement procedures for each variable

f. Indication of methods of proving or disproving the hypothesis

3.1.4 Research Questions and Hypotheses

In this thesis the focus of the study is:

Are customers satisfied with the quality of the service delivery of air service within Kiribati?

The study seeks to assess and analyse customer satisfaction with the quality of service delivery of the air service in Kiribati. Additionally, it will compare the level of satisfaction between air travellers from the 4 islands identified above. The study will seek to answer the following specific research questions:

1. How can customer satisfaction with the quality of service delivery be measured in a domestic airline and local airports within Kiribati, in respect to or irrespective of their home islands?

2. How do passengers perceive the quality of service delivery of a domestic airline and local airports with respect to their home islands?

3. What is the impact of service quality on customer satisfaction?

In order to answer the research questions the following are the hypotheses:

H1(i): Passengers are satisfied with the quality of airline service delivery in Kiribati in respect to and irrespective of their home-islands.

    H1(i)a: Passengers from South Tarawa are satisfied with the quality of airline service delivery on their home-island

    H1(i)b: Passengers from Abaiang are satisfied with the quality of airline service delivery on their home-island

    H1(i)c: Passengers from Abemama are satisfied with the quality of airline service delivery on their home-island

    H1(i)d: Passengers from TabNorth are satisfied with the quality of airline service delivery on their home island

H1(ii): Passengers are satisfied with the quality of airport service delivery in Kiribati in respect to and irrespective of their home-islands.

    H1(ii)a: Passengers from Tarawa are satisfied with the quality of airport service delivery on their home-island.

    H1(ii)b: Passengers from Abaiang are satisfied with the quality of airport service delivery on their home-island.

    H1(ii)c: Passengers from Abemama are satisfied with the quality of airport service delivery on their home-island.

    H1(ii)d: Passengers from TabNorth are satisfied with the quality of airport service delivery on their home-island.

H2:   Satisfaction on the quality of airline/airport service delivery among air travellers from the 4 islands within Kiribati is the same.

H3:   Satisfaction on the quality of airline/airport service between age groups within Kiribati is the same.

H4: Satisfaction on the quality of airline/airport service between genders within Kiribati is the same.

H5: Poor service quality will result in lower level of satisfaction among customers.

3.2 Dimensions of research concepts

3.2.1 Dimension of customer satisfaction

Extensive studies on customer satisfaction have led to the development of many models which explain the components of customer satisfaction. Some authors perceived satisfaction as an overall component while others conceptualize satisfaction as a product of customers' comparison of the perceived performance of the product/service with some cognitive or affective standards such as desire, expectation, perceived value or perceived service quality (Oliver, 1980; Parasuraman, et at., 1985; Kotler, Wong, Saunders, & Armstrong, 2005; Kotler & Keller, 2006). These components are conceptualized and displayed in Figure 3.2.

However, for this study the components of satisfaction measured are satisfaction with the services offered by an airline and airports, interpersonal satisfaction, satisfaction with price and satisfaction with staff performance and overall satisfaction among air travelers in Kiribati being investigated. These components are considered important in this study as each of them is empirically validated to have a significant impact on customer satisfaction (Oliver, 1980; 1993; Parasuraman.,et al, 1988; Khalifa & Liu, 2002).
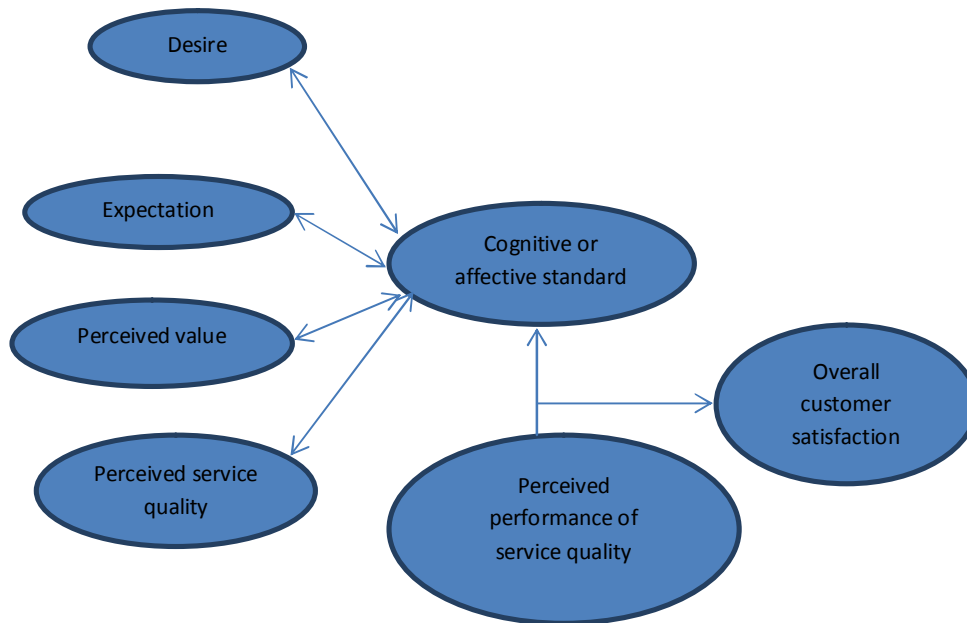
Figure 3.2 Components of Customer satisfaction

3.2.2 Dimensions of Service Quality

Service quality according to various scholars is conceptualised differently. As in this study, service quality is reviewed using the SERVQUAL model developed by Parasuraman, et al., 1988 which is very similar to the SKYTRAX study, in the way they have developed their questionnaire to evaluate satisfaction among air travellers on airline and airport service quality worldwide. Since the SKYTRAX study is similar to this study, it prompts the researcher to adopt the model of service quality in understanding service quality dimensions by which customer satisfaction can be measured.

3.3 Variables of Research concepts

3.3.1 Dimensions for service quality

In order for this study to prudently measure satisfaction level among air travellers in Kiribati on the service quality of local airports and a domestic airline the variables used are as listed in Tables

2.1 and 2.2. These service quality dimensions were adopted from the SKYTRAX study and were modified to fit the context of Kiribati air service. The main variables, dimensions are their indicators used in the collection of primary data in this study as depicted in Table 3.1 and Table 3.2 for airline and airport respectively.

Table 3.1: Dimensions for airline service quality

Check-in process	Cabin staff performance
Waiting time	Communication skills
Check-in efficiency	Grooming and appearance of staff
Staff enthusiasm and attitudes	Cabin service efficiency
Problem solving	Cabin presence throughout flight
Staff grooming appearance	Friendliness of staff
Boarding Procedures	Staff interaction with passengers
Boarding system efficiency	Staff enthusiasm and attitudes
Assistance during boarding	Standards of performance
Boarding priority	**Overall airline performance**
On-board product	Flight schedules
Seating comfort	Airfares
Cleanliness of cabin	Booking system
Value for money	Product and service information
Total product consistency	Communication skills
Destination service	Customer service
Staff assistance	
Bag delivery time	

Table 3.2 Dimensions for service quality of airport

DIMENSIONS FOR AIRPORT SERVICE QUALITY	
Availability of public transportation	Staff friendliness
Easy access of public transportation	Communication skills
Terminal comfort	Toilet cleanliness
Terminal cleanliness	Smoking regulation
Seat facilities	Baggage delivery time
Check-in facilities	Airport accessibility
Terminal signage	Courtesy
Boarding call	

CHAPTER FOUR

RESEARCH METHODOLOGY

In search of a thorough study, valid theoretical and practical conclusions and different techniques considered appropriate for collecting primary and secondary data were used. The secondary data was collected through a theoretical study (Bryman & Bell, 2007). The theoretical study comprised books, articles and journals which are related to the field under study - in this case - customer satisfaction and service quality. On the other hand, primary data was collected through an empirical study. The empirical study was made through the employment of a questionnaire regarding customer satisfaction on the quality of service offered by a domestic airline and local airports within Kiribati.

The research can be categorised as descriptive, since the study is based on describing something about a specific target sample (McBurney & White, 2010). This study was used to describe and compare the satisfaction level among air travellers in Kiribati and is more concerned with using particulars of this specific case to generate theories than to make broad generalizations across the category being studied.

Furthermore, this study was primarily a quantitative one using of a survey with primarily fixed choice questions to quantify the data collected for analysis and hypotheses testing. Since, the study was carried out under time constraints and because the quantitative method has its own advantage of gaining an objective and precise assessment of the social phenomenon or human behaviour, the survey was, therefore, conducted using the quantitative method (Bryman & Bell, 2007).

4.2 Types of Data collected

4.2.1 Primary data is data originating from the researcher for the purpose of addressing the research issue. It is what the researcher originally collects from the target sample or population. In this specific study primary data is that collected from the sample/respondents through the deployment of questionnaires.

4.2.2 Secondary data is data collected for some purpose other than the issue at hand. In this study secondary data is collected from the directories of the companies used for the study and online articles and journals specifically relevant to the field of study, which is customer satisfaction.

4.3 Population

The population of the current survey was comprised of those who have actually experienced the services offered by a domestic airline and local airports within Kiribati, specifically air travellers of national origin since it is the Kiribati people who are the major group using the domestic air service.

4.4 Sampling

4.4.1 Sample size

Out of the sample frame of air travellers, a total sample of 200 was recruited based on the researcher's judgement due to cost and time constraints. Basically, a total of 50 respondents were recruited on four islands at which the study was conducted. Using a larger sample size in this survey was not permissible as it would require a large financial resource which was not available. Further, time constraints within which the research was to be completed would not permit the use of a larger sample size.

In selecting the sample of 200 respondents, a convenience sampling method was applied. This strategy was chosen due to time and budget constraints. With the convenience sampling method, the respondents were identified on each island by visiting common places where a number of potential air travellers may be located. Such places were schools (primary and secondary), health centres, social communities and even homes. The selection was carried out until the required sample size was attained. The visits to these locations made the recruitment faster, easier and cheaper since a number of potential participants could be identified instantly. Choosing respondents readily available at these places has reflected the sampling method applied in this study. Due to the fact that there was no incentive offered to the respondents, their decision to participate was out of pure interest.

4.5 Empirical Data

4.5.1 Research Instruments

A self-completed questionnaire in the Kiribati language was used as the main data-gathering instrument for this study (See Appendix B). The SKYTRAX questionnaire was used as the basis of this research, however there were modifications made to fit the context of Kiribati air service. The questionnaire was divided into three main sections: the first part was the respondent's demographic profile since consumer needs; preferences and characteristics are often associated with demographic factors (Kotler, 2006). The profile contains socio-demographic details of the respondents such as age, gender, occupation, and purpose of travel. These socio-demographic characteristics will allow the

researcher to gain pertinent information that could assist the company in developing its strategies for improving customer satisfaction.

The second part comprised questions about passenger satisfaction with the service quality offered by Air Kiribati. The questions in this part concentrate mainly on the service attributes of an airline, similar to the SKYTRAX study, but only questions relevant to Kiribati situation were included. The third or last part of the questionnaire comprised questions regarding airport service delivery and product parameters. The questions were used to determine the level of passenger satisfaction on airport service delivery and product parameters.

4.5.2 Model Development

The original SKYTRAX questionnaire was modified in this research to suit the situation with air services in Kiribati air service. There were no changes made to the original items which are used in this study, however it was the elimination of some particular items from the original questionnaire which were found irrelevant to the air service situation in Kiribati. The original and modified questionnaire can be accessed in Appendix A and B respectively.

Hence, the variables used after modifying the SKYTRAX questionnaire are as listed in Tables 2.1 and 2.2 representing service attributes for airline and airports respectively. After consideration of several models on service quality, the SKYTRAX model was chosen and considered most relevant to the objectives of this study. The attributes used in the questionnaire will enable the study to extract an overall impression of air travellers on the service quality of air service within Kiribati in a similar way SKYTRAX applies it to airlines and airports worldwide.

The questions were structured using the Likert format. In this survey type, five choices were provided for every question or statement. The choices represented the degree of satisfaction each respondent had on the given question.

The scale below was used to interpret the total responses of all the respondents for every survey question:

Table 4.1: Interpretation of satisfaction level in relation to the rating scale

Rating Scale	Level of Satisfaction	Analytical Description	Analytical scales
5	Totally satisfied	Very Good	4.51 - 5.00
4	Satisfied	Good	3.51 – 4.50
3	Neutral	Neutral	2.51 – 3.50
2	Dissatisfied	Poor	1.51 – 2.50
1	Totally dissatisfied	Very poor	0.00 – 1.50

The Likert survey was the selected questionnaire type as this enabled the respondents to answer the survey easily. In addition, this research instrument allowed the researcher to carry out the quantitative approach effectively with the use of statistics for data interpretation.

4.6 Procedure

The study was conducted on each island; so the researcher had to travel to the chosen islands to recruit potential participants personally. Since aircrafts operated domestically have a maximum of 20 passenger seats, the selection of participants had to go beyond the airport to accomplish the required sample size. The limited numbers of flight schedules to each island, strict recruitment criteria and inadequate time on each island were contributing reasons for conducting the recruitment of participants outside the airport premises.

The visit to common places discussed earlier was made after permission was sought with the authorities concerned. At these places, people were approached in a group to identify those who have had prior experiences on the services offered by a domestic airline. Once potential participants were identified they were then asked for consent to participate, and if agreed to take part they were given a questionnaire to fill out. The recruitment process continued until the sample size was obtained.

Owing to shortage of communication services on the outer-islands, such as telephones and postal services, call back or posting of completed questionnaire was not practicable. In this case, the researcher had to get back to respective homes or work places to retrieve the completed questionnaires.

4.7 Data collection and analysis

Once the questionnaires were retrieved from each island, the data was collated into a database for analysis. Prior to analysis, data cleaning up was carried out as per Tabachnick and Fidell (2001). The primary purpose in doing so is to determine the reliability of the data. It is important to ensure that data was correctly entered and free of errors. In checking for errors a minimum and maximum analysis of variables was carried out to check that all numbers are within the range assigned for this study, which was 1-5. Extreme numbers like, <1 or >5 indicate an error in data entry and therefore should be corrected.

The skewness and kurtosis of each variable was tested for normality in their distribution, set as being within the threshold of +/- 1.96 z-Scores (i.e. a significance level of 0.05 in the distribution of z-Scores which is well around 3 standard deviations from the mean). The linearity of pairs of variables was also assessed for those variables that were observed to be non-normal. Other models such as quadratic and cubit were applied but it was found that they did not offer a better fit than the linear model.

A nonparametric test is used for data analysis in this study. It was recommended as the most appropriate tool for analysis in this dissertation due to the fact that our data are not normally distributed, and would be using medians rather than means for comparison.

4.8 Ethical considerations

This survey was judged to be of low risk to both participants and researchers according to the Massey University Human Ethics Committees' (MUHEC) judgement. However, throughout the selection process certain ethical issues were addressed to respondents, since this study involved human participation. The consideration of these ethical issues was necessary for the purpose of ensuring the privacy as well as the safety of the participants. Among the significant ethical issues that were considered in the research process were consent and confidentiality. In order to secure the consent of the selected participants, all important details of the study were explained, including its aim and purpose. By explaining these important details, the respondents were able to understand the importance of their role in the completion of the research.

Subsequently, the respondents were also advised that they could withdraw from the study even during the process. The participants were not forced to participate in the research. The confidentiality of the participants was also ensured by not disclosing their names or personal information in the research. Only relevant details that are found pertinent and aided in answering the research questions were included.

CHAPTER FIVE

DESCRIPTION OF THE SAMPLE

5.1 Demographic information

The variables used for our sample's demographic information (gender, age, employment status and travelling purposes) are presented into two parts; firstly as a whole sample and secondly they are broken down according to islands.

5.1.1 Gender

Figure 5.1 represents gender distribution for the whole sample; the data indicates the total number of males and females recruited in the study irrespective of islands. As can be seen, there are more females than males, nevertheless there is a good representation of both genders in the sample.
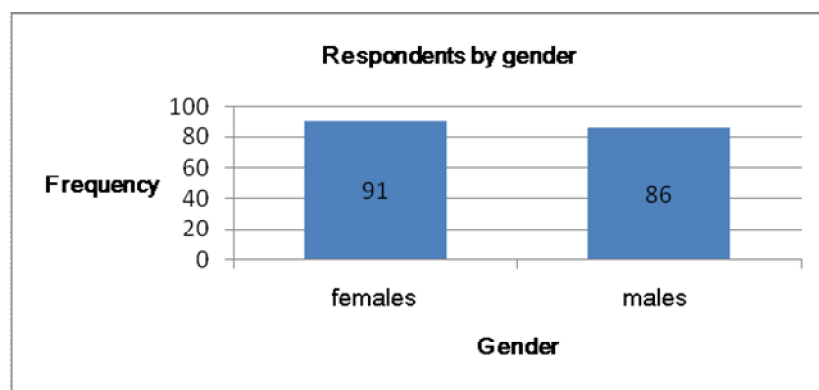
Figure 5.1: Overall sample by gender

Figure 5.2 demonstrates a breakdown of gender for each island. It is obvious that there is relatively higher number of females than males in TabNorth, whereas in Abemama there are more males than females.
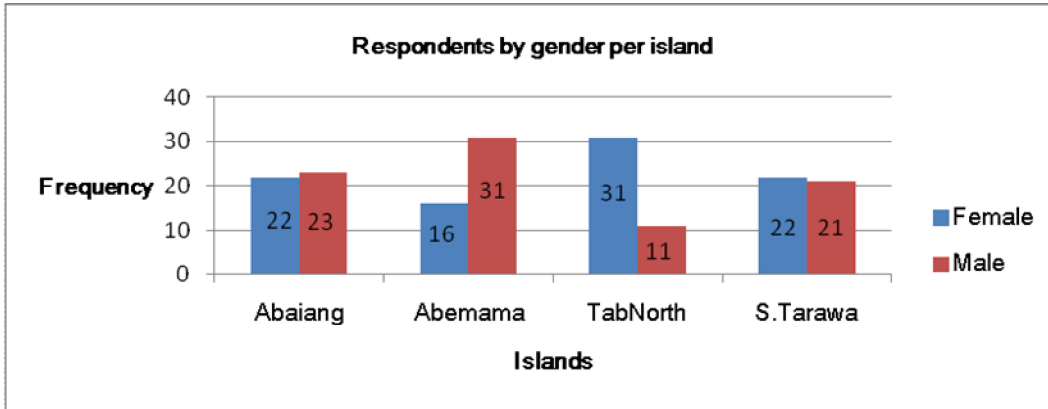
Figure 5.2 Respondents distributed according to gender per island

5.1.2 Age Group

Figure 5.3 describes age group distribution for the whole sample. The sample appeared to concentrate on the age group of 20 to 50, with a total number of 142, which is the economically active age group in Kiribati. This could mean ease of access to these age groups and would cause the results to be more applicable towards those age groups.
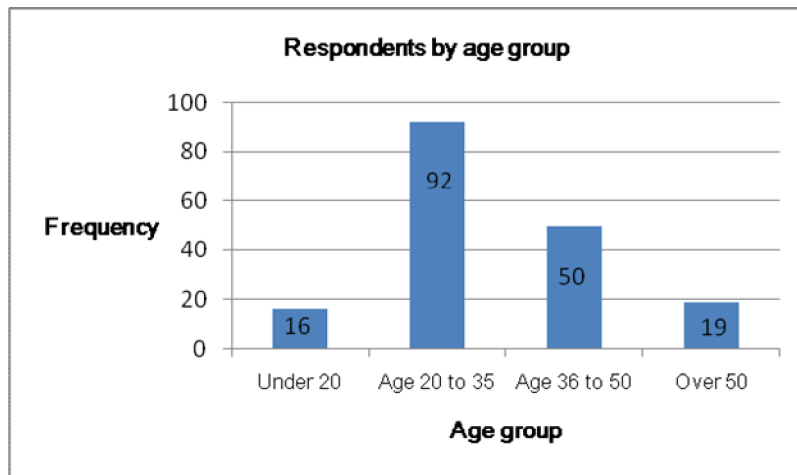
Figure 5.3: Overall sample by age group

Figure 5.4 represents a breakdown on age group according to islands. It is noted that age group 20 to 35 is the dominating group from each island, followed by age group 36 to 50.

