Expectation and Perception of International Passengers
of Vietnam Airlines about its Service Quality

by

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In recent years, there have been a number of changes in global airlines industry, which have had profound effects on the development of this very volatile sector of the economy in most countries of the world. Demographic, legal-political, socio-economic, and technological changes have led the way in the transformation of airlines and the way they do business domestically as well as internationally. In this rapid re-structuring process, the airlines have to modify their business strategies as well as policies related to quality of service to be provided to customers.

Unlike other industries, competition in airlines is based on the quality of service, not on the cost effectiveness. According to former Delta Air Lines CEO, Ronald W. Allen, "the pursuit of lower costs" has carried a heavy price; customer complaints at Delta Air Lines have nearly doubled since 1994 (Zellner, 1997). One of chief arguments for the deregulation of the US airlines industry in 1978 was that competition was based on service quality not price (Rhoades, 1998). Almost 90% of the US airlines executives questioned in a Towers, Perrin (1991) survey said that establishing their carrier as a leader in service quality was a top priority. The general perception has been that service quality has suffered as a result of cost cutting. After over a decade of cost cutting, US Airlines are turning their attention to issues of quality (Rhoades, 1998). Thus, service quality has been posited as a viable strategy for marketers endeavoring to differentiate service offerings, establish customer value and ultimately satisfy customer needs. Furthermore, satisfied customers have been shown to be predisposed to exercise repeat purchase behaviors. This loyal behavior is subsequently presented as positively influencing how actively customers engage within advocacy, by introducing the service to other customers. Indeed studies confirm that companies rated highly in terms of

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service quality are able to charge a premium close to 10% higher than competitors with a low quality service offering (Sonnenberg, 1989). Hence, quality is essential for a company providing services like an airline to survive in the fast changing and growing competitive environment as today.

After Vietnam switched from the planned economy to the market economy in 1986, customer satisfaction became the most important part of every organization's perspective. The companies realized that they are in a highly competitive market, satisfying customer needs is the key to gaining a long-term competitive advantage.

Vietnam Civil Aviation started in 1976 with a fleet of only five aircraft to serve the air transport needs of the country. After 1986, the needs for air-transportation in Vietnam increased rapidly because of several changes in economic structure of the country. The increasing number of people who used air-transport service demanded the better service level for Vietnam Civil Aviation. On the other hand, Vietnam air-transport industry also received increased demand. In April 1989, Vietnam Airlines was established as a state-owned enterprise under the Civil Aviation Authority of Vietnam to meet this demand. Under the new environment, it became the Vietnamese enterprise that led in improving quality especially in customer services. It has experienced phenomenal growth. From 1993 to 1996 the average annual increase in passengers and cargo was 35%, and by 1997, the international market accounted for over 40% of the total business of Vietnam Airlines (Source: http://www.vietnamair.com.vn/story/history.htm.) Its network has also expanded over the last years with many more destinations added to its international and domestic route maps. More about Vietnam Airlines will be introduced in Vietnam Airlines Overview (Appendix A)

Actually, Vietnam Airlines is a monopoly company in the air-transport industry in Vietnam (Pacific Airlines is a company whose 50% of share is held by Vietnam Airlines). The quality that it delivers somewhat depends on the perspective of the top managers rather than the customers' requirement. Recently, it has, however, been struggling to survive in international markets and will be doing the same in domestic

market if the door is opened for new entrants. Hence, improving its quality of customer service seems to be the only way to survive and growth further. Vietnam Airlines has been achieving many successes in its renovation process. It works hard and tries to develop an image that would put it on par with Asia's leading carriers, but it faces much difficulties and threats. Because it is one of the youngest airlines doing business in the most competitive industry in the world, the quality of its services is not up to the international standards. Thus it has to spend great efforts to reach world standard as soon as possible and to create its image in the world, to attract more and more international passengers to fly with Vietnam Airlines. In order to do this, Vietnam Airlines must improve its quality by upgrading service standards system wide.

1.2 Statement of the Problem

Thanks to the open door policy, Vietnam Airlines experienced an exponential growth during the period between 1991 to 1996 with an average increase of 42% in passengers carried per annum, even as high as 78% in 1992 (Source: http://www.vietnamair.com.vn/story/history.htm.). But it started to face sharp decline in 1997 and 1998 due to the financial crisis in Asia. As a result, in 1997, the total international passengers dropped to -2% and in 1998 this number was down to -6.3% and the total domestic passengers was down to -0.05%, especially further tourists and business travelers (VNA, Market Planning Department, 2000). Meanwhile, many foreign airline firms with high quality of service have kept on increasing their flights to Vietnam, which has aggravated the situation for Vietnam Airlines. In the main Asia Pacific routes, the market share of Vietnam shows a declining trend (Table A. 4, Appendix A). Its position has been deteriorated in most of the routes in Pacific – Asia Region, especially SGN-TPE, SGN-SIN, SGN-SEL, SGN-KUL and SGN-BKK routes were badly affected. To respond to these challenges, Vietnam Airlines needs to find out how passengers would perceive quality of service of the Airlines, in order to recommend ways to improve the service quality and maximize customer satisfaction. It is a survival mission presently and for building up competitiveness in the future for the Airlines.

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Some research studies have been done in the past on the passengers' perception of service quality of Vietnam Airlines, but these studies have not addressed to the international dimensions of the problem. There is hardly any prior discussion about the fact that passengers with different cultural backgrounds and demographic characteristics may have different expectations toward service quality and that they may perceive these situations differently. In this respect, advancing service quality research is critical in enabling the Airlines to identify and implement strategies to meet customer expectations.

Therefore following is the *statement of problem* of this research: "What are the expectation and perception of international passengers of Vietnam Airlines about its service quality? And the *research question* is: "Should the service delivery process of Vietnam Airlines and its performance be reviewed to help the managers to understand the quality of service delivery under the view of the international passengers?"

1.3 Objectives of the Study

- To assess the customer satisfaction of the international passengers of Vietnam Airlines.
- To evaluate the influence of demographic factors on the passengers' perception toward service quality dimensions of Vietnam Airlines
- To provide suggestions for improvement of service quality of Vietnam Airlines

1.4 Scope of the Study

The study will be focused on the passengers traveling on international routes where the competition is most fierce, not on the passengers traveling on domestic routes where the company operates in monopoly.

The study will mainly focus on the international passengers because passengers in this segment match with the target of Vietnam Airlines long-term strategy – to extend the

network to new destinations, and international flight routes are the main targeted market for future growth.

The survey will be conducted on international passengers arriving at the Don Muang International Airport (Bangkok, Thailand) from Vietnam and leaving this airport to Vietnam, because this airport is the main hub of Vietnam Airlines in foreign countries, where Vietnam Airlines have its most frequent flights (one or more flights per day). Many passengers travel by Vietnam Airlines to come to Vietnam, and leave the country either to stay here or move around the world from here. Thus the perception of these groups of passengers may represent the whole market.

1.5 Limitations of the Study

Due to the time constraints, some aspects of the study are limited.

The research has focused only on the influence of demographic factors such as age, gender, occupation, nationality, and income, on the passengers' perception toward service quality. Therefore, the results may not be identical to other studies with more factors, which may also influence the passengers' perception toward service quality of airlines.

The survey will be conducted on passengers traveling on Bangkok-Hanoi and Hanoi-Bangkok routes, which is quite short. Therefore, the results may not be identical to the surveys conducted on passenger traveling on other longer routes.