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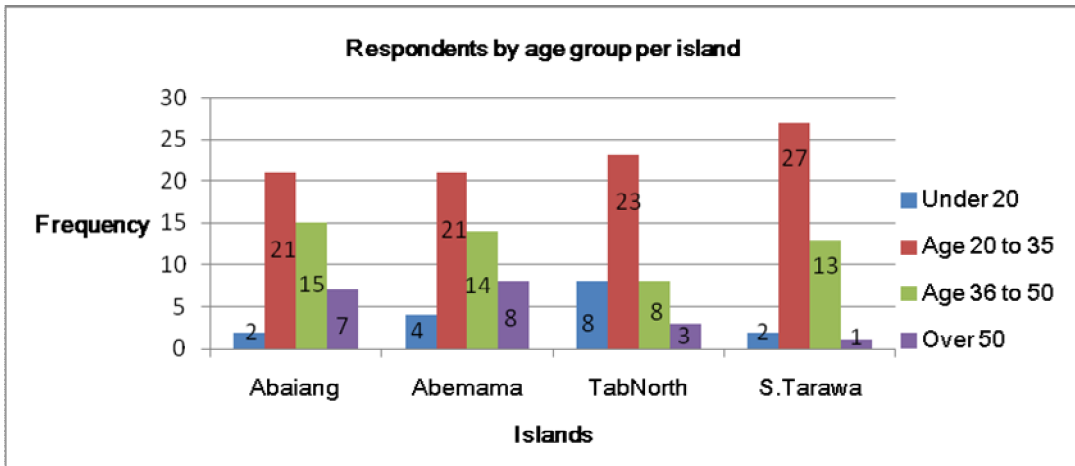
Figure 5.4: Respondents distributed according to age group per island

5.1.3 Employment status

Figure 5.5 represents the employment status distribution for the whole sample. The sample comprises more employed respondents, which could make the results more applicable towards the employed sample.
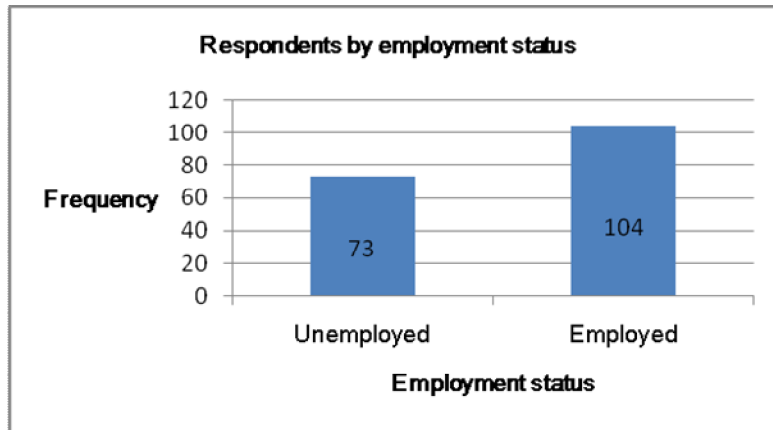
Figure 5.5: Overall sample by employment status

Figure 5.6 illustrates a breakdown of the sample into employment status per island. As can be observed employed people dominated the respondents on Tarawa and TabNorth, whereas in Abemama there is relatively high number of unemployed respondents.

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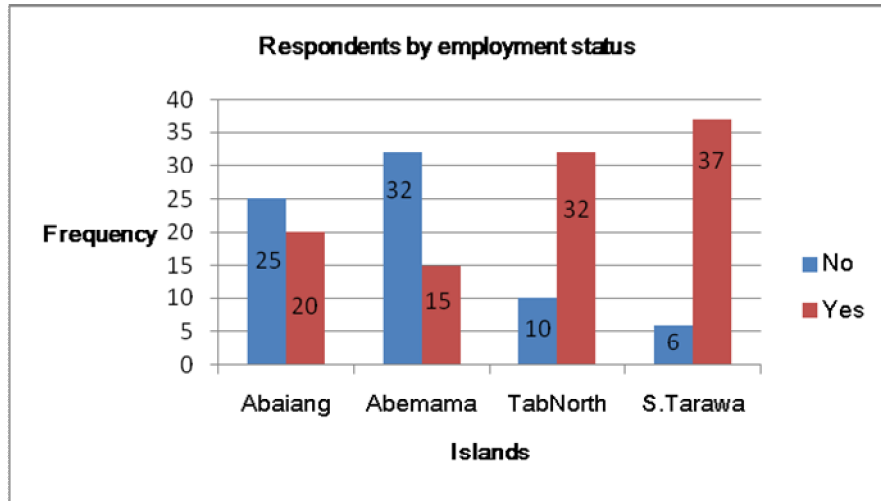
Figure 5.6: Respondents distributed according to un/employed status per island

5.1.4 Travelling purposes

Figure 5.7 represents a distribution of the whole sample according to travelling purposes. The distribution of samples according to the five travelling purposes indicates that travelling for holiday is the primary reason, travelling for business purposes comes next followed by medical, other and lastly for the purpose of visiting family and friends.
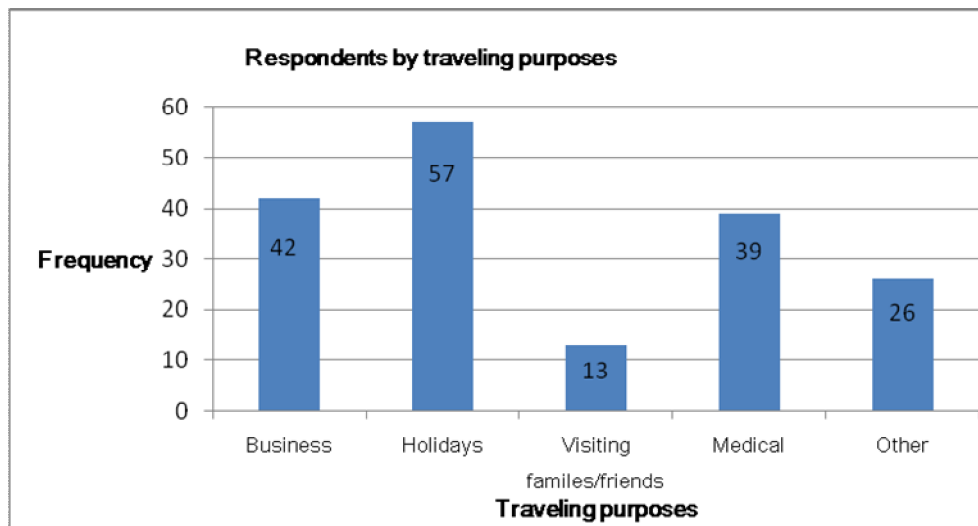
Figure 5.7: Overall sample by travelling purposes

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Figure 5.8 shows a breakdown of the sample into travelling purposes per island. It is observed that travelling for the purpose of holiday is quite high from Tarawa and TabNorth, whereas travelling for medical reasons is relatively high from Abemama and Abaiang.

Respondents by travelling purposes per island
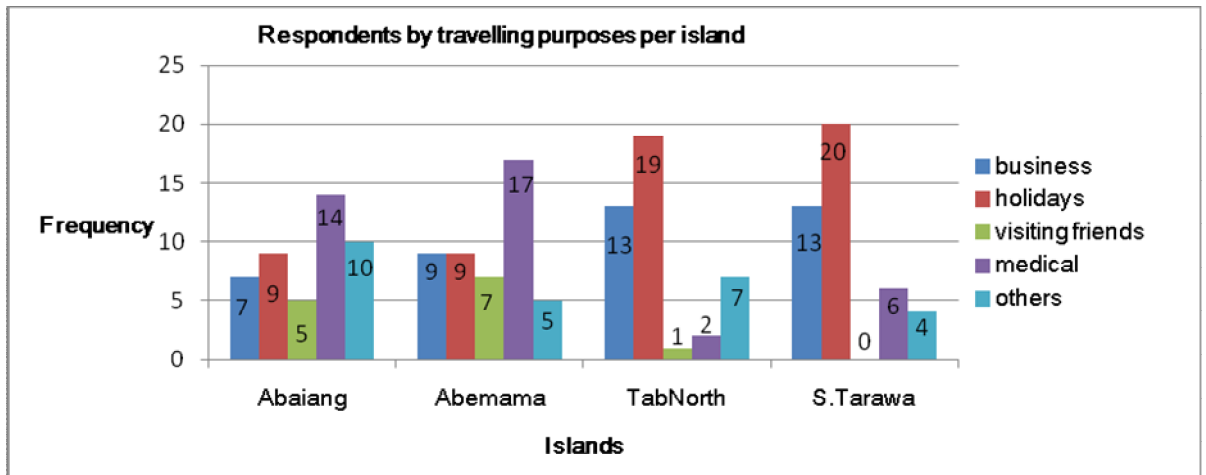
Figure 5.8: Respondents distributed according to travelling purposes per island

From the demographic information presented above, the results to be obtained in this research may be more applicable to that part of the population which is young, employed and travels for holidays or business.

CHAPTER SIX

PRE-ANALYSIS OF DATA

6.1 Pre-analysis of data

This chapter presents the pre-analysis of data and will focus on the following;

- ➢ Dataset clean-up

- ➢ Data reduction

- ➢ New dimensions for airline and airport service quality

- ➢ Normality test for the new dimensions

- ➢ Correlation analysis between dimensions

6.1.1 Dataset clean-up of airline service quality variables

The main purpose of dataset clean-up is to determine the credibility of the data. The clean-up is carried out using the range of the dataset, the normality and linearity of data. The maximum and minimum value for each variable are presented to review that the values are within the allocated range assigned for this study which is 1-5, and to confirm that there are no outlying values. The normality of data is represented by the kurtosis and skewness normality values which illustrate how the data is distributed. For instance, the value of skewness and kurtosis normality which falls outside the threshold of +/- 1.96   z-scores is considered to be non-normal. The linearity of pairs of variables was also assessed for those variables that were observed to be non-normal. It was confirmed that a linear model offers a better fit than other models, such as quadratic and cubit. Detailed statistics of this can be accessed in Appendix C.

The mean and standard deviation for the twenty-eight variables of airline service quality of the five-point scale are also presented to observe any extreme responses. The statistics of these variables describe the perception of the respondents regarding each quality of service.

Table 6.1: Statistics of airline service quality

Dimensions	Variables	Mean	Std. deviation	skewness normality	kurtosis normality	Min	Max
Check-in process	Waiting time	2.77	1.46	1.16	-3.40	1	5
	Check-in efficiency	3.15	1.45	-0.74	-3.41	1	5
	Staff enthusiasm and attitudes	3.19	1.47	-1.02	-3.52	1	5
	Problem solving	3.06	1.45	-0.54	-3.54	1	5
	Staff grooming appearance	2.94	1.53	0.05	-3.93	1	5
Boarding procedures	Boarding system efficiency	3.01	1.42	-0.38	-3.22	1	5
	Assistance during boarding	3.23	1.46	-1.15	-3.50	1	5
	Boarding priority	3.62	1.56	-3.63	-3.04	1	5
Cabin staff performance	Communication skill	3.22	1.44	-1.39	-3.29	1	5
	Grooming and appearance of staff	3.55	1.54	-3.52	-2.93	1	5
	Cabin service efficiency	3.08	1.48	-0.69	-3.66	1	5
	Cabin presence through flight	2.69	1.45	1.26	-3.55	1	5
	Friendliness of staff	3.12	1.40	-0.88	-3.18	1	5
	Staff interaction with						

	passengers	3.08	1.39	-0.63	-3.05	1	5
	Staff enthusiasm and attitudes	2.84	1.37	0.63	-3.17	1	5
	Standards of performance	3.19	1.42	-1.16	-3.15	1	5
On-board products	Seating comfort	2.94	1.47	-0.24	-3.56	1	5
	Cleanliness of cabin	2.95	1.40	-0.40	-3.35	1	5
	Value of money	2.37	1.34	2.91	-2.35	1	5
	Total product consistency	2.77	1.46	0.98	-3.50	1	5
Destination service	Staff assistance	3.20	1.42	-1.01	-3.24	1	5
	Bag delivery time	3.24	1.52	-1.43	-3.78	1	5
Overall airline performance	Flight's schedules	3.03	1.48	-0.21	-3.67	1	5
	Airfares	2.28	1.34	3.67	-1.84	1	5
	Booking system	3.06	1.44	-0.03	-3.47	1	5
	Product and service information	2.88	1.31	0.04	2.66	1	5
	Communication skills	2.93	1.35	0.07	-2.91	1	5
	Customer service	2.96	1.42	0.12	-3.46	1	5

6.1.2 Dataset clean-up on airport service quality variables

Table 6.2 presents the statistics of airport service quality variables for pre-analysis purposes. The maximum and minimum value for each variable are presented to review that the values are within the allocated range assigned for this study which is 1-5, and to confirm that there are none outside the range. The normality of data is represented by the

kurtosis and skewness normality values which illustrate the distribution of the data, for instance the values which fall outside the threshold +/- 1.96 z-scores considered to be non-normal. The linearity of pairs of variables was also assessed for those variables that were observed to be non-normal. It was confirmed that a linear model offered a better fit than other models, such as quadratic and cubit.

The mean and standard deviation for the fifteen variables of airport service quality of the five-point scale are also presented to observe any extreme responses. The statistics of these variables describe the perception of the respondents regarding each quality of service. Detailed statistics can be accessed in Appendix D.

Table 6.2: Statistics for airport service quality variables

Variables	Mean	Std. deviation	skewness normality	kurtosis normality	Min	Max
Availability of public transportation	2.37	1.37	3.18	-2.57	1	5
Easy access of public transportation	2.08	1.27	5.14	-0.61	1	5
Terminal comfort	2.16	1.38	4.86	-1.28	1	5
Terminal cleanliness	2.31	1.38	3.94	-1.88	1	5
Seat facilities	2.19	1.41	4.66	-1.66	1	5
Check-in facilities	2.50	1.31	2.53	-2.34	1	5
Terminal signage	2.03	1.29	5.40	-0.67	1	5
Boarding call	3.23	1.46	-1.27	-3.38	1	5
Staff friendliness	3.24	1.32	-1.54	-2.46	1	5
Communication skills	3.20	1.40	-1.06	-3.03	1	5
Toilet cleanliness	1.76	1.24	8.07	2.69	1	5
Smoking regulation	1.69	1.22	9.67	5.36	1	5
Baggage delivery time	2.99	1.47	-0.42	-3.68	1	5
Airport accessibility	2.11	1.32	4.59	-1.60	1	5
Courtesy	3.01	1.39	-0.40	-3.02	1	5

6.2 Data reduction

It was determined that this study employed too many dimensions during the data collection. Too many variables as discussed in Draper and Smith (1981) could contribute to the complication of

data analysis. Therefore to attain simplicity of interpreting a complex data reduction of the number of variables was carried out. The reduction of variables was carried out using a conceptual approach.

6.2.1 New dimensions for airline service quality

The airline variables were initially grouped into 6 different operations. Therefore, these groupings were adopted as new dimensions to reduce the original number of airline service quality variables from 28 to 6, which are presented in Table 6.3 with statistics.

Table 6.3: Dimension statistics for airline service quality

Dimensions	Mean	Std. deviation	skewness	kurtosis
Check-in process	3.02	1.15	-0.17	-0.81
Boarding procedures	3.29	1.27	-0.43	-0.94
Cabin staff performance	3.10	1.12	-0.37	-0.62
On-board product	2.76	1.11	0.03	-0.78
Destination service	3.22	1.36	-0.28	-1.10
Airline overall performance	2.86	1.07	-0.06	-0.65

6.2.2 New dimensions for airport service quality

For consistency, the same approach was applied for the reduction of airport variables. The aim of this approach is to highlight trends, relationships, or associations when reducing variables for further analysis without de-emphasizing the importance of the context and the richness of the data itself. Since the variables used for airport service quality do not have pre-determined groupings, they are then grouped carefully so that specific ideas are maintained within these new groupings. The reduction of variables was carried out by focusing on the relationship of certain variables. Variables that were considered to carry the same idea were aggregated to form one variable. In doing so it allowed the retention of relevant information as much as possible. The grouping of airport variables into new dimensions is presented in Table 6.4 with statistics.