According to VNA, Market Planning Department, Report 2000, foreign passengers occupied only 27% of the total international passengers, therefore, data on foreign passengers' expectation and perception may not be collected sufficiently for a sound analysis.

1.6 Significance of the Study

From this study we can draw some useful conclusions on the international passengers' perception about service quality of Vietnam Airlines. The major research findings, conclusion and recommendations would be beneficial to marketing managers of the Airlines for developing a better viewpoint on the market. It will also provide more accurate measurements. It will specifically suggest on investment of resources in areas that both contribute to enhancing customer satisfaction and consequently on improving financial performance of the Airlines.

1.7 Definition of Terms

Service: A service is any primary or complementary activity that does not directly produce a physical product – that is, the non-goods part of the transaction between the buyer (customer) and seller (provider). (Palmer and Bejou, 1994)

Service encounter: The contact situation between service customer and service provider. According to a broader definition, it is a period of time during which a customer directly interacts with service. (Shostack, 1985)

Quality: A comparison between expectation and performance (Parasuraman et al., 1985). Quality means meeting standards, expectation and requirements (Hestand, 1991)

Service quality: A measure of how well the service level delivered matches customer expectations. (Lewis and Booms, 1983)

Service quality determinants: The conceptual criteria applied to measure the service as perceived by customers (Parasuraman et al, 1990)

Tangibles: Physical facilities, equipment, and appearance of personnel (Parasuraman et al, 1990).

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Tangibles of airlines: modern-looking aircraft; visually appealing office; terminal, gate facility of excellence; visual appealing materials associated with its service, e. g. pamphlets or statement (Sultan and Simpson, 2000)

Reliability: Ability to perform the promised service dependably and accurately. It is a customer expectation of the service. It means the service is delivered on time, in the same manner, and without errors ever time. (Parasuraman et al, 1990).

Reliability of airlines: when the airlines promise to do something by a certain time, they will do so; when a customer has a problem, the airlines show a sincere interest in solving it; the airlines provide their service at the time they promise to do so, and insist on error-free service (Sultan and Simpson, 2000).

Responsiveness: Willingness to help customers and provide prompt service (Parasuraman et al, 1990)

Responsiveness of airlines: employees of the airlines tell customers exactly when services will be performed; prompt services are being given to customers; employees are always willing to help customers, and employees are never too busy to respond to customer requests (Sultan and Simpson, 2000)

Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence. Its features include competence to perform the service, politeness and respect for the customer, effective communication with the customers and attitude to serve the customers' interests. (Parasuraman et al, 1990)

Assurance of airlines: the behavior of employees of the airlines instills confidence in customers, customers feel save in traveling, employees are consistently courteous with customers, and employees have the knowledge to answer customers' questions (Sultan and Simpson, 2000).

Empathy: Caring, individualized attention, which the firm provides its customers. Its features include approachability, sensitivity, and effort to understand the customers' needs. (Parasuraman et al, 1990)

Empathy of airlines: the airlines give their customers individual attention, operate hours convenient to all their customers, have employees giving customers personal attention, have customer's best interests at heart, and understand the specific needs of their customers (Sultan and Simpson, 2000).

Perception: The process by which an individual selects, organizes, and interprets stimuli into a meaningful and coherent picture of the world. (Schiffman, and Kanuk, 2000)

Customer service: The treatment customer receives during point of contact with the service supplier (Levesque, 1995)

Customer expectation: The attitudes held by customers towards a company. They relate to the product, to the service given, and to the professionalism of customer contact. (Katz, 1987)

Customer satisfaction: A psychological construct describing a customer subjective emotional state that occurs in response to an evaluation of a set of experiences (Maddox, 1981). In this study, satisfaction is defined as the extent of being content or happy to have such service provided.

CHAPTER 2

LITERATURE REVIEW

This study is aimed at evaluating the customer satisfaction of airlines passengers and the influence of demographic factors on customers' perception toward the airlines service quality, and improvement of service quality. Therefore, this chapter will provide literature review on the concept of service quality, customer satisfaction, instruments measuring service quality, its dimensionality, and finally, the nature of airlines service quality.

2.1 Concept of Service Quality

2.1.1 Service

The word service derived from the Latin word *service*, which means servant of slave (Encyclopedia.com). According to Palmer (1994), a service is any primary or complementary activity that does not directly produce a physical product – that is, the non-goods part of the transaction between buyer (customer) and seller (provider). Services are typical performances. Goods are consumed, while services are experiences. A contemporary definition is provided by Kotler and Armstrong (1991): "A service is an activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. It's production may or may not be tied to a physical product". There has, however, been no consistent definition of what constitutes a service. In his study of the US service economy, Fuchs (1968) excluded transport and communication, arguing that they formed an integral part of goods.

In practice, it can be very difficult to distinguish services from goods, for when goods are purchased there is usually an element of service included. Similarly, a service

is frequently augmented by a tangible product attached to the service. In between is a wide range of outputs that are a combination of tangible goods and intangible service. In fact, rather than we describe the service sector as a homogeneous group of activities, we should consider it to be more appropriate to speak of degrees of service orientation. This means that all productive activities can be placed on a scale somewhere between being a pure service (no tangible output) and pure goods (no intangible service added to the tangible goods). But in fact most products fall between the two extremes by being combination of goods and services.

Service definition of Palmer (1994) notes that "The production of an essentially intangible benefit, either in it's own right or as a significant element of a tangible product, which through some form of exchange satisfies an identified consumer need". This definition recognizes that, in addition to the gray area between a pure good and a pure service, some marketing activities do not easily fit on this scale at all. Thus a clear bifurcation should be made.

Service can be marketable and unmarketable, they can be producer and consumer services. As a simple bifurcation is that consumer service are for individuals who use the service for their own enjoyment or benefit, no further economic benefit comes from the consumption, and producer services are those that are provided to a business so that it can produce something else of economic benefit. Intangibility has been seen by many as a defining characteristic of services. However, a gray area exists between pure services at on extreme and pure goods at the other extreme. It is because tangible goods that are included in the services are offered and consumed by the customers, the physical environment in which the service production and consumption process takes place, and tangible evidence of service performance. Where the goods form an important component of a service offer, many of the practices associated with the conventional goods marketing can be applied to this part of service offered.

Many authors have tried to define service. However, in practice it can be very difficult to distinguish services from goods. Therefore, it is worth noting some characteristics of services that are different from products:

- *Intangibility*: Services are intangible unlike physical goods. Service can not be touched, seen, or smelt
- *Inseparability*: Services are produced and consumed simultaneously.
- *Heterogeneity*: Services are less standardized. Quality of service is inconsistent over time.
- *Perishability*: Services are predictable but cannot be stored (inventories).

(Hoffman and Bateson, 1997)

2.1.2 Quality

Quality has been defined in many ways:

1. Quality is conformance to specifications.
2. Quality is the degree to which customer specifications are satisfied.
3. Quality is a fair exchange of price and value.
4. Quality is fitness for usage.

Parasuraman, Zeithaml, and Berry (1985) defined quality as a comparison between expectation and performance. According to Hestand (1991) quality means meeting standards, expectation and requirements.

Bateson (1992) presented from the finding of different researches, the three main conceptual developments about quality that have received world spread support.

- First, quality is not an absolute concept and the term "high" and "low" quality, therefore, has little meaning. Quality has come to be seen as important primarily in terms of customer perceptions.

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- Second, in conceptual terms, perceived quality is a product of the difference between customer expectation and customer perception of outcomes, which process has been linked in conceptual terms to the disconfirmation paradigm approach to customer satisfaction

- Third, customer quality perceptions are arrived at via a quality evaluation process that involves not simply perception of outcomes, but also perception of the process by which that outcome has been achieved, and the context in which production and exchange occur.

According to Ansell (1993), a quality reputation comes from not making mistakes and form consistently satisfying customer's requirements. It must pervade all aspects of what a company does and not just be seen in certain product or certain element of customer service.

A technically perfect product that does not meet customer expectation will fail, regardless of its innovation or quality. The challenge is to determine what customers want and whether they are satisfied with the product or service.

2.1.3 Service Quality

What is service quality? - it is not an easy question to answer precisely. Definitions of quality started from an emphasis on product quality and have been extended to include services. However, knowledge about goods quality is insufficient to understand service quality. Three characteristics of services such as intangibility, heterogeneity, and inseparability must be acknowledged for a full understanding of service quality.

First, most services are intangible (Bateson 1977, Berry 1980, Lovelock 1981). Most services cannot be counted, measured, inventoried, tested, and verified in advance of sale to assure quality. Because of intangibility, the firm may find it difficult to understand how consumers perceive their services and evaluate service quality (Zeithaml 1981).

Second, services, especially those with a high labor content, are heterogeneous: their performance often varies from producer to producer, from customer to customer, and from day to day.

Third, Carman and Langeard (1980), and other authors showed that production and consumption of many services are inseparable. As a consequence, quality in services is not engineered at the manufacturing plant, then delivered to the consumer. The service firm may also have less managerial control over quality in services where consumer participation is intense because the client affects the process. In these cases, the consumer's input becomes critical to the quality of service performance.

Service quality has been discussed in only a handful of writings. Examination of these writings and other literature on services suggests three underlying themes:

- Service quality is more difficult for the consumer to evaluate than goods quality.
- Service quality perceptions result from a comparison of consumer expectations with actual service performance.
- Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.

Parasuraman, Zeithaml, and Berry (1985) make an important contribution to the service quality literature by proposing a gap model of service quality. The model clearly shows the complexity and interdisciplinary nature of service quality management. It also shows that there are many opportunities to make mistakes. The gap model of service quality demands an inter-linking approach to data analysis. These gaps are shown in Figure 2.1.

Consumer
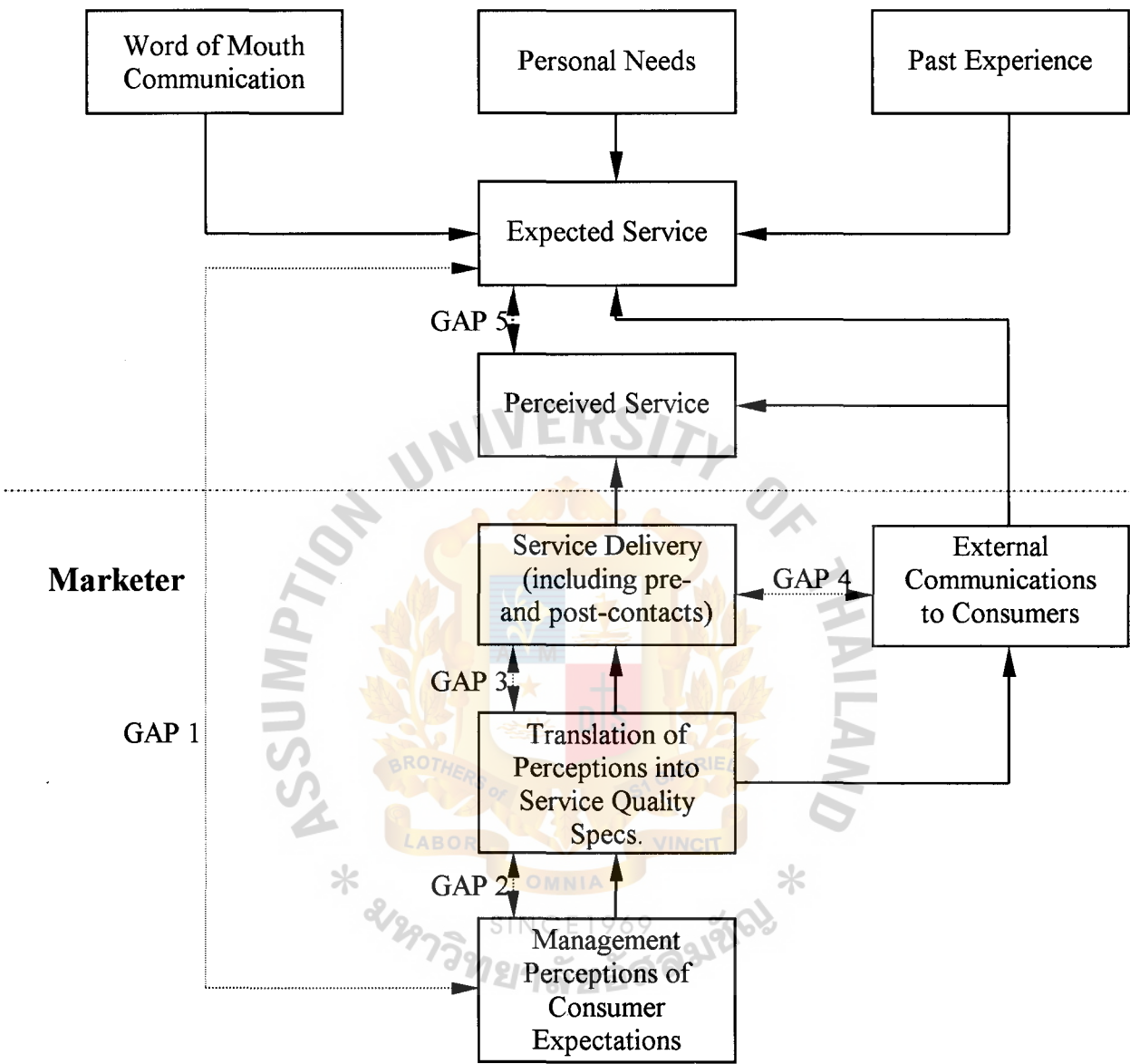
Figure 2.1 Service quality model

Source: Parasuraman, Zeithaml, and Berry (1985).

Gap 1: The difference between what consumers expect of a service and what management perceives consumers to expect. Managers may think they understand why customers buy their service, and based on this perception. try to define the service quality specifications. But what if management's perception is wrong?

If such a gap occurs, a variety of other mistakes tend to follow. The wrong facilities may be provided, the wrong staff may be hired, or the wrong training may be given to them. Services may be provided that customers have no use for, while services they do desire remain absent. Closing this gap requires detailed knowledge of what customers do desire and then building into the service operating system a response to that desire.

Gap 2: The difference between what management perceives and consumers expect and the quality specifications set for service delivery. Even when customer expectations have been accurately determined, another gap then opens between management's perceptions of customer expectations and the actual specifications set for service delivery. In many cases management does not believe it can or should be meet customer requirements for service, and in some cases there is no commitment on the part of management to the delivery of service quality.

In other cases management may wish to meet customer requirements but feels hampered by inadequate methods of measuring quality or of converting those measurements into a specification.

Gap 3: The difference between the quality specifications set for service delivery and the actual quality of service delivery. This gap concerns the actual performance of service, and it can occur even if customer expectations are determined and quality specifications are correctly set. The existence of a service performance gap depends on both the willingness and the ability of employees to provide the service according to specification.