Table 6.4: Dimension statistics for airport service quality

Original variables	New dimensions	Mean	Std. deviation	Skewness	Kurtosis
Availability of public transportation	Ground Transportation	2.23	1.20	0.71	-0.49
Easy access of public transportation					
Terminal comfort	Passenger facilities	2.24	1.16	0.68	-0.62
Terminal cleanliness					
Seat facilities					
Check-in facilities					
Terminal signage					
Boarding call	Staff service	3.22	1.25	-0.30	-0.80
Staff friendliness					
Communication skills					
Toilet cleanliness	Terminal comfort	1.73	1.07	1.65	2.09
Smoking regulation					
Baggage delivery time	Ease of transfer	2.70	1.11	0.02	-0.89
Airport accessibility					
Courtesy					

6.3 Correlation analysis

Correlation analysis was conducted between individual dimensions of airline service quality and airport service quality to assess the relationship between dimensions, and ascertain whether they are related to an underlying "supra-dimension" or not. For instance, airline dimensions are highly correlated and seemed to be capturing a supra-dimension of airline quality. Airport dimensions on the other hand are not so well related. They may be capturing different elements of quality. However, the correlations are medium to high so they may be considered as related to a "supra-dimension" of airport quality.

6.3.1 Correlation analysis on Airline dimensions

Table 6.5 presents the correlation analysis on airline dimensions. The dimensions are well related as indicated in a high correlation which ranges from 0.669 to 0.785.

Table 6.5: Correlation Analysis on airline dimensions

	Check-in process	Boarding procedures	Cabin staff performance	On-board product	Destination service
Boarding procedures	0.756				
Cabin staff performance	0.739	0.785			
On-board product	0.696	0.669	0.723		
Destination service	0.720	0.683	0.736	0.731	
Overall airline performance	0.728	0.678	0.707	0.738	0.704

Note: Correlation is significant at 0.01 level (2 tailed-test) for all variables presented in the table

6.3.2 Correlation analysis on airport dimensions

Table 6.6 presents a correlation analysis conducted between individual dimensions of airport service quality. The airport dimensions are not well related as indicated in the correlations which are quite low and range from 0.399 to 0.774.

Table 6.6: Correlation Analysis on airport variables

	Ground Transportation	Passenger Facility	Staff Service	Terminal Comfort
Passenger Facility	0.450			
Staff Service	0.462	0.510		
Terminal Comfort	0.408	0.585	0.399	
Ease of Transfer	0.524	0.657	0.774	0.548

Note: Correlation is significant at 0.01 level (2 tailed-test) for all variables presented in the table

The normality test is considered as a pre-requisite into the determination of the best approach for data analysis. Therefore, for the purpose of this dissertation a normality test was carried out on the new dimensions of airline and airport, which were previously discussed and presented in Tables 6.3 and 6.4 respectively. These dimensions were those that were created out of the original variables used in the data collection to attain simplicity of data interpretation. As discussed in sections 6.1 and 6.2 on airline and airport variables respectively, the normality of data was tested with the skewness and kurtosis values and confirmed that data was not normal. However, since the dimensions are newly created out of the initial variables it is, therefore, necessary to test the normality of the new dimensions.

6.4.1 Normality test for airline dimensions

Table 6.7 presents the test statistics result on the new dimensions. The test statistic used for normality test is ANDERSON-DARLING STATISTICS and with the p-value < 0.05 indicates the non-normality of data. The details of these tests can be accessed in Appendix E. As can be observed in Table 6.5, the results of normality test, the p-values are all less than 0.05 which confirms the non-normality of data.

Table 6.7: Normality test results

Airline dimensions	p-value
Check-in process	0.005
Boarding procedures	0.005
Cabin staff performance	0.005
On-board product	0.005
Destination service	0.005
Overall airline performance	0.005

Table 6.8 presents the test statistics result on the new airport service quality dimensions. The test statistic used for normality test is ANDERSON-DARLING STATISTICS and with the p-value < 0.05 indicates the non-normality of data. The details of these tests can be accessed in Appendix F. Similar to the normality test results of airline service quality dimensions, the p-values are all less than 0.05 confirming the non-normality of data.

Table 6.8: Normality test results

Airport dimensions	p-value
Ground transportation	0.005
Passenger facility	0.005
Staff service	0.005
Terminal comfort	0.005
Ease of transfer	0.005

The normality test results presented in tables 6.7 and 6.8 confirmed that the data does not follow a normal distribution model as can be seen in the p-values which are less than 0.05. Therefore, due to non-normality of data, non-parametric tests will be used and are considered more appropriate for data analysis in this case rather than a parametric test (McBurney & White, 2010).

CHAPTER SEVEN

ANALYSIS OF RESULTS: AIRLINE SERVICE QUALITY

7.1 Descriptive statistics

The descriptive statistics for satisfaction level on airline dimensions are presented to determine and compare the satisfaction level for the whole sample and according to their respective islands. This data is constructed according to passengers' evaluation on the service quality dimensions of a local airline in Kiribati.

7.2 Satisfaction level for the whole sample

According to the results presented in Table 7.1 the sample indicated that overall satisfaction level for each airline dimension as generated by the whole sample falls within a "neutral" range which means that our participants are neither satisfied nor dissatisfied. The detailed statistics for this can be accessed in Appendix G.

Table 7.1: Satisfaction level on airline service quality irrespective of islands

Airline Service Quality Variables	Mean	Standard Deviation	Median	Description	Inter Quartile
Check-in Process	3.02	1.15	3.20	Neutral	1.60
Boarding procedures	3.29	1.27	3.67	Good	2.00
Cabin Staff performance	3.10	1.12	3.25	Neutral	1.56
On-board product	2.76	1.11	2.75	Neutral	1.50
Destination Service	3.22	1.36	3.00	Neutral	2.50
Overall airline performance	2.86	1.07	3.00	Neutral	1.58
Overall airline quality	**3.04**	**1.18**	**3.14**	**Neutral**	**1.79**

Table 7.2 is presenting the overall satisfaction level on the quality of airline service offered on each island. The sample from each island indicated different levels of satisfaction, for instance Tarawa and Abaiang passengers generated a "neutral" satisfaction level, Abemama showed a "very poor" satisfaction level, while TabNorth passengers demonstrated a "good" level of satisfaction. Overall however, our sample indicates a "neutral" satisfaction with the service quality of the airline service offered on their respective islands.

Table 7.2: Satisfaction level on airline service quality in respect to islands

Islands	Mean	Standard deviation	Median	Description	Inter Quartile
Tarawa	3.27	1.19	3.07	Neutral	1.70
Abaiang	3.15	1.33	3.08	Neutral	1.96
Abemama	2.43	1.68	1.22	Very poor	3.08
TabNorth	3.39	1.36	3.55	Good	2.10
Overall satisfaction	**3.06**	**1.39**	**2.73**	**Neutral**	**2.21**

7.2.2 Satisfaction level on each airline dimension per island

Table 7.3 presents the satisfaction level of each airline dimension per island. Across all the airline dimensions the results indicated that the sample from Abemama generated a "very poor" satisfaction level. The sample from Tarawa had a different experience on their home-island as they generated a "neutral" satisfaction level. However, the services offered by the boarding procedures seemed to be satisfactory as participants from Tarawa, Abaiang and TabNorth generated a "good" level of satisfaction. Additionally, the participants from TabNorth are satisfied with the destination service offered on their

island as they generated a "good" satisfaction level. The other dimensions were rated "neutral" on each island with the exception of Abemama as discussed earlier.

Table 7.3: Satisfaction on airline dimension for each island

Dimensions	Islands	Mean	Std. dev	Median	Description	IQR
Check-in process	Tarawa	3.27	1.22	3.00	Neutral	1.50
	Abaiang	3.15	1.31	3.20	Neutral	1.60
	Abemama	2.36	1.68	1.40	Very poor	2.95
	Tabnorth	3.37	1.42	3.60	Good	2.80
Boarding procedures	Tarawa	3.64	1.22	3.33	Neutral	2.00
	Abaiang	3.39	1.29	3.33	Neutral	1.33
	Abemama	2.53	1.74	1.33	Very poor	3.17
	Tabnorth	3.67	1.27	4.00	Good	1.67
Cabin staff performance	Tarawa	3.54	1.17	3.50	Neutral	1.94
	Abaiang	3.17	1.33	3.13	Neutral	1.75
	Abemama	2.31	1.63	1.00	Very poor	2.81
	Tabnorth	3.44	1.17	3.56	Good	1.53
On-board product	Tarawa	2.92	1.23	2.75	Neutral	1.50
	Abaiang	2.87	1.42	3.00	Neutral	2.25
	Abemama	2.40	1.64	1.25	Very poor	2.88
	Tabnorth	2.88	1.29	3.00	Neutral	2.13
Destination service	Tarawa	3.38	1.15	3.00	Neutral	1.50
	Abaiang	3.26	1.35	3.00	Neutral	3.20
	Abemama	2.56	1.74	1.00	Very poor	3.50
	Tabnorth	3.75	1.31	4.00	Good	2.37
Overall airline performance	Tarawa	2.86	1.12	2.83	Neutral	1.75
	Abaiang	3.05	1.31	2.83	Neutral	1.83
	Abemama	2.41	1.65	1.33	Very poor	3.17
	Tabnorth	3.23	1.68	3.17	Neutral	2.08

7.3 Testing Hypotheses

The hypotheses for airline service quality will be tested to check whether they are supported or not according to the evaluation of air travellers. It is the aim of this study to determine and to compare the satisfaction level of air travellers from different islands within Kiribati in regard to their assessment of the airline service quality. In Hypothesis One; the null hypothesis assumes that

passengers are satisfied with the quality of airline and service delivery in Kiribati irrespective of and in respect to their home-islands. Hypothesis two compares the satisfaction level on airline service quality of air travellers between islands. The third hypothesis compares the satisfaction level between age groups and hypothesis four compares the satisfaction level between genders. The results are grouped accordingly as follows.

7.3.1 Satisfaction level for the whole sample

Wilcoxon Signed Rank Test is used in the following one-sample test statistics.

Table 7.4(a) indicates that the satisfaction level for the whole sample on airline dimension is less than the cut-off value which is 3.51 as confirmed in the upper and lower confidence interval values (3.000, 3.125). Additionally, with the p-value of 0.000, (<0.05), implies that the median is significantly less than the cut-off value (3.51) providing strong evidence to maintain the alternative hypothesis; i.e. *customers are not satisfied with airline service quality.*

Table 7.4 (b) confirms the satisfaction level on each of the airline dimensions which are found to fall below the cut-off value indicating that overall air travellers are not satisfied with the quality of airline service offered in Kiribati. Detailed statistics on these tests can be accessed in Appendix H and I respectively

Table 7.4(a): One sample test on overall airline dimensions

One sample test					
Test value = 3.51					
Measures	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
Overall Customer Satisfaction			lower	upper	

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Airline dimensions	161094.5	0.000	3.000	3.125	Rejected

Table 7.4(b): One sample test on each of airline dimension

One sample test					
Test value = 3.51					
Dimensions	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
			lower	upper	
Check-in process	4291	0.000	2.900	3.200	Rejected
Boarding procedures	6412	0.032	3.167	3.500	Rejected
Cabin-staff performance	4943	0.000	2.938	3.313	Rejected
On-board products	2523	0.000	2.625	3.000	Rejected
Destination services	5641	0.001	3.000	3.500	Rejected
Overall airline performance	3086	0.000	2.667	3.000	Rejected

7.3.2 Satisfaction level per island

Table 7.5 presents the test statistics of passenger satisfaction on airline service dimensions in respect to islands. With the cut-off value 3.51 the median difference for the satisfaction level and the p-values of <0.05 imply the medians are significantly less than the cut-off value (3.51) providing strong evidence to reject the null hypothesis, hence the alternative hypothesis will be maintained; i.e. *passengers are not satisfied with airline service quality on their home-island.* A detailed statistical result for this test can be accessed in Appendix J.

Table 7.5: One sample test on airline service quality in respect to islands

One sample test					
Test value = 3.51					
Islands	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
			lower	upper	
Tarawa	11696.0	0.000	3.125	3.400	Rejected
Abaiang	10412.0	0.000	3.000	3.250	Rejected
Abemama	6414.0	0.000	2.250	2.625	Rejected
TabNorth	13234.0	0.020	3.250	3.500	Rejected

7.3.3 Satisfaction level on each dimension per island

Table 7.6 presents the result of one sample test conducted on each airline service quality dimension for each island to determine if they reach the cut off value of 3.51 (a good satisfaction level). As seen in the 'assessment of null hypothesis' column, most dimensions do not reach the "good" satisfaction level resulting in the rejection of the null hypothesis. This designates dissatisfaction among air travellers on those airline service quality dimensions. As observed in the results (refer Table 7.6) the "rejection" of the null hypothesis is higher than "maintaining it" which confirms the fact that overall satisfaction level among air travellers on the quality of airline service is "poor". Refer to appendix K for detailed test results.

Table 7.6: One sample test on individual airline service quality dimension per island

Test value = 3.51							
Dimensions	Islands	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Estimated median	Assessment of null hypothesis
				Lower	Upper		
Check-in process	Tarawa	313	0.054	2.90	3.60	3.20	Maintained
	Abaiang	223	0.001	2.90	3.40	3.20	Rejected
	Abemama	156	0.000	1.80	2.80	2.40	Rejected
	Tabnorth	363	0.271	3.00	3.70	3.40	Maintained

Boarding procedures	Tarawa	516	0.608	3.33	4.00	3.67	Maintained
	Abaiang	437	0.367	3.17	3.67	3.33	Maintained
	Abemama	206	0.000	1.83	3.00	2.67	Rejected
	Tabnorth	500	0.548	3.33	4.00	3.67	Maintained
Cabin staff performance	Tarawa	477	0.966	3.25	3.81	2.56	Maintained
	Abaiang	251	0.003	2.94	3.38	3.13	Rejected
	Abemama	146	0.000	1.75	2.75	2.31	Rejected
	Tabnorth	402	0.540	3.19	3.75	3.44	Maintained
On-board product	Tarawa	162	0.000	2.63	3.25	2.88	Rejected
	Abaiang	166	0.000	2.50	3.13	2.88	Rejected
	Abemama	168	0.000	2.00	2.75	2.38	Rejected
	Tabnorth	130	0.000	2.50	3.12	2.88	Rejected
Destination service	Tarawa	330	0.085	3.00	3.75	3.50	Maintained
	Abaiang	352	0.063	3.00	3.75	3.25	Maintained
	Abemama	225	0.000	2.00	3.00	2.75	Rejected
	Tabnorth	514	0.438	3.50	4.25	3.75	Maintained
Overall airline performance	Tarawa	108	0.000	2.67	3.17	2.88	Rejected
	Abaiang	224	0.001	2.75	3.33	3.00	Rejected
	Abemama	168	0.000	2.00	2.83	3.33	Rejected
	Tabnorth	238	0.008	2.83	3.42	3.17	Rejected

7.4 Comparison of satisfaction between islands

The study examined whether satisfaction among air travellers from the four islands is the same on airline service quality and hypothesised as *satisfaction on the quality of airline service among air travellers from the 4 islands within Kiribati is the same*.

Table 7.7 represents the test result on the sample medians of airline dimension on the four islands with the z-values indicating the mean rank for each respective island. As can be observed, the mean rank for Tarawa is higher than Abaiang and Abemama but lower than TabNorth of 4.64 which is the highest of the mean rank among the islands. Abemama has the least mean rank of negative z-value (-8.54).

The test statistic (H) had a p-value of 0.000 indicating that the null hypothesis can be rejected, hence the alternative hypothesis be supported; i.e. *satisfaction on the quality of airline service*

among air travellers from the 4 islands within Kiribati is not the same. The detail statistical test for this can be accessed in Appendix L.

Table 7.7: KRUSKAL-WALLIS test for satisfaction between islands on airline dimensions

		KRUSKAL-WALLIS				
ISLANDS	MEDIAN	AVE. RANK	z	H	DF	p-value
Tarawa	3.225	581.5	2.99 }			
Abaiang	3.000	550.9	1.19 }			
Abemama	2.000	397.8	-8.54 }	78.08	3	0.000
TabNorth	3.333	609.1	4.64 }			

7.5 Comparison of satisfaction level on each dimension between islands

It is the aim of this study to compare the satisfaction level among the service quality dimensions of airlines between islands. In order for this study to accomplish this, a KRUSKAL-WALLIS statistic is used to carry out this test. The test is carried out on each dimension per island to determine if there is no difference in the median between the four islands and the test results are grouped according to each dimension as presented in Table 7.8.

From the results, it can be concluded that dimensions with p-values < 0.05 tend to reject the null hypothesis and support the alternative hypothesis which is; *there is difference in the service quality dimension median between islands.*

The test statistic (H) had p-value for each dimensions, indicating that the null hypothesis can be rejected at α levels higher than shown in the p-value column and would favour the alternative hypothesis instead of null hypothesis. Since 95% is used as a level of significance throughout our analysis, p-values with <0.05 are rejected, except for the "on-board product" with a p-value > 0.05, hence support the null hypothesis. The detailed statistics for these tests can be found in Appendix M.

Table 7.8: KRUSKAL test on airline service quality dimension per island

Airline service quality dimensions	H	P-value	Assessment of the Null Hypothesis
Check-in process	16.83	0.001	Rejected
Boarding procedures	15.74	0.001	Rejected
Cabin staff performance	25.30	0.000	Rejected
On-board product	5.54	0.136	Maintained
Destination service	13.81	0.003	Rejected
Airline overall performance	9.70	0.021	Rejected

7.6 Comparison of satisfaction level between age groups

Table 7.9 represents a comparison of satisfaction level among the four age groups and found that the hypothesis is not supported since the p-value < 0.05. This implies that there is insufficient evidence to support the null hypothesis, hence the alternative hypothesis can be maintained which is; there *is a difference in the medians between age groups*. This means that the satisfaction level varies according to age groups. Refer to Appendix N for a detailed test results.