Gap 4: The difference between the actual quality of service delivery and the quality of that service delivery as described in the firm's external communications. This gap might be termed "promises gap" that lies between the firm promises to deliver in its communications and what it actually does deliver to the customer. If advertising or sales pitches promise one kind of service and the consumer receives a different kind of service, that promise is broken. On the other hand, under certain circumstances, the price can become an indicator of quality. In the absent of more tangible clues, consumers will use the price they are paying as a benchmark for the quality of service they expect.

Gap 5: The difference between the expected service and perceived service actually delivery. Closing and narrowing this gap is the goal of the service firms. This gap is the function of the other four.

GAP 5 = f (GAP 1, GAP 2, GAP3, GAP4)

The function of expected service-perceived service gap 5 means that service quality as perceived by a customer depends on the size and direction of gap 5 which in turn, depends on the nature of the four gaps associated with the design, marketing, and delivery of services. Judgments of high and low service quality depend on how consumers perceive the actual service performance in the context of what they expected (Parasuraman et al, 1985)

Management has control over the first four gaps between what customers expect and what they get while management however, has little control over the fifth gap which is based primarily on the customer's perception.

2.1.4 The Determinants of Service Quality

The determinants of service quality that suggested by Parasuraman, Zeithaml, and Berry (1985) is a good starting point for providing more detail to a description of service quality. They describe the determinants of service quality as:

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1. Reliability is consistently meeting customers' expectations. Reliability is the factor, which regularly comes top of the list in importance for customers across the service sector. It also means that the firm honors its promises. Specifically, it involves:

   - accuracy in billing
   - keeping records correctly
   - performing the service at the designed time.

2. Responsiveness is recognizing customers' needs and acting to satisfy them within the context of the service. It concerns the willingness or readiness of employees to provide service. It involves timeliness of service:

   - mailing a transaction slip immediately
   - calling the customer back quickly
   - giving prompt service.

3. Competence is knowledge of what is required and the skills to do it are captured in this determinant. Competence also includes what customers expect the service provider to be capable of providing. It involves:

   - knowledge and skill of the contact personnel
   - knowledge and skill of operational support personnel
   - research capability of the organization.

4. Access is how easily customers can make contact with the service organization and the people in it they need to talk to. Access may be frustrated by opening times or by the shielding of a specific provider by other staff. It means:

   - the service is easily accessible by telephone
   - waiting time to receive service
   - convenient hours of operation
   - convenient location of service facility.

5. Courtesy is the consideration role for service personnel for the customer and any property belonging to the customer. It includes:

- consideration for the consumer's property

- clean and neat appearance of public contact personnel.

6. Communication is the process how customers are questioned about their needs for a service, told about what is available, given information during the course of the service provision, and asked for feedback. These are all likely to be important in services where there is a lot of interaction between staff and customers during the service encounter. It involves:

- explaining the service itself

- explaining how much the service will cost

- explaining the trade-off between service and cost

- assuring the consumer that a problem will be handled.

7. Credibility here means a strong link with perceived competence and reliability. First-time contacts are very important in forming an impression of credibility. If a poor impression is formed, it could signal the end of the encounter. Often this happens when a customer waiting to be served observes another encounter going wrong. Contributing to credibility are:

- company name

- company reputation

- personal characteristics of the contact personnel

- the degree of hard sell involved in interactions with the customer.

8. Security is the freedom from danger, risk, or doubt. It includes:

- physical safety

- financial security

- confidentiality

9. Understanding the customer emphasizes the need to spend time and effort to get to the bottom of what a customer requires, so that he or she feels in control of the service encounter. It involves:

- learning the customer's specific requirements

- providing individualized attention
- recognizing the regular customer.

10. Tangibles are the only determinant in the list, which describes technical quality alone. It includes:
- physical facilities
- appearance of personnel
- tools or equipment used to provide the service
- physical representations of the service, such as credit card or bank statement
- other customers in the service facility.

The determinants of service quality can be classified in two parts: technical quality and functional quality, as suggested by Christian Gronroos (1984). Technical quality describes what customers get and when they get it, whereas functional quality describes how they get it. Technical quality can be characterized by access, security and tangible dimensions; functional quality by responsiveness, courtesy, credibility, competence, and understanding the customers. The determinants of reliability and security are associated with both functional and technical quality.

The customer's view of service quality is shown in the upper part of Figure 2.1 and further elaborated in Figure 2.2, which indicates that perceived service quality is the result of the consumer's comparison of expected service with perceived service.
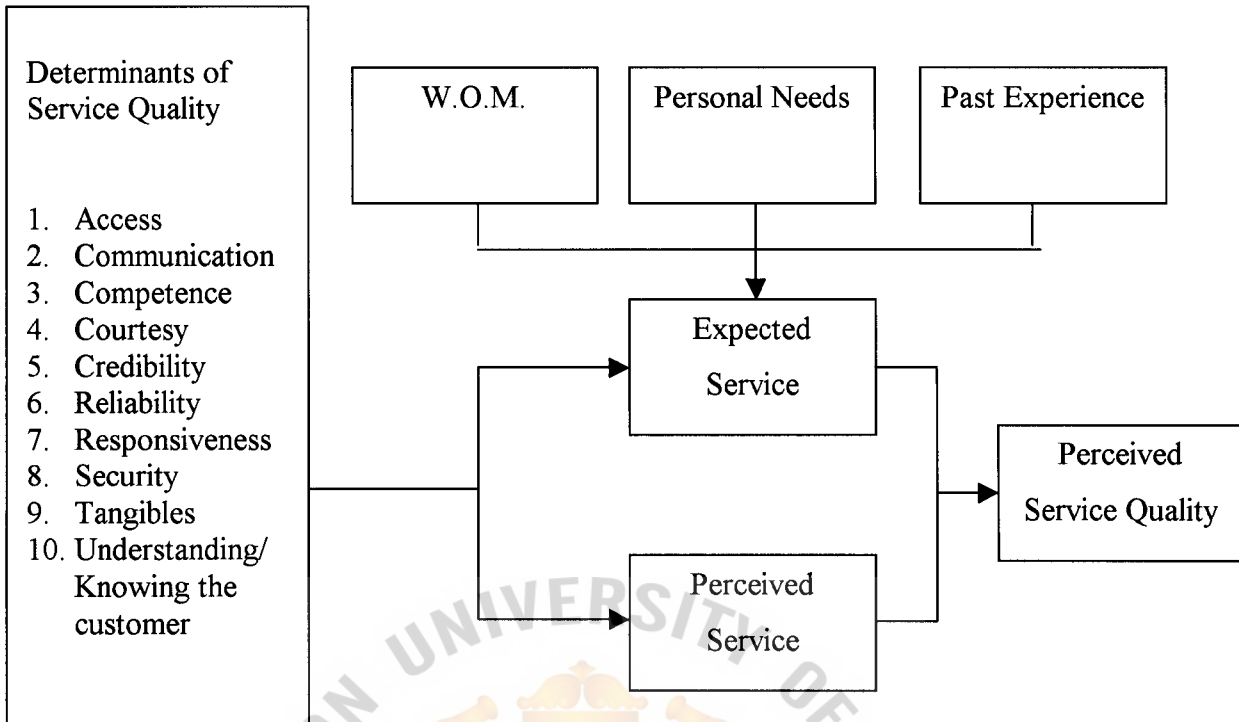
Figure 2.2 Consumer's Perception of Dimensions of Service Quality.

Source: Parasuraman, Zeithaml, and Berry (1985).

2.1.5 Instruments Measuring Service Quality

Parasuraman, Zeithaml, and Berry (1988) pointed that customers assess service by comparing the service they receive (perception) with the service they desire (expectation). Customers are the sole judge of service quality.

Interest in the measurement of service quality is thus understandably high and the delivery of higher levels of service quality is the strategy that is increasingly being offered as a key to service providers' efforts to position themselves more effectively in the marketplace (Brown and Swartz 1989). However, the problem related in the implementation of such a strategy has been articulately identified by several researchers: service quality is an elusive and abstract construct that is difficult to define and measure (Crosby 1979; Garvin 1983; Parasuraman, Zeithaml, and Berry 1985, 1988). In addition,

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to date the important relationships between service quality, customer satisfaction, and purchasing behavior remain largely unexplored.

SERVQUAL Model

The measurement of perceived service quality can be traced to the research of Parasuraman, Zeithaml, and Berry. These authors originally identified 10 determinants of service quality based on a series of focus group sessions (1985). They subsequently developed SERVQUAL (1988), which recasts the 10 determinants into five specific components: tangibles, reliability, responsiveness, assurance, and empathy (Figure 2.3).
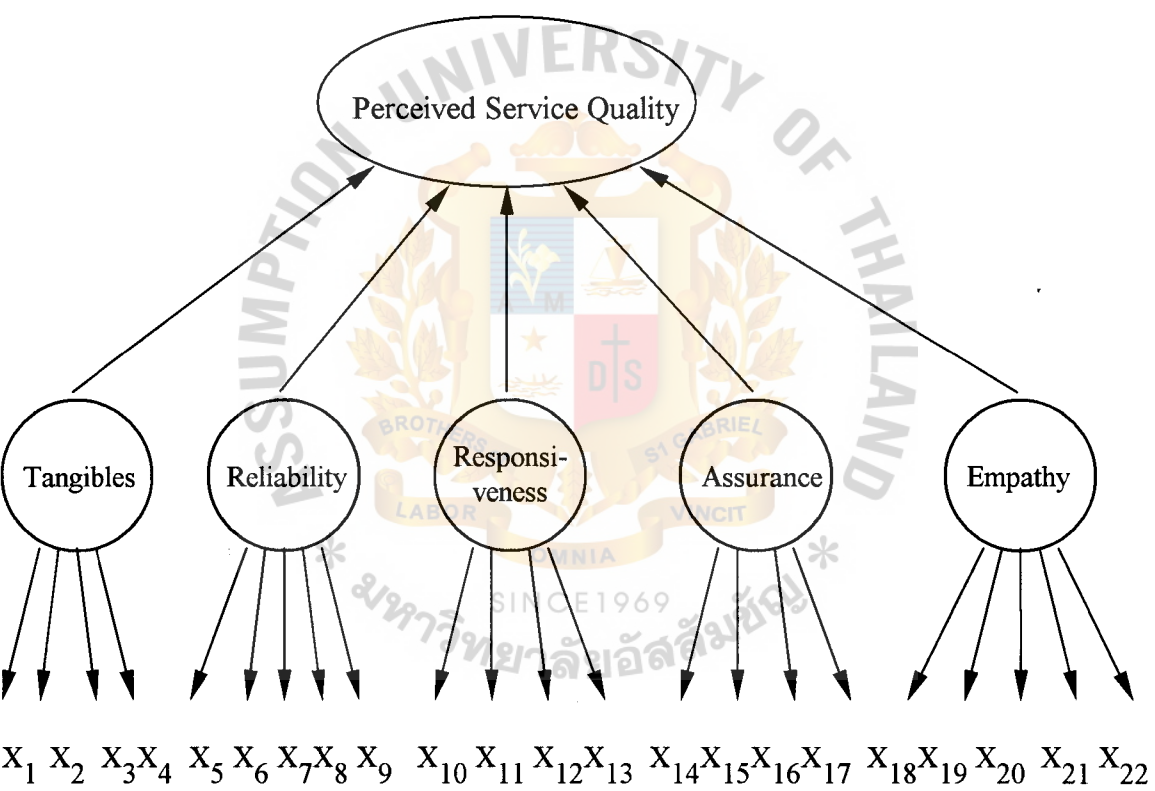
Figure 2.3 Service Quality Measurements
Source: Parasuraman, Zeithaml, and Berry (1988)

1. Tangibles: The appearance of physical facilities, equipment, personnel and communication materials.

2. Reliability: The ability to perform the promised service independently and accurately.

3. Responsiveness: The willingness to help customers and provide prompt service.

4. Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence.

5. Empathy: The provision of caring individualized attention to customers.

The basis for identifying these five components was a factor analysis of the 22-items scale developed from focus groups and from the specific industry applications undertaken by the authors. The equation of SERVQUAL function can be constructed as follows:

$$\text{Service Quality} = (\text{Performance} - \text{Expectations}) \qquad (2.1)$$

In Equation 2.1 the 22 expectations and performance items measure respectively expectations about firms in general within service category being investigated and perceptions about the particular firms whose service quality was being assessed. In addition, important weights are adapted from the wording of expectation and performance 22 scale items in the original SERVQUAL scale.

The scale development procedures employed appear to support that face validity of the two scale items included in the scale, but the issue of how the service quality measure should be constructed and whether the individual scale items actually describe five separate service quality components is problematic. In fact, some imperial evidence suggests that the proposed delineation of the five components is not consistent when subjected to cross-sectional analysis (Carman 1990). Specifically, Carman found that some of the items did not load on the same component when compared across different types of service providers. However, though the veracity of conceptualizing the SERVQUAL scale as consisting of the five distinct components identified by Parasuraman, Zeithaml, and Berry (1988) has been questioned (Carman 1990), the validity of the 22 individual performance scale items that make up the SERVQUAL scale

appears to be well supported both by the procedures used to develop the items and by their subsequent use as reported in the literature (Carman 1990).

The application of SERVQUAL model in airlines industry

In their study about consumer expectations and perceptions of airline service quality and international service variants by nationality, Sultan and Simpson (2000), accepting the general validity of the SERVQUAL model, explore the adaptability of the SERVQUAL model to international markets for aggregate assessments of customer service quality in airline industry.

The SERVQUAL model concentrates on five "gaps" (Figure 2.1) impairing the delivery of excellent service quality; the study of these authors focuses on Gap 5: the difference between airline passenger expectations and perceptions of service. This is also the only gap that can be examined solely on the data from the consumer; study other gaps, while important, would require data collection from companies themselves. (Sultan, and Simpson 2000).

This study applies a portion of the model to an international rather than a domestic setting, comparing the expectations and perceptions of airline passengers from various countries. It contributes to the service quality literature by applying Gap 5 (the difference between customer perceptions and expectations) of the SERVQUAL model to an international environment. It provides empirical evidence of the usefulness of service model to assess company competing in global markets, and describes the role of nationality in forming service quality expectations and perceptions.

This study was limited to airlines service in a specific international market, i.e. US and European airlines. Therefore, the authors also suggested that further studies on the service quality and the influence of regional cultures conducted in Asia and Eastern Europe, where airlines are competing internationally and the competition is forecast to be increasingly, would appear appropriate.

In a study to investigate the influence of personality on customers' assessments of service quality, Robertson et al (1999) also use SERVQUAL model as measurement instruments. Based on five underlying dimensions: tangibles, reliability, responsiveness, assurance, and empathy, the authors attempt to assess customers' expectations and perceptions of service quality and investigate the degree to which psychological characteristics may be predictive of customers' reaction to services in three different industries: bank, airlines, and trains. SERVQUAL questionnaire were administered to a sample group, eliciting expectations and perceptions scores for the three services. For each service a gap score was also calculated from the difference between the perception and expectation scores.