Table 7.9: KRUSKAL-WALLIS test for satisfaction on airline service quality between age groups

KRUSKAL-WALLIS						
Age group	MEDIAN	AVE. RANK	z	H	DF	p-value
Under 20	3.00	2705.2	3.52			
Age 20 to 35	3.00	2542.5	3.27	36.66	3	0.000
Age 36 to 50	3.00	2371.2	-3.31			
Over 50	3.00	2260.2	-3.72			

7.7 Comparison of satisfaction level between gender

Table 7.10 presents a KRUSKAL-WALLIS test results on the comparison of satisfaction level between genders. Since the p-value is less than 0.05 the alternative hypothesis in this case will be maintained instead of the null hypothesis, i.e. *there is a difference in the medians between*

genders. This implies that the satisfaction level between gender is not the same. Appendix O

contains a detailed test result of this.

Table 7.10: KRUSKAL-WALLIS test for satisfaction on airline service quality between genders

KRUSKAL-WALLIS						
Gender	MEDIAN	AVE. RANK	z	H	DF	p-value
Females	3.00	2608	6.55			
Males	3.00	2341	-6.55	42.93	1	0.000

CHAPTER EIGHT

ANALYSIS OF RESULTS: AIRPORT SERVICE QUALITY

8.1 Descriptive statistics

The descriptive statistics for satisfaction level on airport dimensions are presented in order to determine and compare the satisfaction level among passengers within Kiribati. The statistics are presented as a whole sample and according to islands where the study was conducted. This data is constructed according to passengers' evaluation on the service quality dimensions of local airports in Kiribati.

8.2 Satisfaction level for the whole sample

Table 8.1 shows the overall satisfaction level on the airport dimensions on the whole sample. It is obvious from the result that terminal comfort demonstrated a "very poor" satisfaction level, followed by ground transportation and passenger facility with a "poor" level of satisfaction. Staff service and ease of transfer were rated with a "neutral" level of satisfaction. Overall, participants are unsatisfied with the quality of service quality at local airports in Kiribati. Detailed statistics on this can be accessed in Appendix P.

Table 8.1: Satisfaction level on airport service quality irrespective of islands

Airport Dimensions	Mean	Standard Deviation	Median	Description	Inter Quartile
Ground Transportation	2.23	1.20	2.00	Poor	2.00
Passenger facility	2.24	1.16	2.00	Poor	2.00
Staff service	3.22	1.25	3.00	Neutral	1.67
Terminal comfort	1.72	1.07	1.00	Very poor	1.00
Ease of transfer	2.70	1.11	1.67	Poor	1.83
Overall satisfaction	**2.42**	**1.16**	**1.93**	**Poor**	**1.75**

Table 8.2 presents the satisfaction level on the service quality of local airports per island. The satisfaction level among the islands ranges from "neutral" to "very poor". As observed, the TabNorth sample generated a "neutral" satisfaction level, while those from Abemama seemed to be the most dissatisfied generating a "very poor" level of satisfaction followed by Abaiang and Tarawa with a "poor" level of satisfaction. Overall, the participants from each island are not satisfied with the service quality of the airports at their respective islands.

Table 8.2: Satisfaction level on airport service quality per island

Islands	Mean	Standard deviation	Median	Description	Inter Quartile
Tarawa	2.60	1.15	2.45	Poor	1.64
Abaiang	2.36	1.22	2.01	Poor	1.31
Abemama	2.09	1.52	1.13	Very poor	2.20
TabNorth	2.68	1.25	2.51	Neutral	1.83
Overall satisfaction	2.43	1.29	2.03	Poor	1.75

Table 8.3 depicts the satisfaction level on the individual airport dimensions on every island. The participants from Tabnorth are the only ones demonstrating a "good" level of satisfaction in the area staff service. However, services offered by the other dimensions seemed to be unsatisfying as the samples from each island generated a "neutral" to a "very poor" level of satisfaction.

Table 8.3: Satisfaction on each airport dimension for each island

Dimensions	Islands	Mean	Std. dev.	Median	Description	IQR
Ground transportation	Tarawa	2.56	1.19	2.50	Poor	2.00
	Abaiang	2.14	1.30	2.00	Poor	2.00
	Abemama	1.65	1.17	1.00	Very poor	1.00
	Tabnorth	2.62	1.40	2.50	Poor	2.38
Passenger facility	Tarawa	2.48	1.22	2.60	Neutral	1.80
	Abaiang	1.82	1.13	1.40	Very poor	1.40
	Abemama	2.29	1.62	1.00	Very poor	2.60
	Tabnorth	2.37	1.30	2.20	Poor	1.75
Staff service	Tarawa	3.29	1.11	3.00	Neutral	1.50
	Abaiang	3.35	1.19	3.00	Neutral	1.33
	Abemama	2.57	1.76	1.67	Poor	3.67
	Tabnorth	3.75	1.09	4.00	Good	2.00
Terminal comfort	Tarawa	1.81	1.11	1.50	Very poor	1.25
	Abaiang	1.64	1.18	1.00	Very poor	0.50
	Abemama	1.70	1.37	1.00	Very poor	0.75
	Tabnorth	1.74	1.23	1.00	Very poor	1.00
Ease of transfer	Tarawa	2.88	1.11	2.67	Neutral	1.67
	Abaiang	2.82	1.30	2.67	Neutral	1.33
	Abemama	2.25	1.68	1.00	Very poor	2.83
	Tabnorth	2.90	1.26	2.83	Neutral	2.00

8.3 Testing Hypotheses

The hypotheses for airport service quality will be tested to check if they are supported or not according to the evaluation of air travellers. It is the aim of this study to determine and to compare the satisfaction level of air travellers from different islands within Kiribati in regard to their assessment of the airport service quality. In Hypothesis One, the null hypothesis assumes that passengers are satisfied with the quality of airport service delivery in Kiribati irrespective of and in respect to their home-islands. Hypothesis two compares the satisfaction level on airline service quality of air travellers between islands. The third hypothesis compares the satisfaction level between age groups and hypothesis four compares the satisfaction level between genders. The results are grouped accordingly as follows.

Wilcoxon Signed Rank Test is used in the following one-sample test statistics.

The results presented in Table 8.4(a) indicates that the satisfaction level for the whole sample on airport dimension is less than the cut-off value which is 3.51 as confirmed in the upper and lower confidence interval values (3.000, 3.125). Additionally, with the p-value of 0.000, (<0.05), implies that the median is significantly less than the cut-off value (3.51) providing strong evidence to support the alternative hypothesis; i.e. *passengers are not satisfied with airport service quality.*

Table 8.4(b), however, confirms that satisfaction among air travellers in Kiribati is below the cut-off value, which is 3.51, indicating that overall satisfaction is at a low level which means that air travellers are not satisfied with the quality of airport service. Although samples are taken from the four islands, overall ratings indicate that air travellers have had poor experiences on the service quality of airport features. A detailed statistic for these tests can be accessed in Appendix Q and R respectively.

Table 8.4(a): One sample test on the overall airport dimensions

One sample test					
Test value = 3.51					
Measures	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
			lower	upper	
Overall Customer Satisfaction					
Airport dimensions	44979.0	0.000	2.300	2.500	Rejected

Table 8.4(b): One sample test on each of airport dimension

One sample test					
Test value = 3.51					
Dimensions	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
			lower	upper	
Ground Transportation	999.0	0.000	2.000	2.250	Rejected
Passenger Facility	1090.0	0.000	2.000	2.400	Rejected
Staff service	5823.0	0.003	3.000	3.500	Rejected
Terminal comfort	317.0	0.000	1.500	1.750	Rejected
Ease of Transfer	2209.0	0.000	2.500	2.833	Rejected

8.3.2 Satisfaction level per island

With the results given in Table 8.5 on airport satisfaction level in respect to islands, it is clear that with the cut-off value 3.51 the median difference for the satisfaction level and the p-values of <0.05 imply the medians are significantly less than the cut-off value (3.51) providing strong evidence to support the alternative hypothesis; i.e. *passengers are not satisfied with airline service quality on their home-island.* A detailed statistical result for this test can be accessed in Appendix S.

Table 8.5: One sample test on airport service quality per island

One sample test					
Test value = 3.51					
Islands	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Assessment of null hypothesis
			lower	upper	

S.Tarawa	2523.0	0.000	2.450	2.750	Rejected
Abaiang	2321.0	0.000	2.100	2.500	Rejected
Abemama	2472.0	0.000	1.750	2.333	Rejected
TabNorth	3755.0	0.000	2.500	2.833	Rejected

8.3.3 Satisfaction level on each dimension per island

Table 8.6 presents the result of one sample test conducted on each airport service quality dimension for each island to determine if they reach the cut off value of 3.51 (a good satisfaction level). As indicated in the assessment of the null hypothesis column, most dimensions do not reach the cut-off value 3.51 (good satisfaction level) resulting in the rejection of the null hypothesis, hence the alternative hypothesis is maintained. This indicates dissatisfaction among air travellers on airport service quality dimensions. As observed only two islands managed to attain the "good" satisfaction level for staff service as the null hypothesis was supported. Appendix T contains a detailed statistics test for this table.

Table 8.6: On sample test on individual airport service quality dimension per island

Test value = 3.51							
Dimensions	Islands	Wilcoxon Statistic	Significant (2 tailed test) p-value	95% confidence interval		Estimated median	Assessment of null hypothesis
				Lower	Upper		
Ground transportation	Tarawa	74	0.000	2.25	3.00	2.50	Rejected
	Abaiang	62	0.000	1.75	2.50	2.00	Rejected
	Abemama	22	0.000	1.00	1.75	1.25	Rejected
	Tabnorth	114	0.000	2.25	3.00	2.50	Rejected
Passenger facility	**Tarawa**	**85**	**0.000**	**2.10**	**2.80**	**2.40**	**Rejected**
	Abaiang	**16**	**0.000**	**1.40**	**1.90**	**1.60**	**Rejected**
	Abemama	**147**	**0.000**	**1.80**	**2.60**	**2.40**	**Rejected**
	Tabnorth	**71**	**0.000**	**2.00**	**2.70**	**2.30**	**Rejected**
Staff service	Tarawa	301	0.038	3.00	3.50	3.33	Rejected
	Abaiang	**411**	**0.232**	**3.00**	**3.67**	**3.33**	**Maintained**

	Abemama	225	0.000	1.83	3.00	2.67	Rejected
	Tabnorth	551	0.216	3.50	4.00	3.83	Maintained
Terminal comfort	Tarawa	11	0.000	1.50	2.00	1.75	Rejected
	Abaiang	13	0.000	1.25	1.75	1.50	Rejected
	Abemama	40	0.000	1.00	1.75	1.00	Rejected
	Tabnorth	18	0.000	1.25	2.00	1.50	Rejected
Ease of transfer	Tarawa	119	0.000	2.67	3.17	2.83	Rejected
	Abaiang	123	0.000	2.50	3.17	2.83	Rejected
	Abemama	135	0.000	1.67	2.67	2.33	Rejected
	Tabnorth	167	0.000	2.67	3.17	2.83	Rejected

8.4 Comparison of satisfaction level between islands

The study examined whether satisfaction among air travellers from the four islands is the same on airport service quality. Table 8.7 presents the test result on the sample medians of airport dimension on the four islands with the z-values indicating the mean rank for respective island. The mean rank for Tarawa is higher than Abaiang and Abemama but lower than TabNorth of 3.53 which is the highest of the mean rank among the islands. Abemama has the least mean rank of negative z-value (-5.97).

The test statistic (H) had a p-value of 0.000 indicating that the alternative hypothesis can be maintained, i.e. *satisfaction on the quality of airport service among air travellers from the 4 islands within Kiribati is not the same.* Appendix U is the detailed statistics for this test.

Table 8.7: KRUSKAL-WALLIS test for satisfaction between islands on airport dimensions

ISLANDS	MEDIAN	AVE. RANK	z	H	DF	p-value
		KRUSKAL-WALLIS				
Tarawa	2.50	491.4	3.21			
Abaiang	2.20	434.4	-0.56			
Abemama	1.00	357.7	-5.97	43.70	3	0.000
TabNorth	2.67	497.4	3.53			

It is the aim of this study to compare the satisfaction level among the service quality dimensions of airports between islands. In order for this study to accomplish this, a KRUSKAL-WALLIS statistic is used to carry out this test. The detail statistic test for these tests can be found in Appendix V. The test is carried out on each dimension per island to determine if there is no difference in the median between the four islands and test result are grouped according to each variable as presented hereunder;

From the results presented in Table 8.8, all of the four dimensions do support the alternative hypothesis as they have p-value < 0.05; i.e. *there is a difference in service quality dimension medians between islands,* except for "terminal comfort" with a p-value > 0.05, hence the null hypothesis is maintained.

Table 8.8: KRUSKAL test on airport service quality dimension per island

Airport service quality dimensions	H	P-value	Assessment of Null hypothesis
Ground transportation	23.73	0.000	Rejected
Passenger facility	9.55	0.023	Rejected
Staff service	14.93	0.002	Rejected
Terminal comfort	**3.93**	**0.269**	**Maintained**
Ease of transfer	10.00	0.019	Rejected

Table 8.9 represents a comparison of satisfaction levels among the four age groups on airport dimensions and found that the hypothesis is not supported since the p-value < 0.05. This implies that the alternative hypothesis can be maintained; i.e. *there is a difference in the median between the age groups,* this confirms that the satisfaction level varies according to age group. Appendix W is the detailed statistic for this test.

Table 8.9: KRUSKAL-WALLIS test for satisfaction on airport service quality between age groups

KRUSKAL-WALLIS						
Age group	MEDIAN	AVE. RANK	z	H	DF	p-value
Under 20	3.00	1602.7	5.82			
Age 20 to 35	2.00	1337.9	0.69	41.74	3	0.000
Age 36 to 50	2.00	1243.0	-3.58			
Over 50	2.00	1272.0	-1.29			

8.7 Comparison of satisfaction level between genders

Table 8.10 shows a KRUSKAL-WALLIS test results on the comparison of satisfaction level between gender on airport dimensions. The p-value is less than 0.05 which means that the alternative hypothesis must be supported, i.e. *there is a difference in the medians between gender.* This implies that the satisfaction level between gender is not the same. Appendix X is the detailed statistics test for this result.

Table 8.10: KRUSKAL-WALLIS test for satisfaction on airport service quality between gender

KRUSKAL-WALLIS						
Gender	MEDIAN	AVE. RANK	z	H	DF	p-value
Females	3.00	1387.4	4.11			
Males	2.00	1265.4	-4.11	41.74	1	0.000

CHAPTER NINE

DISCUSSION

As indicated in our description of the sample chapter, out of the total respondents of 177, 91 were

females and 86 were males indicating a fairly balanced gender distribution. Most of them (142)

were within the age group of 20 to 50 which is the economically active age group in Kiribati, 16

were under age 20 and 19 were over 50. From the 177 sample, 104 were employed while 73

were not. For purpose of travel, it appears that in this study that air services are being used for

different reasons; 42 used air service for business, 57 for holidaying, 39 for medical reasons, 26

for other purposes and 13 traveled to visit family and friends.

From our demographic information, it is evident that our sample is quite young, employed and

frequently travels for the purpose of business and holidaying. This could mean that our results

may be more applicable for this part of the population.

This research did provide indications of dissatisfaction among domestic air travelers on the

service quality of a domestic airline. In addition, the results also revealed the answers to the

research questions, the satisfaction level of passengers presented as a whole sample and

according to their respective islands. The comparison of satisfaction levels on the airline service

quality was also disclosed among passengers from the islands involved in the study.

How can customer satisfaction with the quality of service delivery be described in a domestic airline within Kiribati, in respect to or regardless of their home islands?

9.2.1.1 Satisfaction level for the whole sample (irrespective of islands)

According to our test result in Table 7.4, the satisfaction level for the whole sample was found to be lower than the cut off value used in the test which was 3.51. The value was specifically chosen as it is our minimum value for "satisfaction" level (refer to Table 4.1) and therefore is used to designate the minimum satisfaction level when testing hypotheses.

Our Wilcoxon signed Rank test result shows that p-value < 0.05 which implies that the median is significantly less than the cut-off value, 3.51, providing strong evidence to maintain the alternative hypothesis; i.e. customers are not satisfied with the airline service quality. Hence, it can be safely concluded with 95% confidence that overall customers are not satisfied with the service quality of the domestic airline.

9.2.1.2 Satisfaction level per island

The results (see Table 7.5) indicated that the satisfaction level for each island was significantly below the satisfaction level which is 3.51. Our Wilcoxon signed Rank test revealed that the p-values were less than 0.05 providing strong evidence to reject the null hypothesis and to maintain the alternative hypothesis which is; passengers are not satisfied with airline service quality offered on their respective islands. Further, our results indicated that our sample from the three islands generated different levels of satisfaction. For instance Abemama scored the least satisfaction level of 2.25, Abaiang came next with a satisfaction level of 3, Tarawa came third with a level of 3.12 and TabNorth had the highest satisfaction level of 3.25. Though, TabNorth scored the highest satisfaction level (3.25) among the islands, it is still below the designated minimum value of a "good" satisfaction level (3.51). The dissatisfaction generated among passengers from

the four islands reflects the quality of service offered on these islands, which is not satisfactory based on the findings.

However, the results provided in Table 7.3 clearly indicate the level of satisfaction on each airline dimension per island. Abemama seemed to be the most dissatisfied among the islands involved in this study as it generated a "very poor" level of satisfaction on all the six dimensions. This could mean that the sample from Abemama have had a negative experience in relation to the quality of airline service offered to them causing dissatisfaction among air travelers from the island. Another possible reason for air travelers to express dissatisfaction is that they may have a better experience on sea transport because it is regular and reliable.

In contrast to the above scenario, the TabNorth sample seemed to have a better experience on the quality of an airline service as they generated a "good" level of satisfaction. This reflected the fact that the service dimensions offered on this particular island have met the expectations of air travelers. Other possible reasons of satisfaction could be the high frequency of flights to this island. TabNorth is a fuel depot for the far southern islands, and will be visited every day for refueling, therefore travelers to and from this island have a high chance of catching a flight throughout the week.

On the other hand, the two islands, Abaiang and Tarawa, have shown a "neutral" satisfaction level on the service dimensions. This means that the level of service offered from these islands did not meet the expectations' of air travelers as reflected in the "neutral" responses which is below the cut-off value 3.51. Therefore, it should be noted that air travelers are not really satisfied with the quality of service offered on their respective islands.