Headley, and Bowen (1997) have mentioned that assessing airline quality through the use of survey based on SERVQUAL model incorporating a measurement of consumer expectations before a service encounter with a measurement of that same consumer's perception of outcome after a service encounter, however, is very cumbersome to accomplish, and often not in a consistent and timely way. Therefore, the authors have introduced the Airline Quality Rating (AQR) approach to measure airline service quality, which has been successful employed in the US. The method will be introduced in the last part of this chapter.

2.2 Customer Satisfaction Model

Paul G. Patterson developed one of the most widely recognized customer satisfaction models in 1993 known as the disconfirmation of expectations paradigm. The model related satisfaction with customer's pre-purchase expectations and perceptions of service performance. Any difference between expectations and perceived performance is known as disconfirmation. As shown in figure 2.4:
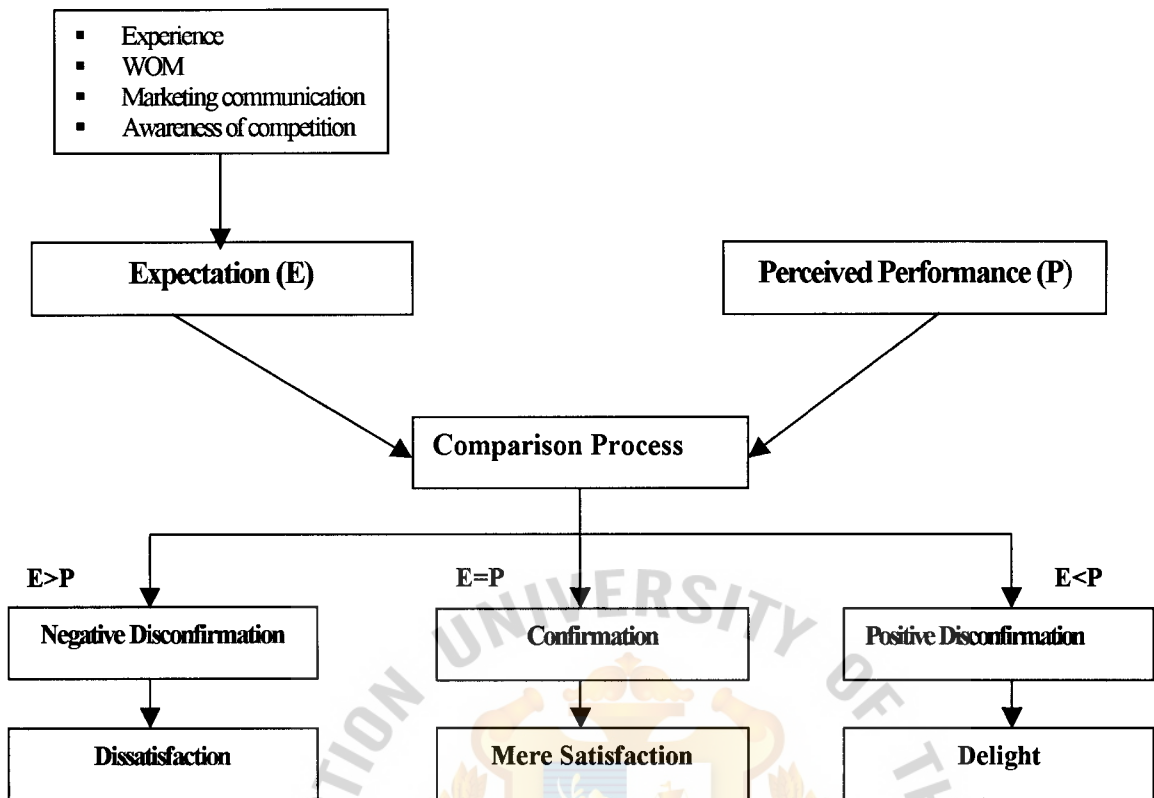
Figure 2.4: The Disconfirmation of Expectation Model

Source: Patterson, P. G. (1993)

The model is constructed on the basis of comparing perceived performance and expectation, which can be summarized as the followings:

Comparison process	Result
Perceived performance<Expectation	High satisfaction
Perceived performance=Expectation	Mere satisfaction
Perceived performance>Expectation	Dissatisfaction

The model implies that performance of the services/products is a potent variable as customers compare it with their expectations whereas previous service experiences, word

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of mouth, and various forms of marketing communications and awareness of competition shape expectations.

2.3 Concerns about Difference Scores and Dimensionality

While scale reliability appears to be acceptable, the reliability of the computed difference scores is suspect. More specifically, Brown, Churchill, and Peter (1993) criticize the use of difference scores in general for having low reliability when the two components are correlated. The scores from expectations and performance are correlated because the items used to measure expectations are nearly identical to the items used to measure performance. The stronger the correlation, the lower the difference score reliability. Low reliability can then produce a diffuse factorial structure. In fact, a number of studies that have been conducted since the introduction of SERVQUAL show that the number of dimensions of service quality varies considerably. For example, depending upon the study, service quality has been shown to be unidimensional, or have two, three, four, five, six, or seven factors (Cronin & Taylor, 1992, 1994; Gagliano & Hathcote, 1994). In a recent study, Llosa, Chandon, and Orsingher (1998) found that in a free classification exercise where respondents are asked to sort the SERVQUAL items into groups, the number of dimensions can vary between two and thirteen. When respondents are asked to sort the 22 SERVQUAL items into five dimensions, the number of misplaced items ranges from 4 to 13. Interestingly, the authors report that the agreement on the tangibles items is nearly perfect and conclude that tangibles "is a dimension clearly and distinctively perceived by customers" (Llosa, Chandon, & Orsingher, 1998). In any event, despite the many studies which have examined the factor structure of SERVQUAL, "there is no clear consensus on the number of dimensions and their interrelationships" (Parasuraman, Zeithaml, & Berry, 1994). A considerable amount of research still needs to be done concerning the dimensionality of perceived service quality (Mels, Boshoff, & Nel, 1997; Parasuraman, Zeithaml, & Berry, 1994).The potential impact of a significant relationship between expectations about service performance and the service performance itself on reliability and factor structure (e.g., the number of components comprising the service quality construct) is not the only

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concern regarding the use of difference scores. The fact is scores used to measure expectations about service quality may simply be unnecessary. As noted by Babakus and Boller (1992), scores reflecting expectations of service performance do not help explain differences in service quality perceptions. Indeed, in a comprehensive investigation comparing SERVQUAL to a performance-only scale, (e.g. SERVPERF), Cronin and Taylor (1992) report that the performance-only measures consistently outperformed SERVQUAL.

Brown, Churchill, and Peter (1993) express added concern about the variance restriction in the SERVQUAL data. The authors argue that since the expected level of service will almost always be higher than the perceived level of service, the variance of the difference scores is restricted. The results of their study support these concerns empirically.

A third problem identified by McAlexander, Kaldenburg, and Koenig (1994) relates to the expectations scores themselves. More specifically, the authors report that health care patients "have uniformly high expectations across all service dimensions, which brings into question the diagnostic utility of the expectation measurement." The authors warn, "since repeated empirical studies have questioned the effectiveness of expectations measures, a manager should have strong justification before adding them to the instrument and bearing the negative consequences of a lengthy questionnaire."

In summary, the vast majority of research advises against the use of difference scores and suggests instead that quality perceptions can be accurately predicted using only the performance scale (Brown, Churchill, & Peter, 1993; Cronin & Taylor, 1992; Lam, 1995a; McAlexander, Kaldenburg, & Koenig, 1994). There has also been debate about whether it is practical to ask consumers about their expectations of a service immediately before consumption and their perceptions of performance immediately after.

For all of these reasons many researchers now believe that a more direct approach to the measurement of service quality is needed. It is felt that performance-only based

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measures of service quality may be an improved means of measuring the service quality construct (Churchill and Surprenaut, 1982; Bolton and Drew, 1991). This has led to the development and application of a more direct form of disconfirmation technique, best described as an absolute rating of customer attitudes towards service quality. Principal amongst these has been the work of Cronin and Taylor (1992) and the development of the SERVPERF technique. Like SERVQUAL this approach requires the customer to rate a providers performance on a Likert scale extending from (1) strongly disagree to (5) strongly agree. SERVPERF is also based largely upon many of the original SERVQUAL dimensions. Unlike SERVQUAL, however, it does not seek to estimate difference scores and is a one-off set of questions addressing post-consumption perceptions only. It is felt however, that from an operational point of view, much useful information is lost when performance only measures are taken.

2.4 The Relationship of Demographic Characteristics to Perceived Service Quality

The effects of demographic characteristics on consumer behaviour are well documented. Key demographic characteristics such as age, gender, income, education, and nationality are the background variables that help shape what a person has become. Usually, demographic characteristics are easy to determine by appearance or from a person's personal life. It is useful to think of these characteristics both in current terms – for example, a worker's current income, and in historical terms – for example, where and in how many places a person has lived, and family socio-economic status.

Factors such as age, income, education and gender have been used extensively in information processing and segmentation studies. For example, within the health care domain, Grazier et al. (1986) found age, gender and income to affect consumers' choice of health care plans. Females were more likely to be dissatisfied with health care, in general, and individuals with higher incomes were more likely to switch health-care providers. Age was also found to affect the consumers' level of information processing which is a necessary condition for evaluation of service quality. For example, Phillips

and Sternthal (1977) reviewed the literature on age differences and found a difference between older and younger individuals specific to the amount of information they could process. They also found older individuals had difficulty in distinguishing relevant from irrelevant information for unfamiliar decisions.

Thus, the customers with different demographic characteristics may also perceive the airline service quality differently.

2.5 Criteria of Service Quality Applied for Airlines

2.5.1 Airlines Industry Specifications

There are many possible aspects that could influence an Airlines consumers' perception of quality at different times in the consumption process. Generally, an airline passenger is concern with two basic aspects of the airline services: 1) schedule, and 2) price. There are other secondary, but important, aspects that a consumer may consider in the ultimate choice of an airline. The basic factors can be used to explain a large majority of consumer use of airline services. At the same time, once the basic concerns are met, the larger, more complex set of concerns begin to dominate the consumer's perception regarding quality of and satisfaction with a particular service experience and ultimately, the choice of a particular airline. Such things are safety, comfort of the seats, in-flight amenities such as food and beverages, attitude of the ground and flight crew, financial stability of the airline, on-time performance of the flights, assurance that bags arrive with the passengers, crowded conditions of the flight, being bumped from the flight, and frequent flyer programs are important to consumers (Headley and Bowen, 1997). What passengers want are low fares and full services. The aircraft would depart exactly as scheduled, a gourmet meal would be served and the flight would then arrive precisely on time.

Over 70 percent of delays in commercial airline services are caused by weather, (Truitt et al., 1994). More over, most other delays are related to constraints of airport

capacity, which are also beyond the immediate control of the carrier. Although customers are interested in the reason why a flight is delayed and it is good service to communicate that reason, they still do not feel it on time. Anyway, getting an airplane out on time is quite interesting because it requires a major cross-function effort. For example, it requires the coordination of the airport, which directs customers to the proper gate; the pilot who flies the plane, the flight attendant who makes sure that all safety requirements are met; the people who load the luggage and cargo; and the caterers who load the food. Thus suppliers and employees have to be committed.

Furthermore, in a business service today, the customer does not expect every thing will go right all the time; the big test is what the company does when things go wrong. If it reacts quickly and in the best possible way, this company can get very high marks from the customer. It means that management must give airline personnel the authority to solve individual passenger problems on the spot. In addition, management must listen too its customers in order to discover which quality attributes are most important to them.

All air carriers recognize that customer's satisfaction and the perception of quality is important to choose an air carrier in markets. With multiple carriers providing the same basic service (transportation between 2 points of arrival and departure) the perception of quality held by a consumer has become an important competitive point. To monitor this rather fluid consumer opinion, quality assessment efforts are made periodically by individual airlines and by other consumer interest groups. Generally, these surveys based efforts concern themselves with qualitative factors such as comfort, pleasure, taste of food, and employee attitude. These are certainly important areas of consumer satisfaction. Subjective opinions are assessed by direct inquiry of the consumer via survey processes. Most of the major airlines operating in the world today already do this type of quality assessment and use the results to effectively manage the service they offer the consumers. This information is most often proprietary and not available to the public or broader industry because the information obtained can be used to gain competitiveness in airline quality.

2.5.2 Criteria of Quality Applied for Airlines

Principally, determining criteria for service quality is based on the determinants of service quality, but how to fix criteria for the determinants of service is not easy, because it's subjective, intangible. There're some differences between quality of service and quality of manufacturing as we've known. Generally, we can understand that quality of manufacturing can be evaluated quantitatively such as the percentage of damage, the percentage of products matched technical qualification. But we can not in simple figures, measure how service is reliable, responsive, etc. Measuring service quality is difficult and has to be based on results of surveys, statistics, etc. Therefore, setting up criteria for service quality can not be simply based on subjective intention of some one. It must be meaningful to customers, this means that criteria of airlines service should be based on view points of customers living in each local area, having different culture, etc.

Collectively, each airline has been setting up its own criteria continuously changing, to meet the changed requirement of its customers. The approach of continuous improvement of quality is applied harshly in competitive service. Criteria today may be obsolete tomorrow. That is because of the human requirement changing all the time.

These reasons lead to a perception that in a service organization, surveys, analysis on quality are basic to measure service quality and setting up criteria for its own organization

2.5.3 Airline Quality Rating (AQR)

Collectively, Headley's and Browen's research (1997) on the Airline Quality Rating (AQR) has met with widespread acceptance and acknowledgement. The AQR was developed and first announced in early 1991 as an objective method of comparing airline performance on combined multiple factors important to consumers. The objective in developing the AQR was to better recognize readily available data for consumer and offer it in a more useful, understandable, and objective form. These efforts were aimed at

discovering relevant, quantifiable, reliable factors of importance to consumers commonly used in rating the quality of airline service.

In developing the AQR, only the major airlines in the USA were used. A major airline, as defined by the US Department of Transportation, is an airline whose operating revenues for a 12-month period are one billion dollar or more.

The AQR is not consumer opinion based in a traditional sense, but rather it includes distinct performance characteristics that are specifically reflective of the consumers' point of view. The AQR approach focuses on quantitative factors rather than qualitative factors in order to provide a more objective result in assessing service quality levels across all major domestic airlines. The use of quantifiable, readily available data provides an objective starting point for monitoring the quality of service an individual airline might be providing and allows it to be directly compared with other competitors.