Overall, however, the satisfaction level on air service is unsatisfactory according to the evaluation of our samples from the four islands involved in this study. The sample's indication of dissatisfaction may be related to the airline's de-facto monopolistic position since air travelers do not have a choice of comparing the service offered by this airline with other airlines and having a

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choice of cheaper airfares to their respective islands. Secondly, the dissatisfaction among the travelers could also be related to the old fleet used which results in frequent interruption of schedules due to technical maintenance issues.

How do passengers perceive the quality of service delivery of a domestic airline with respect to or regardless of islands?

The study hypothesized that the perception of customer satisfaction on the quality of airline service between islands is not the same. From the KRUSKAL–WALLIS test (Table 7.7), the p-value (0.000) is less than alpha (0.05) providing support to reject the null and to support the alternative hypothesis which is "the medians are not equal among the islands within Kiribati". It can, therefore, be safely concluded with 95% confidence that customer satisfaction is not the same on the quality of airline service between islands within Kiribati. The mean rank (Table 7.7) revealed that the participants from TabNorth had the highest mean rank of 4.60, followed by Tarawa and then Abaiang, whereas Abemama has the lowest mean rank as it has a negative z-value of -8.54. This indicates that the samples from TabNorth, Tarawa and Abaiang rated their satisfaction higher than the sample from Abemama.

A significance test of the median rating for the satisfaction with the service quality (Table 7.8) provides strong support for rejecting the null hypothesis on five of the service dimensions except for "onboard products", implying that satisfaction levels among customers is significantly different on the five service dimensions; check-in process, boarding procedures, cabin staff performance,

destination service and airline overall performance. Nevertheless, the p-value for the service dimension "on board products" provides support for the null hypothesis which is; "the satisfaction level on this service dimension is equal across the islands".

Interestingly, similar satisfaction levels on the "onboard products" across the four islands reflects the parallel judgments of our samples on the attributes associated with the service dimension above. As presented in Table 6.1, the attributes associated with this service dimension include; seating comfort, cleanliness of cabin, value for money, total product consistency, which are expected to remain constant throughout the provision of service. It is, therefore, possible that the sample's overall rating of satisfaction on these attributes is the same. As demonstrated empirically by Sultan and Simpson (2000), respondents from the same cultural and social background are likely to have similar service quality expectations and perceptions, which is indicated by the participants from the four islands exhibiting similar characteristics on the service dimension discussed.

9.2.3 Comparison of satisfaction between age groups

The KRUSKAL-WALLIS test for comparison of satisfaction (Table 7.9) at 0.05 significant levels between age groups revealed that it is not the same. A p-value of less than 0.05 provides strong evidence to reject the null hypothesis and to support the alternative hypothesis which is; there is a difference in the medians (satisfaction level) between age groups. Therefore, it can be concluded with 95% confidence that the satisfaction level is not the same between age groups; hence the satisfaction varies according to age.

9.2.4 Comparison of satisfaction between gender

Similar to the age group test, a comparison test was also carried out on gender (Table7.10) and the finding indicated that the satisfaction level was not equal between them. The KRUSKAL-

WALLIS test has a p-value less than 0.05 providing evidence to support the alternative hypothesis which is that; there is a difference in the medians between gender. This indicates that the evaluation made by females is statistically different from the males' evaluation on the quality of airline dimensions.

9.3 Airport service quality

The results of this study revealed that service quality at the airports offered in Kiribati is not really satisfying resulting in dissatisfaction among air travelers based on their assessment on the quality of airport service dimensions. When conducting a comparison of satisfaction between the islands involved in this study it was discovered that the satisfaction was different between the islands. Additionally, it was also found that the satisfaction level varies according to age and gender.

9.3.1 Research Question One

How can customer satisfaction with the quality of service delivery be described in local airports within Kiribati, in respect to or regardless of their home islands?

9.3.1.1 Satisfaction level for the whole sample (irrespective of islands)

The test results on airport service quality revealed some dissatisfaction among air travelers within Kiribati. Our sample shows in their evaluation that they are not satisfied with the service quality offered at their local airports, additionally as indicated in the results overall satisfaction for airport service quality among the samples in Kiribati is unsatisfactory and found to be below the "good" satisfaction level set for this study (3.51).

A Whole Signed Rank Test indicated that the satisfaction level on the airport dimensions did not reach the cut-off value, 3.51, providing evidence to accept the alternative hypothesis, which is that the passengers are not satisfied with the airport service on their home-islands. As can be

observed in Table 8.1, it is evident that overall satisfaction on the five airport dimensions is poor. Terminal comfort is rated as the most dissatisfying dimension being rated with a "very poor" level of satisfaction. Terminal comfort includes the following attributes; toilet cleanliness and smoking regulations. This implies that air travelers are not happy with the standard of terminal comfort as in toilet cleanliness, and possibly the smoking regulations may not be effectively implemented. It could also mean that in some of the outer-island airport, toilets are not available for passengers. Additionally, the smoking regulations may not be acceptable among most travelers since the rates of smoking in Kiribati are high and people may not readily accept a non-smoking policy in public areas.

The ground transport and passenger facilities are the next dissatisfying dimension with a "poor" level of satisfaction according to the assessment made by air travelers. The dissatisfaction may be related to the difficulty in accessing public transport to get to and from an airport. It could mean also that passengers may have bad experiences in getting to the airport causing them to miss a flight. In addition, dissatisfaction on passenger facilities could be a result of poor service on the following attributes; terminal comfort, terminal cleanliness, seat facilities, check-in facilities and terminal signage which are the associated attributes of passenger facilities.

The other two dimensions, ease of transfer and staff service are rated with "neutral" responses. Although they are rated neutral, it is found that they are still below the cut-off value which is 3.51 confirming that passengers are not satisfied with these two dimensions. As can be observed in Table 8.4, a Wilcoxon Significance test revealed that overall satisfaction on the five dimensions of airport is not satisfactory. As evidenced the p-value was less than 0.05, providing evidence for this study to reject the null hypothesis and to accept the alternative hypothesis which is; "passengers are not satisfied with airport service quality".

The Wilcoxon test (Table 8.5) results revealed that none of the four islands reached the minimum designated satisfaction level which is 3.51. This indicates that air travelers from the four islands are not satisfied with the quality of airport service offered on their individual islands. The p-value for each island was found to be less than 0.05, providing strong evidence to accept the alternative hypothesis which is, "passengers are not satisfied with the quality of airport service offered on their home islands". This confirms that the quality of airport service on each island does not meet the expectations of air travelers.

Overall, however, the satisfaction level on airport service is unsatisfactory according to the evaluation of our samples from the four islands.

9.3.2 Research Question Two

How do passengers perceive the quality of service delivery of local airports in respect to or regardless of islands?

9.3.2.1 Comparison of satisfaction between islands

The study hypothesized that the perception of customer satisfaction on the quality of airport service between islands is not the same. From the KRUSKAL–WALLIS test (Table 8.7), the p-value (0.000) is less than alpha (0.05) providing support to reject the null and to support the alternative hypothesis which is "the medians are not equal among the islands within Kiribati". It can, therefore, be safely concluded with 95% confidence that customer satisfaction is not the same on the quality of airline service between islands within Kiribati. The mean rank revealed that the participants from TabNorth has the highest mean rank of 3.53, followed by Tarawa with a mean rank of 3.21, Abaiang of -0.56 mean rank, and Abemama has the lowest mean rank as it

has a negative z-value of -5.97. This indicates that the samples from TabNorth, Tarawa and Abaiang rated their satisfaction higher than the sample from Abemama.

A significance test of the median rating for the satisfaction with airport service quality (Table 8.8) provides strong support for rejecting the null hypothesis on four service dimensions except for "terminal comfort". This implies that satisfaction level among customers is significantly different on the five airport service areas; ground transportation, passenger facility, staff service, terminal comfort and ease of transfer. For instance as can be observed in Table 8.8, the four service dimensions were found to reject the null hypothesis; hence the alternative is maintained as the p-values were less than 0.05. However, the p-value for "terminal comfort" service was found to be greater than 0.05 implying that the null hypothesis can be maintained; "the satisfaction level is equal among the four islands".

A similar satisfaction level on "terminal comfort" across the four islands reflects parallel judgments of our samples on the attributes associated with the service dimension above. As presented in Table 6.4, toilet cleanliness and smoking regulations were the attributes associated with "terminal comfort". This could mean that generally air travelers on the four islands have similar experiences on the two associated attributes and secondly this reflected the standard of cleanliness on airports as well as standardized smoking regulations nationwide. Additionally, it could also mean that similar satisfaction levels on the four islands may be related to the respondents' cultural and social background. As mentioned previously, this study recruited all citizens of Kiribati, having the same cultural and social background and it is, therefore, possible that the sample's overall rating of satisfaction on these attributes would be the same. As demonstrated empirically by Sultan and Simpson (2000), respondents from the same cultural and social background are likely to have

similar service quality expectations and perceptions, which is indicated by the participants from the four islands exhibiting similar characteristics on the service dimensions discussed.

9.3.3 Comparison of satisfaction between age groups

The KRUSKAL-WALLIS test for comparison of satisfaction (Table 8.9) at 0.05 significant levels between age groups revealed that it is not the same. A p-value of less than 0.05 provides strong evidence to reject the null hypothesis and to support the alternative hypothesis which is; there is a difference in the medians (satisfaction level) between age groups. Therefore, it can be concluded with 95% confidence that the satisfaction level is not the same between age groups; hence the satisfaction varies according to age.

9.3.4 Comparison of satisfaction between gender

A significant test was carried out to compare the satisfaction level on airport service between gender. It was revealed in the findings presented in Table 8.10 that the satisfaction level was not equal between gender. The KRUSKAL-WALLIS test has a p-value less than 0.05 providing evidence to support the alternative hypothesis which is; there is a difference in the medians between gender. This indicates that the evaluation made by females is statistically different from the males' evaluation.

CHAPTER TEN

CONCLUSIONS AND IMPLICATIONS

10.1 Summary of Findings and Conclusions

The service dimensions for airline and airports investigated in this study received negative responses by the respondents as factors that influenced their level of satisfaction with air service. Basically, air travellers have indicated a poor level of dissatisfaction on those service dimensions implying that their experiences did not match their expectations. The most dissatisfying dimension for airline service quality (by mean score) was on-board products, followed by overall airline performance, check-in process and destination; service appeared next, then cabin staff performance, and boarding procedure is the least dissatisfied dimension.

However, the airport service dimensions have the following order starting with the least satisfying dimension (by mean score); terminal comfort, followed by passenger facility, ground transportation came next, ease of transfer is the fourth and staff service was found to be the least dissatisfying dimension among the five airport service attributes. These results may lead to suggestions for airline management and policy-makers to consider how they might improve customer retention in today's competitive air transportation environment.

Results of this analysis have also shown that comparison between groups indicated different levels of satisfaction. For instance, comparing satisfaction level between islands appears not to have the same satisfaction level. Similarly, among different age groups, the satisfaction level differs. In addition, there is no significant association in satisfaction level between gender groups. Between islands, it was observed that the satisfaction level among the six dimensions differs according to island. For instance, with five of the airline service dimensions Abemama air travellers have shown a "very poor" satisfaction level except for on-board products. On the other

hand, TabNorth air travellers have shown a "good" satisfaction level on four of the dimensions except for on-board products and overall airline performance. The two islands, Tarawa and Abaiang, have indicated a "neutral" level of satisfaction on all of the six dimensions. It is obvious that air travellers have different experiences on these services on their respective islands, which need to be further investigated with a refined methodology to fully scrutinize the status quo.

10.2 Implications of the findings

10.2.1 For Regulators and Policy Makers

It has been found in this study that generally customer satisfaction with air service quality is poor or below the satisfactory level in Kiribati. This implies that policy makers and industry regulators such as the Ministry of Transport, Communications and Tourism as well as the Board of Directors for Air Kiribati, need to be alerted to this empirical fact and take pragmatic steps to ensure that the domestic airline and local airports improve their efficiency and effectiveness in the provision of air services that meet and exceed customer needs, desires and expectations. This can be done by encouraging the authorities of the domestic airline and local airports to focus more attention and resources on service quality dimensions which are found to be the least satisfying as identified in this study.

In this regard, efforts and resources should be focused on improving those dimensions which are found to be most dissatisfying and would be detrimental to the long term viability of air transport in Kiribati. This means that a more concerted effort by management and intensive strategies must be geared towards improving those services for which passengers are least satisfied.

The results of this study suggest that marketing managers should survey their customers and work to reduce dissatisfaction on all components of satisfaction. This is either through a statistical analysis or through surveying customers to determine their perceptions of the importance of

various components of satisfaction. Understanding the factors that influence customer satisfaction can have substantial value to marketing managers. This value may occur in the form of greater customer loyalty or greater marketing advantage.

Marketing managers may find the results of this study applicable to many situations and should keep the results in mind when establishing policies and evaluating service levels. For example:

1. Marketing managers should periodically survey customers to assess levels of satisfaction. Of course every customer needs to be satisfied but to the extent that factors influencing satisfaction differ between major customers and minor ones, concentrating only on the components of satisfaction important to major customers will tend to ignore those components important to minor customers, to the extent that they differ.

2. Training should be provided to frontline personnel, who are often the only face from the service provider that customers see. These frontline people need to recognize signs of dissatisfaction before they run out of control and they need to be trained to a) probe to find out the basis for the dissatisfaction, and b) report those findings quickly to managers. If these frontline personnel are penalized for reporting "bad news" their tendency will be to hide that news until it can no longer be contained.

3. Finally, the regulators should encourage marketers through marketing seminars and workshops to seek meeting and exceeding not only the expectations but also the experiences of customers. This is because according to the findings of this study it has been verified that expectation and experiences have uncovered the customers' level of satisfaction of air services in Kiribati.

Many of the issues that affect customer satisfaction span practical limitations, therefore it is the responsibility of a domestic airline and airport authorities to establish cross-functional teams to develop and implement action plans. One of the best ways of achieving this involvement by

different groups of employees is to involve them in the whole process (Doole & Lowe, 2008). With the availability of survey results, such as in this study, it is important that they are shared with the same groups that were involved right at the beginning. Workshops are an excellent environment for analysing the survey findings and driving through action planning. In this case, the survey data can be made user friendly and explained so that findings can be moved from something that has been collected and owned by the researcher to something that is believed in and found useful by the people that will have to implement the changes which may lead into the improvement of customer satisfaction.

It is believed that no company can truly satisfy its customers unless top management is fully behind the programme. This does not just mean that they endorse the idea of customer satisfaction studies but that they are genuinely customer orientated (Doyle, 2002).

10.2.2 For air service providers

According to the results and findings of this study, it is imperative for a domestic airline and local airport authorities to note customer dissatisfaction with their service quality. Specifically, the findings imply that the management of a domestic airline as well as local airports should acknowledge the findings of this study and work harder to develop effective strategies to improve the situation. Along with the results, management should understand that generally their customer satisfaction is poor and therefore need to work towards achieving or exceeding the expectation or desired service quality of their customers.

10.3 Recommendations for Further Research

This study mainly assessed and analysed customer satisfaction on the service quality of air service within Kiribati specifically on four islands only. It is, therefore, recommended that future research should focus on the following;

1. Include more islands in order to get a more general feedback on the satisfaction level of air service quality within Kiribati

2. Develop and verify a model of customer satisfaction for air service in Kiribati

3. A larger sample size encompassing all demographic categories of Kiribati air travellers should be employed to better examine occurrences of dissatisfaction on air transportation within Kiribati

Finally this study used the SKYTRAX questionnaire which has been manipulated to fit the situation of air service in Kiribati. The questionnaire was translated into the Kiribati language; some of the questions were removed as they were irrelevant to the situation of Kiribati air service. The translation and elimination of some questions may have changed the meaning of the whole questionnaire due to the limited vocabulary in the Kiribati language and also the incompleteness of the original questions. It is, therefore, recommended that different models and methodology should be used for a similar study and result comparison.

REFERENCE

Abraham, S. C. (2006). *Strategic Planning: A Practical Guide for Competitive Success.* Pomona: Thomson.

Air Transport Action Group. (2008). *The economic and social benefits of air Transport.*

AirKiribatiLtd. (2002). *Air Kiribati Tours*. Retrieved August 12, 2011, from http://www.kiritours.com/Travel/AirKiribati/about.html.

Aksoy, S., Atilgan, E., & Akinci, S. (2003). Airline services marketing by domestic and foreign firms: differences from the customers' viewpoint. *Air Transport Management, 9*, 353-351.

Asian Development Bank. (2009). *Kiribati Social and Economic Report 2008: Managing Development Risk.* Manila, Philippines: Asian Development Bank.

Babakus, E., & Boller, G. W. (1992). An empirical assessment of the SERVQUAL Scale. *Journal pf Business Research, 24*, 253-268.

Bearden, W. O., & Teel, J. E. (1983). Selected Determinants of consumer satisfaction and complaint reports. *Journal of Marketing Research, 20*, 21-28.

Bei, L.-T., & Shang, C.-F. (2006). Building marketing strategies for state-owned enterprises against private ones based on the perspectives of custo,er satisfaction and serivce quality. *Journal of Retailing and Consumer services, 13*(1), 1-13.

Bitner, M. (1992). Servicescapes: The Impact of physical surroundings on customers and employees. *Journal of Marketing, 56*, 57-71.

Bitner, M. J., & Hubbert, A. R. (1994). Encounter satisfaction versus Overall satisfaction versus Quality. *Marketing Research*, 324-332.

Brady, M., & Cronin, J. J. (2001). Some new thoughts on conceptualising perceived service quality: A hierarchical approach. *Journal of Marketing, 65*(3), 34-49.

Bryman, A., & Bell, E. (2007). *Business research methods* (2nd ed.). Oxford: Oxford University Press.

Brysland, A., & Curry, A. (2001). Service improvements in public services using SERVQUAL. *Managing Service Quality, 11*(6), 386-401.

Carman, J. M. (1990). consumer Perception of Service Quality: An assessment of the SERVQUAL Dimensions. *Journal of Retailing, 66*(1), 235-55.

Chang, Y. H., & Yeh, C. H. (2002). A survey analysis of Service Quality for domestic airlines. *European Journal of Operational Research, 139*(1), 166-77.

Chen, C. F. (2008). Investigating structural relationships between service quality, perceived value, satisfaction, and behavioral intentions for air passengers: Evidence from Taiwan. *Transportation Research Part A, 42*, 709-717.

Chen, F. Y., & Chang, Y. H. (2005). Examining airline service quality fro, a process perspective. *Air Transport Management, 11*, 79-87.

Churchill, G. A., & Suprenant, C. (1982). an investigation into the determinants of Customer Satisfaction. *Journal of Marketing Research, 29*, 491-504.

Cole, S. (1998). *Applied Transport Economic.* London: Kegan Page Ltd.

Cronin, J. J., & Taylor, S. A. (1992). Measuring service quality: a re-examination and extension. *Journal of Marketing, 56*, 55-68.

Dale, B. (2009). Is Transport an effective tool for sustainable development? *Sustainable Development, 17*(4), 210-219.

Dictionary. (2011). *freedictionary.com*. Retrieved April 21, 2011, from http://www.freedictionary.com

Doganis, R. (2001). *The airline business in the 21st century.* London: Routledge.

Doganis, R. (2006). *The airline Business* (2nd ed.). London: Routledge.

Doole, I., & Lowe, R. (2008). *Internatonal marketing Strategy* (5th ed.). London: Cengage Learning EMEA.

Doyle, P. (2002). *Marketing Management and Strategy* (3rd ed.). Essex: Pearson Education Ltd.

Draper, N. R., & Smith, H. (1981). *Applied Regression Analysis.* New York: Wiley.

Edvardsson, B., Roos, I., & Gustafsson, A. (2005). The role of customer clubs in recent Telecom relationships. *International Journal of Service Research, 16*(5), 436-454.

Elliot, K., & Roach, D. (1993). Service Quality in the airline industry: Are carriers getting an unbiased evaluation from consumers? *Journal of Prefessional Services Marketing, 19*.

Farlex. (2011). *freedictionary*. Retrieved September 10th, 2011, from http://www.thefreedictionary.com.

Fodness, D., & Murray, B. (2007). Passengers' expectations of airport service quality. *Journal of Services Marketing, 21*(7), 492-506.

Freedictionary. (2011). *thefreedictionary*. Retrieved April 23, 2011, from http://www.investorwords.com/6664/service.html

Freathy, P., & O'Connell, F. (2000). Market Segmentation in the European airport sector. *Marketing Intelligence and Planning, 18*(3), 102-111.

Garland, B. C., & Westbrook, R. A. (1989). An exploration of client satisfaction in a non-profit context. *Journal of Academy of marketing Science, 17*, 297-303.

Gourdin, K. (1988). Bringing Quality back to commercial Air Travel. *Transportation Journal, 27*(3), 23-29.

Graham, A., Papatheodorou, A., & Forsyth, P. (Eds.). (2008). *Aviation and Tourism: Implications for leisure travel.* Burlington: Ashgate.

Grigorousdis, E., & Siskos, Y. (2010). *Customer Satisfaction Evaluation: Methods for measuring and Implementing Service Quality.* New York: SpringerScience + Business Media.

Gronroos, C. (2000). *Service Management and Marketing.* Lexington, MA: Lexington Books.

Gronroos, C. (2001). The perceived Quality concept: a mistake? *Managing Service Quality, 11*(3), 150-152.

Groonroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing, 18*(4), 36-44.

Gummesson, E. (1991). *Qualitative Methods in Management Research* (1st ed.). Newbury Park, CA: Sage Publications, Inc.

Heesawat, C. (2005). *The opportunities and problems in making services more tangible.* Bangkok: Assumption University.

Hensel, J. S. (1990). Service Quality Improvement and Control: A Customer-Based Approach. *Journal of Business Research, 20*, 40-58.

Holloway, S. (2002). *Airlines: Managing to make money.* Ashgate: Aldershot.

Holloway, S. (2008). *Straight and Level: Practical Airline Economics* (3rd ed.). USA: Ashgate Publishing Company.

infoplease.com. (2011). *infoplease kiribati map.* Retrieved September 20, 2011, from http://www.google.co.nz/search?q=map+of+kiribati&hl=en&prmd=imvns&tbm=isch&tbo=u&source=univ&sa=X&ei=jbdKT527J6OUiQeOubSUDg&ved=0CDYQsAQ&biw=1920&bih=985

Jevons, C., Gabborr, M., & Chernatony, L. (2005). Customer and brand manager perspectives on brand relationships: a conceptual framework. *Journal of Product and Brand, 14*(5), 289-319.

Kane, M. R. (2008). *Air Transportation* (15th ed.). Iowa: Hunt Publishing Company.

Khalifa, M., & Liu, V. (2002). Satisfaction with Inter-Based Services: The role of Expectation and Desires. *Journal of Electronic Commerce, 7*(2), 31-35.

Kiribati Government. (2008). *Enhancing economic growth for sustainable development: A vibrant economy for the people of Kiribati.* Tarawa: Kiribati Government Printery.

Kiribati National Statistics Office. (2006). *Domestic travel within Kiribati-air and sea.* Retrieved February 27, 2011, from South Pacific Commission website: ww.spc.int/prism/country/ki/stats/

Kossmann, M. (2006). *Deliverying Excellence Service Quallity in Aviation: A Practical Guide for Internal and External Service Providers.* Hampshire: Ashgate.

Kotler, P. (2006). *B2B Brand Management.* New York: Springer.

Kotler, P., & Keller, K. (2006). *Marketing Management* (12th ed.). New Jersey: Pearson Education Inc.

Kotler, P., Bloom, P., & Hayes, T. (2002). *Marketing Professional Services: Forward-thinking strategies for boosting your business, your image, and your profits* (2nd ed.). Paramus, New Jersey: Prentice Hall Press.

Kotler, P., Wong, V., Saunders, J., & Armstrong, G. (2005). *Principles of Marketing* (4th ed.). Essex: Prentice Hall.

Leonard, F. S., & Sasser, W. E. (1982). The incline of quality. *Harvard Business Review, 60*(5), 163-171.

Lu, J. L., & Ling, F. I. (2008). Cross-cultural perspectives regarding service quality and satisfaction in Chinese cross-strait airlines. *Journal of Air Transport Management, 14*, 10-22.

McBurney, D., & White, T. (2010). *Research methods.* Belomont: Wadsworth Cengage Learning.

Oliver, R. L. (1980). A cognitive model of the antecedents and Consequences of satisfaction decisions. *Journal of Marketing Research, 42*(4), 460-469.

Oliver, R. L. (1993). Cognitive affective and attribute bases of the satisfaction response. *Journal of Consumer Research*, 418-430.

Oliver, R. L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer. .* New York: McGraw-Hill Companies, Inc.

Ostrowski, P. L., O'Brien, T. V., & Gordon, G. L. (1993). Service quality and customer loyalty in the commercial airline industry. *Journal of Travel Research, 32*(2), 16-24.

Pakdil, F., & Aydin, O. (2007). Expectations and perceptions in airline services: An analysis using weighted SERVQUAL scores. *Journal of Air Transportation Management, 13*, 210-248.

Parasuraman, A. (2000). Superior service and marketing excellence: Two sides of the same success coin. *Journal for Decision Makers, 25*(3), 3-13.

Parasuraman, A., Berry, L. A., & Zeithaml, V. A. (2001). Refinement and Reassessment of the SERVQUAL Scale. *Journal of Retailing*, 420-450.

Parasuraman A; Zeithamal V. A; & Berry L.L. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing.* Vol.67. pp. 420-450.

Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). A Multiple-Item Scale for Measuring Consumer Perception of Service Quality. *Journal of Retailing, 64*(1), 9-19.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*(3), 41-50.

Park, J.-W. (2007). Passenger perceptions of service quality: Korean and Australian case studies. *Journal of Air Transport Management, 13*(4), 238-242.

Park, J.-W., Robertson, R., & Wu, C.-L. (2004). The effect of airline service quality on passengers' behavioural intentions: a Korean case study. *Air Transport Management, 10*, 435-439.

Parker, C., & Mathews, B. (2001). Customer satisfaction:contrary academic and consumers' intrepretations. *Marketing Intelligence and Planning, 19*(1), 38-44.

Parker, C., & Mathews, B. P. (2001). Customer satisfaction: contrasting academic and consumers interpretations. *Marketing Intelligence and Planning, 19*(1), 38-44.

Paul, S. (2005). *Researching customer satisfaction & loyalty.* London: Kogan Page.

Reichheld, F. (1996). *The Loyalty Effect.* Boston, MA: Harvard Business School.

Seth, N., Deshmukh, S., & Vrat, P. (2005). Service Quality models: a review. *International Journal of Quality and Reliability Management, 22*(9), 913-949.

Sheehan, J. J. (2003). *Business and corporate aviation management: on demand air transportation.* New York: McGraw-Hill.

Skytrax Research of London (2003), Airline Quality, Retrieved Nov 10, 2011 from http://www.airlineequality.com/

Smith, S. M. (2007, May 9th). *How to measure customer satifaction.* Retrieved February 27, 2011, from http://www.aboutsurveys.com/how-to-measure-customer-satisfaction-satisfaction-measureent-and-theory

Sultan, F., & Simpson Jr, M. C. (2000). Internaitonal service variants: airline passenger expectations and perceptions of service quality. *Journal of Services Marketing, 14*(3), 178-227.

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Swan, J. E., & Combs, L. J. (1976). Perfromance and consumer satisfaction: A new concept. *Journal of Marketing, 40*(2), 25-33.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics* (4th ed.). Boston: Allyn & Bacon.

Trease, H. V. (Ed.). (1993). *Atoll Politics: The Republic of Kiribati.* Christchurch, NZ: Macmillan Brown Centre for Pacific Studies.

Truitt, L. J., & Hayness, R. (1994). Evaluating Service Quality and Productivity in the Regional airline Industry. *Transportation Journal, 33*(4), 21-32.

Tsaur, S.-H., Chang, T.-Y., & Yen, C.-H. (2002). The evaluation of airline service quality by fuzz MCDM. *Tourism Management, 23*, 107-115.

Vavra, T. G. (1997). *Improving your measurement of Customer Satisfaction: a guide to creating , conducting, analysing, and reporting customer satisfaction meassurements programs.* New York: HSQ Quality Press.

Wensveen, J. G. (2007). *Air Transportation: A Management Perspective.* (6th ed.). Burlington: Ashgate Publishing Company.

Westbrook, R. A., & Reilly, M. D. (1983). Value-percept disparity: an alternative to the Disconfirmation of expectations theory of consumer satisfaction. *Advances in Consumer Research, 10*(1), 256-261.

Wong, A. (2004). The role of emotions in service encounters. *Managing Service Quality, 14*(5), 365-76.

ORIGINAL SKYTRAX LIST OF RANKING ITEMS

The Airport Customer survey measures satisfaction across a range of 39 service delivery and product parameters that track the customer experience at each airport, for departing, arriving and transit passengers;

1.   Getting to & from Airport / Accessibility
2.   Public transportation options
3.   Taxi availability / prices
4.   Availability of luggage trolleys (airside & landside)
5.   Terminal comfort, ambience & general design / appearance
6.   Terminal cleanliness
7.   Seating facilities throughout terminal(s)
8.   Immigration - queuing times (departure / arrivals)
9.   Immigration - staff attitude (departure / arrivals)
10. Waiting times - at Security
11. Courtesy & Attitude of Security staff
12. Check-In facilities
13. Terminal signage
14. Clarity of Boarding Calls / Airport PA's
15. Flight Information Screens - clarity / information
16. Friendliness of Airport Staff
17. Language skills for Airport Staff
18. Ease of Transit thru Airport (between flights)
19. Location of Airline Lounges
20. Washroom / Shower facilities
21. Cleanliness of Washroom facilities
22. TV / Entertainment facilities
23. Quiet areas / Day rooms / Rest areas
24. Children's play area / facilities
25. Choice of Shopping
26. Prices charged in retail outlets
27. Choice of bars / cafes & restaurants
28. Prices charged in bars / cafes & restaurants
29. Internet facilities / Wi-Fi availability
30. Business centre
31. Telephone / fax locations
32. Bureau de change facilities
33. ATM facilities
34. Smoking policy / Smoking lounges
35. Standards of disabled persons access / facilities

36. Baggage Delivery times
37. Priority Baggage Delivery efficiency
38. Baggage Delivery - efficiency / lost luggage
39. Perception of airport security / safety standards

AIRLINE SATISFACTION RANKING AND ANALYSIS TOPICS INCLUDE:

GROUND STAFF

CHECK-IN: waiting time

Check-in: service efficiency

Check-in: staff attitudes

Boarding system efficiency

Boarding priority

Arrivals: Staff assistance

Arrivals: bag delivery times

Standard of transfer service

F/CLASS LOUNGE

Location of F/C lounges

Lounge comfort and space

Business/internet/Wi-Fi options

Food & Beverages choices

Quality of food/catering options

Washroom, shower facilities

Staff: Service efficiency

Staff: Service attitudes

CABIN STAFF SERVICE

Language skills

Grooming & Appearance

Service Efficiency

Cabin presence thru' flight

Friendliness of staff

Staff interaction with PAX

Staff attitudes

Total Service Consistency

AIRLINE WEBSITE

Ease of site navigation,

Schedules,

Fares,

Booking,

Product and Service info,

Language options,

Seat reservation

ON-BOARD PRODUCT

Seating comfort

Cleanliness of cabin

Cleanliness of toilets

Newspaper service

Airline magazine

Pillow, Blankets etc

Standard of IFE

Onboard Catering

Total Product consistency

APPENDIX B

QUESTIONNAIRE FOR THIS STUDY

This study is conducted to assess the satisfaction level of passengers on air service within Kiribati. Therefore, based on your experience as a domestic passenger, we would like you to evaluate the service quality of a domestic airline and local airports. For the purpose of this research, please show your level of satisfaction on the services listed below by circling the number that best describes your perception.

Demographic Section

Gender: Female ◯   Male ◯

Age group: under 20 ◯   between 20 and 35 ◯ between 36 and 50 ◯   over 50 ◯

Are you employed? No ◯   Yes ◯

Reasons for travel: Business ◯ Holiday ◯   Medical ◯ Visiting friends/families ◯ Other ◯

Island in which you filled in this questionnaire:

South Tarawa ◯   Abaiang ◯   Abemama ◯   TabNorth ◯

AIRLINE EVALUATION

For each statement, circle the number that best describes your satisfaction level. Your evaluation should reflect your experience on the service quality offered by that airline. On a scale of 1-5, please give your rating for each statement;

1).How satisfied are you with the following services of CHECK-IN process on this island?

	Totally Dissatisfied		Neutral		Totally Satisfied
Waiting time	1	2	3	4	5
Check-in efficiency	1	2	3	4	5
Staff enthusiasm and attitudes	1	2	3	4	5
Problem solving skills	1	2	3	4	5
Staff grooming appearance	1	2	3	4	5

2). How satisfied are you with the BOARDING procedures on this island?

	Totally Dissatisfied		Neutral		Totally Satisfied
Boarding system efficiency	1	2	3	4	5
Assistance during boarding	1	2	3	4	5
Boarding priority	1	2	3	4	5
(travelling families with children, sick people, disability)					

3). Please indicate your satisfaction level in regard to CABIN STAFF's performance in the following   services.

	Totally Dissatisfied		Neutral		Totally Satisfied
Communication skills	1	2	3	4	5
Grooming and appearance of staff	1	2	3	4	5
Cabin-service efficiency	1	2	3	4	5
Cabin presence thru flight	1	2	3	4	5
Friendliness of staff	1	2	3	4	5
Staff interaction with passengers	1	2	3	4	5
Staff enthusiasm and attitudes	1	2	3	4	5
Total service consistency	1	2	3	4	5
Standard of transfer service	1	2	3	4	5

4). Regarding the ON-BOARD PRODUCT, how satisfied are you with the following services and products?

	Totally Dissatisfied		Neutral		Totally Satisfied
Seating comfort	1	2	3	4	5
Cleanliness of cabin	1	2	3	4	5
Value of money (airfares verses quality)	1	2	3	4	5
Total product consistency	1	2	3	4	5

5).How satisfied are you with the following service quality when arriving at your DESTINATION?

	Totally Dissatisfied		Neutral		Totally Satisfied
Staff assistance	1	2	3	4	5
Bag delivery times	1	2	3	4	5

6). How satisfied are you with the overall performance of an AIRLINE in regard to the following services?

	Totally Dissatisfied		Neutral		Totally Satisfied
Flights' schedules	1	2	3	4	5
Airfares	1	2	3	4	5
Booking system	1	2	3	4	5
Product and Service information	1	2	3	4	5
Communication skills	1	2	3	4	5
Customer service (staff attitude towards you)	1	2	3	4	5

AIRPORT EVALUATION

In addition to airline evaluation, we would also like to carry out a similar study on airport evaluation. Therefore, we want you to give us your evaluation based on your satisfaction level in regard to the service delivery and product parameters of this island's airport.

Please circle the number that best describes your satisfaction for each statement.

	Totally Dissatisfied	Quite Dissatisfied	Neutral	Quite Satisfied	Totally Satisfied
1). Getting to and from airport	1	2	3	4	5
2). Public transportation options	1	2	3	4	5
3). Terminal comfort (ambience and general design/appearance)	1	2	3	4	5
4). Terminal cleanliness	1	2	3	4	5
5). Seating facilities throughout terminal	1	2	3	4	5
6). Check-in facilities	1	2	3	4	5
7). Terminal signage	1	2	3	4	5
8). Clarity of boarding calls/airport PA's	1	2	3	4	5
9). Friendliness of airport staff	1	2	3	4	5
10). Communication skills of airport staff	1	2	3	4	5
11). Cleanliness of toilets	1	2	3	4	5
12). Smoking policy/smoking areas	1	2	3	4	5
13). Baggage delivery times	1	2	3	4	5
14). Accessibility (e.g wheel chairs)	1	2	3	4	5
15). Courtesy and attitude of security staff	1	2	3	4	5

DESCRIPTIVE STATISTICS FOR AIRLINE SERVICE QUALITY (TABLE6.1)

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
WAITING TIME	177	1	5	2.77	1.463
CHECK-IN EFFICIENCY	177	1	5	3.15	1.450
STAFF ATTITUDES	176	1	5	3.19	1.471
PROBLEM SOLVING	177	1	5	3.06	1.453
STAFF APPEARANCE	177	1	5	2.94	1.525
BOARDING EFF	177	1	5	3.01	1.420
BOARDING ASST	177	1	5	3.23	1.461
BOARDING PRITY	177	1	5	3.62	1.562
COMM SKILLS	177	1	5	3.22	1.443
STAFF GRM.&APP	177	1	5	3.55	1.541
CABIN EFF	177	1	5	3.08	1.483
CABIN PRSNCE	177	1	5	2.69	1.453
FRIENDLINESS	177	1	5	3.12	1.397
INTERACTION	177	1	5	3.08	1.393
ENTHUSIASM	177	1	5	2.84	1.373
STANDARDS	177	1	5	3.19	1.417
S.COMFORT	177	1	5	2.94	1.470
CLEANLINESS	177	1	5	2.95	1.395
MONEY VALUE	177	1	5	2.37	1.343
PRO. CONSTCY	177	1	5	2.77	1.463
STAFF ASST	177	1	5	3.20	1.420
BAG DEL. TIME	177	1	5	3.24	1.519
FLT. SCH	177	1	5	3.03	1.484
AIRFARES	177	1	5	2.28	1.335
B.SYSTEM	176	1	5	3.07	1.445
PRO.&SERV INFO	177	1	5	2.88	1.311
COMM. SKILLS	177	1	5	2.93	1.351
CUST.SERV	177	1	5	2.96	1.420

Skewness		Kurtosis		Skewness Notmality	Kurtosis Normality
Statistic	Std. Error	Statistic	Std. Error	Statistics/std.error	Statistics/std.error
.212	.183	-1.234	.363	1.16	-3.40
-.135	.183	-1.239	.363	-0.74	-3.41
-.187	.183	-1.282	.364	-1.02	-3.52
-.099	.183	-1.287	.363	-0.54	-3.54
.009	.183	-1.427	.363	0.05	-3.93
-.070	.183	-1.168	.363	-0.38	-3.22

-.210	.183	-1.273	.363	-1.15	-3.50
-.662	.183	-1.106	.363	-3.63	-3.04
-.255	.183	-1.195	.363	-1.39	-3.29
-.643	.183	-1.063	.363	-3.52	-2.93
-.127	.183	-1.329	.363	-0.69	-3.66
.231	.183	-1.288	.363	1.26	-3.55
-.161	.183	-1.154	.363	-0.88	-3.18
-.115	.183	-1.108	.363	-0.63	-3.05
.116	.183	-1.152	.363	0.63	-3.17
-.212	.183	-1.142	.363	-1.16	-3.15
-.044	.183	-1.291	.363	-0.24	-3.56
-.073	.183	-1.216	.363	-0.40	-3.35
.531	.183	-.854	.363	2.91	-2.35
.179	.183	-1.270	.363	0.98	-3.50
-.185	.183	-1.175	.363	-1.01	-3.24
-.261	.183	-1.371	.363	-1.43	-3.78
-.038	.183	-1.332	.363	-0.21	-3.67
.671	.183	-.667	.363	3.67	-1.84
-.005	.183	-1.264	.364	-0.03	-3.47
.008	.183	.965	.363	0.04	2.66
.013	.183	-1.056	.363	0.07	-2.91
.022	.183	-1.255	.363	0.12	-3.46

APPENDIX D

DESCRIPTIVE STATISTICS FOR AIRPORT SERVICE QUALITY (TABLE 6.2)

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
AP TRANSP.	177	1	5	2.37	1.368
PUBLIC TRAP	177	1	5	2.08	1.272
TER.COMFRT	177	1	5	2.16	1.377
T.CLEAN.	177	1	5	2.31	1.381
SEAT FAC.	177	1	5	2.19	1.413
CHK-IN FAC	177	1	5	2.50	1.315
SIGNAGE	177	1	5	2.03	1.286
BRD CALL	177	1	5	3.23	1.461
FRNDINESS	177	1	5	3.24	1.323
COMM.SKILLS	177	1	5	3.20	1.398
TOIL.CLNESS	176	1	5	1.76	1.239
SMOKING REG.	177	1	5	1.69	1.219
BAG DEL. TIME	177	1	5	2.99	1.473
AP ACCBLTY	177	1	5	2.11	1.325
COURTESY	177	1	5	3.01	1.386

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Skewness		Kurtosis		Normality skewness	Normality kurtosis
Statistic	Std. Error	Statistic	Std. Error	Statistics/std. err	Statistics/std.err
.580	.183	-.933	.363	3.176048	-2.56865
.938	.183	-.223	.363	5.139929	-0.61347
.888	.183	-.465	.363	4.861338	-1.27942
.720	.183	-.683	.363	3.944662	-1.88008
.852	.183	-.601	.363	4.664403	-1.65438
.461	.183	-.850	.363	2.526663	-2.34102
.986	.183	-.244	.363	5.397966	-0.67167
-.233	.183	-1.228	.363	-1.27403	-3.38005
-.282	.183	-.892	.363	-1.54484	-2.45669
-.194	.183	-1.103	.363	-1.06491	-3.0362
1.479	.183	.981	.364	8.079327	2.694426
1.765	.183	1.947	.363	9.668196	5.360108
-.077	.183	-1.335	.363	-0.42381	-3.67505
.838	.183	-.580	.363	4.591441	-1.59571
-.072	.183	-1.095	.363	-0.39573	-3.01583

NORMALITY TEST RESULTS FOR AIRLINE SERVICE QUALITY (TABLE 6.7)

NORMALITY TEST RESULT FOR CHECK-IN PROCESS

Summary for checinprocess

Anderson-Darling Normality Test	
A-Squared	6.31
P-Value <	0.005
Mean	2.9718
StDev	1.3375
Variance	1.7890
Skewness	-0.00556
Kurtosis	-1.02162
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	4.0000
Maximum	5.0000

95% Confidence Interval for Mean
2.7733   3.1702
95% Confidence Interval for Median
3.0000   3.0000
95% Confidence Interval for StDev
1.2112   1.4935

NORMALITY TEST RESULT FOR BOARDING PROCEDURES

Summary for boardingprd

Anderson-Darling Normality Test	
A-Squared	8.33
P-Value <	0.005
Mean	3.2994
StDev	1.4716
Variance	2.1655
Skewness	-0.31401
Kurtosis	-1.22766
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	5.0000
Maximum	5.0000

95% Confidence Interval for Mean
3.0811   3.5177
95% Confidence Interval for Median
3.0000   4.0000
95% Confidence Interval for StDev
1.3326   1.6432

NORMALITY TEST RESULT FOR CABIN STAFF PERFORMANCE

Summary for cabinstafperf

Anderson-Darling Normality Test	
A-Squared	4.38
P-Value <	0.005
Mean	3.1045
StDev	1.2810
Variance	1.6410
Skewness	-0.221128
Kurtosis	-0.923723
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	4.0000
Maximum	5.0000

95% Confidence Interval for Mean
2.9145   3.2945

95% Confidence Interval for Median
3.0000   3.0000

95% Confidence Interval for StDev
1.1600   1.4304

95% Confidence Intervals

NORMALITY TEST RESULT FOR ON-BOARD PRODUCTS

Summary for onbordperf

Anderson-Darling Normality Test	
A-Squared	3.18
P-Value <	0.005
Mean	2.7825
StDev	1.2291
Variance	1.5107
Skewness	0.115885
Kurtosis	-0.863388
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	3.5000
Maximum	5.0000

95% Confidence Interval for Mean
2.6002   2.9648

95% Confidence Interval for Median
2.5000   3.0000

95% Confidence Interval for StDev
1.1130   1.3724

95% Confidence Intervals

NOMALITY TEST RESULT FOR DESTINATION SERVICE

Summary for destnationserv

Anderson-Darling Normality Test	
A-Squared	4.55
P-Value <	0.005
Mean	3.2203
StDev	1.3545
Variance	1.8347
Skewness	-0.27944
Kurtosis	-1.10336
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	4.5000
Maximum	5.0000

95% Confidence Interval for Mean

3.0194   3.4213

95% Confidence Interval for Median

3.0000   3.5162

95% Confidence Interval for StDev

1.2266   1.5125

NORMALITY TEST RESULT FOR AIRLINE OVERALL PERFORMANCE

Summary for overalalperf

Anderson-Darling Normality Test	
A-Squared	3.15
P-Value <	0.005
Mean	2.8644
StDev	1.2265
Variance	1.5042
Skewness	0.016772
Kurtosis	-0.867042
N	177
Minimum	1.0000
1st Quartile	2.0000
Median	3.0000
3rd Quartile	3.5000
Maximum	5.0000

95% Confidence Interval for Mean

2.6825   3.0463

95% Confidence Interval for Median

3.0000   3.0000

95% Confidence Interval for StDev

1.1106   1.3695

NORMALITY TEST RESULTS FOR AIRPORT SERVICE QUALITY (TABLE 6.8)

NORMALITY TEST RESULT FOR GROUND TRANSPORTATION

Summary for ground transportation

Anderson-Darling Normality Test	
A-Squared	7.12
P-Value <	0.005
Mean	2.2260
StDev	1.2024
Variance	1.4458
Skewness	0.713008
Kurtosis	-0.490523
N	177
Minimum	1.0000
1st Quartile	1.0000
Median	2.0000
3rd Quartile	3.0000
Maximum	5.0000

95% Confidence Interval for Mean
2.0476   2.4044
95% Confidence Interval for Median
1.5000   2.0000
95% Confidence Interval for StDev
1.0888   1.3426

95% Confidence Intervals

NOMALITY TEST RESULT FOR PASSENGER FACILITY

Summary for passenger facility

Anderson-Darling Normality Test	
A-Squared	5.65
P-Value <	0.005
Mean	2.2362
StDev	1.1588
Variance	1.3428
Skewness	0.677577
Kurtosis	-0.622415
N	177
Minimum	1.0000
1st Quartile	1.0000
Median	2.0000
3rd Quartile	3.0000
Maximum	5.0000

95% Confidence Interval for Mean
2.0643   2.4081
95% Confidence Interval for Median
1.8000   2.2000
95% Confidence Interval for StDev
1.0493   1.2939

95% Confidence Intervals

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NORMALITY TEST RESULT FOR STAFF SERVICE

Summary for staff service

Anderson-Darling Normality Test	
A-Squared	2.95
P-Value <	0.005
Mean	3.2222
StDev	1.2491
Variance	1.5602
Skewness	-0.303966
Kurtosis	-0.802039
N	177
Minimum	1.0000
1st Quartile	2.6667
Median	3.0000
3rd Quartile	4.3333
Maximum	5.0000
95% Confidence Interval for Mean	
3.0369	3.4075
95% Confidence Interval for Median	
3.0000	3.6667
95% Confidence Interval for StDev	
1.1311	1.3947

NORMALITY TEST RESULT FOR TERMINAL COMFORT

Summary for terminal comfort

Anderson-Darling Normality Test	
A-Squared	19.24
P-Value <	0.005
Mean	1.7232
StDev	1.0711
Variance	1.1474
Skewness	1.64578
Kurtosis	2.09039
N	177
Minimum	1.0000
1st Quartile	1.0000
Median	1.0000
3rd Quartile	2.0000
Maximum	5.0000
95% Confidence Interval for Mean	
1.5643	1.8821
95% Confidence Interval for Median	
1.0000	1.5000
95% Confidence Interval for StDev	
0.9700	1.1961

NORMALITY TEST RESULT FOR EASE OF TRANSFER

Summary for ease of transfer

Anderson-Darling Normality Test	
A-Squared	2.02
P-Value <	0.005
Mean	2.7024
StDev	1.1081
Variance	1.2279
Skewness	0.017589
Kurtosis	-0.893066
N	177
Minimum	1.0000
1st Quartile	1.8333
Median	2.6667
3rd Quartile	3.6667
Maximum	5.0000

95% Confidence Interval for Mean
2.5381   2.8668
95% Confidence Interval for Median
2.3333   3.0000
95% Confidence Interval for StDev
1.0034   1.2373

95% Confidence Intervals

APPENDIX G

DESCRIPTIVE STATISTICS FOR AIRLINE SERVICE DIMENSIONS (TABLE 7.1)

Descriptive Statistics: Check-in process, boarding procedures, cabin staff performance, on-board product, destination service and airline overall performance.

Variable	N	N*	Mean	StDev	Minimum	Median	Maximum	IQR	skewness	kurtosis
checkinprocess	177	0	3.0192	1.1508	1.0000	3.200	5.0000	1.6000	-0.18	-0.80
bodprocedure	177	0	3.2863	1.2746	1.0000	3.667	5.0000	2.0000	-0.43	-0.94
cabinstaffpefr	177	0	3.0982	1.1158	1.0000	3.250	5.0000	1.5625	-0.37	-0.62
onbodprodct	177	0	2.7585	1.1129	1.0000	2.750	5.0000	1.5000	0.03	-0.78
destservice	177	0	3.220	1.355	1.0000	3.000	5.000	2.500	-0.28	-1.10
overallairline	177	0	2.8556	1.0689	1.0000	3.000	5.0000	1.5833	-0.06	-0.63

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APPENDIX H

Wilcoxon Signed Rank Test: OVERALL AIRLINE SERVICE DIMENSIONS (TABLE 7.4A)

Test of median = 3.510 versus median not = 3.510

	N	N for Test	Wilcoxon Statistic	P	Estimated Median
AIRLINE DIMENSIONS	1062	1062	167147.0	0.000	3.033

	N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Confidence Interval Upper
AIRLINE DIMENSIONS	1062	3.033	95.0	3.000	3.125

APPENDIX I

WILCOXON SIGNED RANK TEST: AIRLINE SERVICE DIMENSIONS (TABLE 7.4B)

Wilcoxon Signed Rank Test: check-in process

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	4291.0	0.000	3.000

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	3.000	95.0	2.900	3.200

Wilcoxon Signed Rank Test: boarding procedures

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	6412.0	0.032	3.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	3.333	95.0	3.167	3.500

Wilcoxon Signed Rank Test: cabin-staff performance

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median

	N			
177	177	4943.0	0.000	3.125

			Confidence	
	Estimated	Achieved	Interval	
N	Median	Confidence	Lower	Upper
177	3.125	95.0	2.938	3.313

Wilcoxon Signed Rank Test: on-board product

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
177	177	2523.0	0.000	2.750

			Confidence	
	Estimated	Achieved	Interval	
N	Median	Confidence	Lower	Upper
177	2.750	95.0	2.625	3.000

Wilcoxon Signed Rank Test: destination service

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
177	177	5641.0	0.001	3.250

			Confidence	
	Estimated	Achieved	Interval	
N	Median	Confidence	Lower	Upper
177	3.250	95.0	3.000	3.500

Wilcoxon Signed Rank Test: overall airline performance

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
177	177	3086.0	0.000	2.917

			Confidence	
	Estimated	Achieved	Interval	
N	Median	Confidence	Lower	Upper
177	2.917	95.0	2.667	3.000

DETAIL ONE SAMPLE TEST FOR AIRLINE VARIABLES PER ISLAND (TABLE 7.5)

Wilcoxon Signed Rank Test: TARAWA

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
258	258	11696.0	0.000	3.250

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
258	3.250	95.0	3.125	3.400

Wilcoxon Signed Rank Test: ABAIANG

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
270	270	10412.0	0.000	3.167

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
270	3.167	95.0	3.000	3.250

Wilcoxon Signed Rank Test: ABEMAMA

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
282	282	6414.0	0.000	2.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
282	2.500	95.0	2.250	2.625

Wilcoxon Signed Rank Test: TABNORTH

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
252	252	13234.0	0.020	3.375

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
252	3.375	95.0	3.250	3.500

APPENDIX K

WILCOXON TEST RESULT FOR EACH AIRLINE DIMENSION PER ISLAND (TABLE 7.6)

Wilcoxon Signed Rank CI: TARAWA CHECK IN PROCESS

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	313.0	0.054	3.200

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	3.200	95.0	2.900	3.600

Wilcoxon Signed Rank CI: ABAIANG CHECKIN PROCESS

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	223.0	0.001	3.200

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.200	95.0	2.900	3.400

Wilcoxon Signed Rank CI: ABEMAMA CHECKIN PROCESS

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	156.0	0.000	2.400

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.40	95.0	1.80	2.80

Wilcoxon Signed Rank Test: TABNORTH CHECKIN PROCESS

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	363.0	0.271	3.400

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	3.400	95.0	3.000	3.700

Wilcoxon Signed Rank CI: TARAWA BOARDING PROCEDURES

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	516.0	0.608	3.667

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	3.667	95.0	3.333	4.000

Wilcoxon Signed Rank Test: ABAIANG BAORDING PROCEDURES

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	437.0	0.367	3.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.333	95.0	3.167	3.667

Wilcoxon Signed Rank Test: ABEMAMA BOARDING PROCEDURES

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	206.0	0.000	2.667

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.67	95.0	1.83	3.00

Wilcoxon Signed Rank Test: TABNORTH BOARDING PROCEDURES

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	130.0	0.000	2.875

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	2.875	95.0	2.500	3.125

Wilcoxon Signed Rank CI: TARAWA CABIN STAFF PERORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	477.0	0.966	3.563

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	3.563	95.0	3.250	3.813

Wilcoxon Signed Rank Test: ABAIANG CABIN STAFF PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	251.0	0.003	3.125

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.125	95.0	2.938	3.375

Wilcoxon Signed Rank CI: ABEMAMA CABIN STAFF PERFRORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	146.0	0.000	2.313

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.31	95.0	1.75	2.75

Wilcoxon Signed Rank Test: TABNORTH CABIN STAFF PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	402.0	0.540	3.438

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	3.438	95.0	3.188	3.750

Wilcoxon Signed Rank CI: TARAWA ONBOARD PRODUCT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	162.0	0.000	2.875

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	2.875	95.0	2.625	3.250

Wilcoxon Signed Rank Test: ABAIANG ONBOARD PRODUCT

Test of median = 3.510 versus median not = 3.510

| | N for | Wilcoxon | | Estimated |
N	Test	Statistic	P	Median
45	45	166.0	0.000	2.875

| | | | | Confidence | |
| | Estimated | | Achieved | Interval | |
N	Median		Confidence	Lower	Upper
45	2.875		95.0	2.500	3.125

Wilcoxon Signed Rank CI: ABEMAMA ONBOARD PRODUCT

Test of median = 3.510 versus median not = 3.510

| | N for | Wilcoxon | | Estimated |
N	Test	Statistic	P	Median
47	47	168.0	0.000	2.375

| | | | Confidence | |
| | Estimated | Achieved | Interval | |
N	Median	Confidence	Lower	Upper
47	2.375	95.0	2.000	2.750

Wilcoxon Signed Rank CI: TABNORTH ONBOARD PRODUCT

Test of median = 3.510 versus median not = 3.510

| | N for | Wilcoxon | | Estimated |
N	Test	Statistic	P	Median
42	42	130.0	0.000	2.875

| | | | Confidence | |
| | Estimated | Achieved | Interval | |
N	Median	Confidence	Lower	Upper
42	2.875	95.0	2.500	3.125

Wilcoxon Signed Rank Test: TARAWA DESTINATION SERVICE

Test of median = 3.510 versus median not = 3.510

| | N for | Wilcoxon | | Estimated |
N	Test	Statistic	P	Median
43	43	330.0	0.085	3.500

| | | | | Confidence | |
| | Estimated | | Achieved | Interval | |
N	Median		Confidence	Lower	Upper
43	3.500		95.0	3.000	3.750

Wilcoxon Signed Rank CI: ABAIANG DESTINATION SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	352.0	0.063	3.250

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.250	95.0	3.000	3.750

Wilcoxon Signed Rank Test: ABEMAMA DESTINATION SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	225.0	0.000	2.750

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.75	95.0	2.00	3.00

Wilcoxon Signed Rank CI: TABNORTH DESTINATION SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	514.0	0.438	3.750

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	3.750	95.0	3.500	4.250

Wilcoxon Signed Rank Test: TARAWA OVERALL AIRLINE PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	108.0	0.000	2.875

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	2.875	95.0	2.667	3.167

Wilcoxon Signed Rank CI: ABAIANG OVERALL AIRLINE PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	224.0	0.001	3.000

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.000	95.0	2.750	3.333

Wilcoxon Signed Rank Test: ABEMAMA OVERALL AIRLINE PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	168.0	0.000	2.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.333	95.0	2.000	2.833

Wilcoxon Signed Rank CI: TABNORTH OVERALL AIRLINE PERFORMANCE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	258.0	0.016	3.167

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	3.167	95.0	2.833	3.500

APPENDIX L

KRUSKAL-WALLIS TEST RESULTS FOR ASSESSING OVERALL SATISFACTION LEVEL FOR EACH AIRLINE DIMENSION ON EACH ISLAND (TABLE 7.7)

Kruskal-Wallis Test: satisfaction level on each airline service quality per island

Kruskal-Wallis Test on satisfaction level for every dimension

ISLANDS.	N	Median	Ave Rank	Z
TARAWA	258	3.225	581.3	2.99
ABAIANG	270	3.000	550.7	1.19
ABEMAMA	282	2.000	397.5	-8.56
TABNORTH	252	3.333	609.8	4.64
Overall	1062		531.5	

H = 78.08 DF = 3 P = 0.000

H = 78.41 DF = 3 P = 0.000 (adjusted for ties)

APPENDIX M

KRUSKAL WALLIS TEST RESULTS ON DETERMINING SATISFACTION FOR EACH AIRLINE DIMENSION BETWEEN ISLANDS (TABLE 7.8)

Kruskal-Wallis Test on CHECK-IN PROCESS versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.200	98.3	1.36
Abaiang	45	3.200	93.1	0.61
Abemama	47	1.800	63.5	-3.99
TabNorth	42	3.400	103.8	2.14
Overall	177		89.0	

H = 16.85 DF = 3 P = 0.001

H = 16.93 DF = 3 P = 0.001 (adjusted for ties)

Kruskal-Wallis Test: BOARDING PROCESS versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	4.000	101.7	1.86
Abaiang	45	3.667	90.1	0.17
Abemama	47	2.000	64.8	-3.77
TabNorth	42	3.667	101.8	1.86
Overall	177		89.0	

H = 15.74 DF = 3 P = 0.001

H = 15.89 DF = 3 P = 0.001 (adjusted for ties)

Kruskal-Wallis Test: CABIN STAFF PERFORMANCE versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.500	108.0	2.79
Abaiang	45	3.000	88.2	-0.12
Abemama	47	2.000	59.2	-4.65
TabNorth	42	3.375	103.8	2.14
Overall	177		89.0	

H = 25.30 DF = 3 P = 0.000
H = 25.37 DF = 3 P = 0.000 (adjusted for ties)

Kruskal-Wallis Test: ONBOARD PRODUCT versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	2.750	95.8	1.01
Abaiang	45	3.000	94.0	0.76
Abemama	47	2.250	74.0	-2.34
TabNorth	42	2.625	93.4	0.64
Overall	177		89.0	

H = 5.54 DF = 3 P = 0.136
H = 5.58 DF = 3 P = 0.134 (adjusted for ties)

Kruskal-Wallis Test: DESTINATION SERVICE versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.000	92.0	0.44
Abaiang	45	3.000	89.4	0.06
Abemama	47	2.000	68.4	-3.21
TabNorth	42	4.000	108.5	2.83
Overall	177		89.0	

H = 13.81 DF = 3 P = 0.003
H = 14.13 DF = 3 P = 0.003 (adjusted for ties)

Kruskal-Wallis Test: OVERALL AIRLINE PERFORMANCE versus islands

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.000	88.7	-0.04
Abaiang	45	3.000	96.9	1.20
Abemama	47	2.000	70.3	-2.92
TabNorth	42	3.167	101.7	1.83
Overall	177		89.0	

H = 9.90 DF = 3 P = 0.019
H = 9.94 DF = 3 P = 0.019 (adjusted for ties)

APPENDIX N

KRUSKAL-WALLIS TEST RESULTS FOR AIRLINE DIMENSIONS VERSUS AGE GROUPS (TABLE 7.9)

Kruskal-Wallis Test: AIRLINE DIMENSIONS versus AGE1

AGEgroups	N	Median	Ave Rank	Z
Under 20	96	3.354	595.9	2.16
Age 20 to 35	552	3.000	547.5	1.77
Age 36 to 50	300	3.000	501.7	-1.98
Over 50	114	3.000	478.0	-1.97
Overall	1062		531.5	

$H = 12.04$ $DF = 3$ $P = 0.007$

$H = 12.09$ $DF = 3$ $P = 0.007$ (adjusted for ties)

APPENDIX O

KRUSKAL-WALLIS test results for airline dimensions versus gender (TABLE 7.10)

Kruskal-Wallis Test: AIRLINE DIMENSIONS versus GENDER1

GENDER	N	Median	Ave Rank	Z
Female	546	3.200	566.9	3.86
Male	516	3.000	494.1	-3.86
Overall	1062		531.5	

$H = 14.94$ $DF = 1$ $P = 0.000$

$H = 15.00$ $DF = 1$ $P = 0.000$ (adjusted for ties)

APPENDIX P

DESCRIPTIVE STATISTICS FOR AIRPORT SERVICE DIMENSIONS (TABLE 8.1)

Variable	Mean	StDev	Minimum	Median	Maximum	IQR	Skewness	kurtosis
groundtransport	2.2260	1.2024	1.0000	2.0000	5.0000	2.0000	0.71	-0.49
passengerfacility	2.2362	1.1588	1.0000	2.0000	5.0000	2.0000	0.68	-0.62
staffservice	3.2222	1.2491	1.0000	3.0000	5.0000	1.6667	-0.30	-0.80
terminalcomfot	1.7232	1.0711	1.0000	1.0000	5.0000	1.0000	1.65	2.09
easeoftransfer	2.7024	1.1081	1.0000	2.6667	5.0000	1.8333	0.02	-0.89

APPENDIX Q

WILCOXON SIGNED RANK TEST: OVERALL AIRPORT SERVICE DIMENSIONS (TABLE 8.4A):

Wilcoxon Signed Rank CI: overall airport satisfaction level

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
885	885	44979.0	0.000	2.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
885	2.333	95.0	2.300	2.500

APPENDIX R

WILCOXON SIGNED RANK TEST: AIRPORT SERVICE DIMENSIONS (TABLE 8.4B):

Wilcoxon Signed Rank CI: GROUND TRANSPORTATION

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	999.0	0.000	2.250

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	2.250	95.0	2.000	2.250

Wilcoxon Signed Rank Test: PASSENGER FACILITY

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	1090.0	0.000	2.200

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	2.200	95.0	2.000	2.400

Wilcoxon Signed Rank CI: STAFF SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	5823.0	0.003	3.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	3.333	95.0	3.000	3.500

Wilcoxon Signed Rank CI: TERMINAL COMFORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	317.0	0.000	1.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	1.500	95.0	1.500	1.750

Wilcoxon Signed Rank Test: EASE OF TRANSFER

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
177	177	2209.0	0.000	2.667

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
177	2.667	95.0	2.500	2.833

APPENDIX S

DETAIL ONE SAMPLE TEST FOR AIRPORT VARIABLES PER ISLAND (TABLE 8.5)

Wilcoxon Signed Rank Test: TARAWA SATISFACTION LEVEL

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
215	215	2523.0	0.000	2.533

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
215	2.533	95.0	2.450	2.750

Wilcoxon Signed Rank Test: ABAIANG SATISFACTION LEVEL

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
225	225	2321.0	0.000	2.335

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
225	2.335	95.0	2.100	2.500

Wilcoxon Signed Rank Test: ABEMAMA SATISFACTION LEVEL

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
235	235	2472.0	0.000	2.000

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
235	2.000	95.0	1.750	2.333

Wilcoxon Signed Rank Test: TABNORTH SATISFACTION LEVEL

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
210	210	3755.0	0.000	2.667

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
210	2.667	95.0	2.500	2.833

WILCOXON TEST RESULT FOR EACH AIRPORT DIMENSION PER ISLAND (TABLE 8.6)

Wilcoxon Signed Rank CI: TARAWA GROUND TRANSPORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	74.0	0.000	2.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	2.500	95.0	2.250	3.000

Wilcoxon Signed Rank Test: ABAIANG GROUND TRANSPORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	62.0	0.000	2.000

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	2.000	95.0	1.750	2.500

Wilcoxon Signed Rank CI: ABEMAMA GROUND TRANSPORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	22.0	0.000	1.250

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	1.250	95.0	1.000	1.750

Wilcoxon Signed Rank Test: TABNORTH GROUND TRANSPORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	114.0	0.000	2.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	2.500	95.0	2.250	3.000

Wilcoxon Signed Rank CI: TARAWA PASSENGER FACILITY

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
43	43	85.0	0.000	2.400

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
43	2.400	95.0	2.100	2.800

Wilcoxon Signed Rank Test: ABAIANG PASSENGER FACILITY

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
45	45	16.0	0.000	1.600

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
45	1.600	95.0	1.400	1.900

Wilcoxon Signed Rank CI: ABEMAMA PASSENGER FACILITY

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
47	47	147.0	0.000	2.400

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
47	2.400	95.0	1.800	2.600

Wilcoxon Signed Rank Test: TABNORTH PASSENGER FACILITY

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
42	42	71.0	0.000	2.300

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
42	2.300	95.0	2.000	2.700

Wilcoxon Signed Rank CI: TARAWA STAFF SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	301.0	0.038	3.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	3.333	95.0	3.000	3.500

Wilcoxon Signed Rank Test: ABAIANG STAFF SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	411.0	0.232	3.333

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	3.333	95.0	3.000	3.667

Wilcoxon Signed Rank CI: ABEMAMA STAFF SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	225.0	0.000	2.667

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	2.67	95.0	1.83	3.00

Wilcoxon Signed Rank Test: TABNORTH STAFF SERVICE

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	551.0	0.216	3.833

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	3.833	95.0	3.500	4.000

Wilcoxon Signed Rank CI: TARAWA TERMINAL COMFORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
43	43	11.0	0.000	1.750

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
43	1.750	95.0	1.500	2.000

Wilcoxon Signed Rank Test: ABAIANG TERMINAL COMFORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
45	45	13.0	0.000	1.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
45	1.500	95.0	1.250	1.750

Wilcoxon Signed Rank CI: ABEMAMA TERMINAL COMFORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
47	47	40.0	0.000	1.000

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
47	1.000	95.0	1.000	1.750

Wilcoxon Signed Rank Test: TABNORTH TERMINAL COMFORT

Test of median = 3.510 versus median not = 3.510

N	N for Test	Wilcoxon Statistic	P	Estimated Median
42	42	18.0	0.000	1.500

N	Estimated Median	Achieved Confidence	Confidence Interval Lower	Upper
42	1.500	95.0	1.250	2.000

Wilcoxon Signed Rank CI: TARAWA EASE OF TRANSFER

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
43	43	119.0	0.000	2.833

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
43	2.833	95.0	2.667	3.167

Wilcoxon Signed Rank Test: ABAIANG EASE OF TRANSFER

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
45	45	123.0	0.000	2.833

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
45	2.833	95.0	2.500	3.167

Wilcoxon Signed Rank CI: ABEMAMA EASE OF TRANSFER

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
47	47	135.0	0.000	2.333

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
47	2.33	95.0	1.67	2.67

Wilcoxon Signed Rank Test: TABNORTH EASE OF TRANSFER

Test of median = 3.510 versus median not = 3.510

	N for	Wilcoxon		Estimated
N	Test	Statistic	P	Median
42	42	167.0	0.000	2.833

	Estimated	Achieved	Confidence Interval	
N	Median	Confidence	Lower	Upper
42	2.833	95.0	2.667	3.167

APPENDIX U

KRUSKAL-WALLIS TEST RESULTS FOR ASSESSING OVERALL SATISFACTION LEVEL FOR EACH AIRPORT DIMENSION ON EACH ISLAND (TABLE 8.7)

Kruskal-Wallis Test: all airport dimensions versus islands

islands	N	Median	Ave Rank	Z
Tarawa	215	2.500	491.7	3.21
Abaiang	225	2.200	434.8	-0.56
Abemama	235	1.000	357.7	-5.97
TabNorth	210	2.667	497.4	3.53
Overall	885		443.0	

H = 43.70 DF = 3 P = 0.000

H = 44.87 DF = 3 P = 0.000 (adjusted for ties)

APPENDIX V

KRUSKAL WALLIS TEST RESULTS ON DETERMINING SATISFACTION FOR EACH AIRPORT DIMENSION BETWEEN ISLANDS (TABLE 8.8)

Kruskal-Wallis Test: GROUNDTRANSPORT versus ISLANDS

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	2.500	106.6	2.59
Abaiang	45	2.000	84.9	-0.62
Abemama	47	1.000	61.4	-4.30
TabNorth	42	2.750	106.2	2.49
Overall	177		89.0	

H = 23.73 DF = 3 P = 0.000

H = 24.81 DF = 3 P = 0.000 (adjusted for ties)

Kruskal-Wallis Test: PASSENGER FACILITY versus ISLANDS

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	2.400	102.7	2.02
Abaiang	45	1.600	71.9	-2.59
Abemama	47	1.800	85.1	-0.61
TabNorth	42	2.400	97.6	1.25
Overall	177		89.0	

H = 9.55 DF = 3 P = 0.023

H = 9.75 DF = 3 P = 0.021 (adjusted for ties)

Kruskal-Wallis Test: STAFFSERV ICE versus ISLANDS

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.000	89.0	-0.00
Abaiang	45	3.000	92.1	0.48
Abemama	47	2.333	67.8	-3.32
TabNorth	42	3.667	109.4	2.96
Overall	177		89.0	

H = 14.93 DF = 3 P = 0.002
H = 15.13 DF = 3 P = 0.002 (adjusted for ties)

Kruskal-Wallis Test: TERMINAL COMFORT versus ISLANDS

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	2.000	100.3	1.66
Abaiang	45	1.000	87.4	-0.24
Abemama	47	1.000	79.0	-1.56
TabNorth	42	1.000	90.3	0.19
Overall	177		89.0	

H = 3.93 DF = 3 P = 0.269
H = 4.80 DF = 3 P = 0.187 (adjusted for ties)

Kruskal-Wallis Test: EASE OF TRANSFER versus ISLANDS

ISLANDS	N	Median	Ave Rank	Z
Tarawa	43	3.000	96.3	1.08
Abaiang	45	2.667	94.7	0.86
Abemama	47	1.000	68.8	-3.15
TabNorth	42	3.000	97.9	1.29
Overall	177		89.0	

H = 10.00 DF = 3 P = 0.019
H = 10.11 DF = 3 P = 0.018 (adjusted for ties)

KRUSKAL-WALLIS TEST RESULT FOR AIRPORT DIMENSIONS AGAINST AGE GROUPS (TABLE 8.9)

Kruskal-Wallis Test: AIRPORT DIMENSIONS versus AGE GROUPS

AGES1	N	Median	Ave Rank	Z
Under 20	80	3.000	548.2	3.86
Age 20 to 35	460	2.333	447.1	0.49
Age 36 to 50	250	2.000	410.6	-2.36
Under 50	95	2.333	419.8	-0.94
Overall	885		443.0	

H = 18.46 DF = 3 P = 0.000

H = 18.95 DF = 3 P = 0.000 (adjusted for ties)

APPENDIX X

KRUSKAL WALLIS TEST RESULTS FOR AIRPORT DIMENSIONS AGAINST GENDER (TABLE 8.10)

Kruskal-Wallis Test: AIRPORT DIMENSIONS versus GENDER

GENDER1	N	Median	Ave Rank	Z
Female	455	2.500	462.8	2.37
Male	430	2.000	422.0	-2.37
Overall	885		443.0	

H = 5.63 DF = 1 P = 0.018

H = 5.78 DF = 1 P = 0.016 (adjusted for ties)