The AQR is a weighted average of 19 factors that have importance to consumers when judging the quality of airline services. Factors included in the rating scale are taken from an initial list of over 80 factors. Factors were screened to meet to basic criteria:

1. A factor must be obtainable from published data sources for each airline; and
2. A factor must have relevance to consumer concerns regarding airline quality

Final factors and weight were established by surveying 65 airline industry experts regarding their opinion as to what consumers would rate as important (on a scale 0 to 10) in judging airline quality. Also, each weight and factor was assigned a plus or minus sign to reflect the nature of impact for that factor on a consumer's perception of quality. For instance, the factor that includes on-time performance is as a positive factor because it is reported in terms of on-time successes, suggesting that a higher number is favorable to consumers. Conversely, the factor that includes accidents is included as a negative factor because it is reported in terms of accidents relative to the industry experience, suggesting that a higher number is unfavorable to consumers. Because safety is important to most

consumers, the weight for this factor is also high. Weight and positive/negative signs are independent of each other.

Unlike other consumer opinion approaches, which rely on consumer survey and subjective opinion, the AQR uses a mathematical formula that takes multiple weighted objective factors into account in arriving at a single rating for an airline.

Factor	Weight	Impact (+/-)
1. Average age of fleet	5.85	(-)
2. Number of aircrafts	4.54	(+)
3. On-time	8.63	(+)
4. Load factor	6.98	(-)
5. Pilot deviations	8.03	(-)
6. Number of accidents	8.38	(-)
7. Frequent flier awards	7.35	(-)
8. Fly problems*	8.05	(-)
9. Denied boarding*	8.03	(-)
10. Mishandled baggage*	7.92	(-)
11. Fares*	7.60	(-)
12. Customer service*	7.20	(-)
13. Refunds*	7.32	(-)
14. Ticketing/Boarding*	7.08	(-)
15. Advertising*	6.82	(-)
16. Credit*	5.94	(-)
17. Other*	7.34	(-)
18. Financial stability	6.52	(+)
19. Average seat-mile cost	4.49	(-)

*Data for these factors is drawn from consumer complaints registered with the USA Department of Transportation and are published monthly in the Air Travel Consumer Report.

Table 2.1: Airline Quality Rating: Factors, weights and Impacts

Source:Headle & Bowen (1997). International Airline Quality Measurement. Journal of Air Transportation World Wide.

The basic formula for calculating the AQR is:

$$AQR = \frac{W1*F1+W2*F2-W3*F3\ldots\ldots W19*F19}{W1+W2+W3+\ldots\ldots\ldots\ldots W19}$$

Each factor (F) has a weight (w), ranging from 0 (no importance) to 10 (great importance), that reflects the importance of that factor in the overall AQR. Also, each weight and factor has an associated positive or negative impact in the formula. For instance, the factor includes on-time performance as a positive impact. Conversely, the factor that includes number of accidents has a negative impact. The AQR is reflective of critical quality aspects that a consumer of airline services might consider and the impact and weight attached to each factor reflects consumer attitudes.
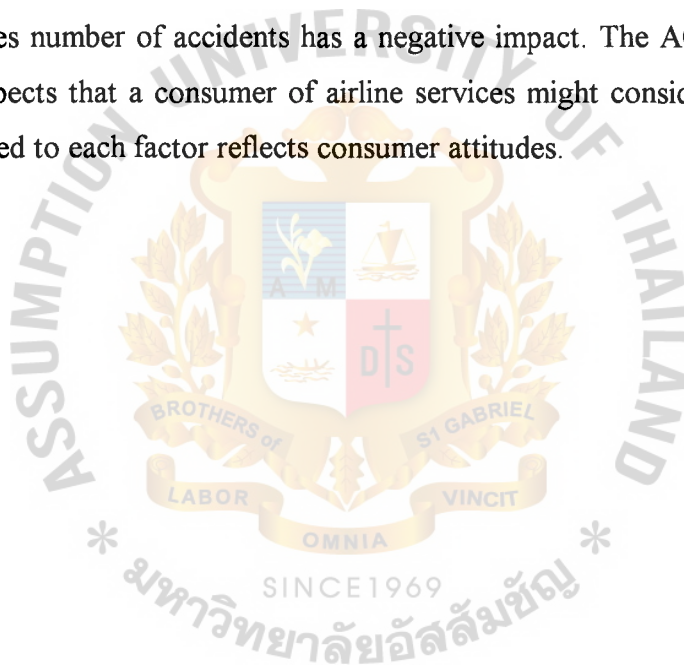
CHAPTER 3

RESEARCH FRAMEWORK

This chapter will focus on the framework of this research, which is adapted from theories and empirical researches reviewed in the chapter 2. The elaboration of the conceptual model will be discussed and all the hypothesis statements to be tested will also be explained.

3.1 Theoretical Framework

Browen and Headley have conducted a research in 1991 to assess the service quality of Airlines by using the Airline Quality Rating (AQR) approach. The AQR is an approach for evaluating the airlines service performance on combined multiple factors important to customers. However, all the authorized data required for this Airline Quality Rating are not available in the case of Vietnam Airlines. Therefore, the researcher cannot use this approach in this research.

Sultan and Simpson (2000) have contributed to the service quality literature by applying Gap 5 (the difference between customer perceptions and expectations) of the SERVQUAL model to airline industry. It provides empirical evidence of the usefulness of service model to assess airline companies competing in global markets, and describes the role of nationality in forming service quality expectations and perceptions.

Paul G. Patterson developed one of the most widely recognized customer satisfaction models in 1993 known as the disconfirmation of expectations paradigm. The model related satisfaction with customer's pre-purchase expectations and perceptions of service performance. Any difference between expectations and perceived performance is known as disconfirmation.

W.O.M	Personal Needs	Past Experience

Expectation (E)

❖ **Dimension 1: Tangibles**
  ▪ Appearance of physical facilities, equipment, personnel and communication materials
❖ **Dimension 2: Reliability**
  ▪ The ability to perform the promised service independently and accurately
❖ **Dimension 3: Responsiveness**
  ▪ The willingness to help customers and provide prompt service
❖ **Dimension 4: Assurance**
  ▪ The knowledge and courtesy of employees and their ability to convey trust and confidence
❖ **Dimension 5: Empathy**
  ▪ The provision of caring individualized attention to customers

Perceived Performance (P)

❖ **Dimension 1: Tangibles**
  ▪ Appearance of physical facilities, equipment, personnel and communication materials
❖ **Dimension 2: Reliability**
  ▪ The ability to perform the promised service independently and accurately
❖ **Dimension 3: Responsiveness**
  ▪ The willingness to help customers and provide prompt service
❖ **Dimension 4: Assurance**
  ▪ The knowledge and courtesy of employees and their ability to convey trust and confidence
❖ **Dimension 5: Empathy**
  ▪ The provision of caring individualized attention to customers

Comparison Process

E>P   E=P   E<P

Negative Disconfirmation	**Confirmation**	**Positive Disconfirmation**
Dissatisfaction	**Mere Satisfaction**	**Delight**

Figure 3.1: The disconfirmation of expectation model
(Source: Adapted from Patterson, P. G. (1993)

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To measure service quality, Parasuraman developed the measurement SERVQUAL model based on their gap theory. In this model, ten determinants of service quality are condensed into five principle dimensions of service quality. These dimensions have been synthesized in a 22-item scale

Five dimensions of service quality are:

- Tangibility
- Reliability
- Responsiveness
- Assurance
- Empathy

The formula to measure these dimensions is:

Service Quality = Performance - Expectations

In this study customers' expectation of the airlines service is considered as the benchmark for evaluating service performance of Vietnam Airlines. That is why SERQUAL (Parasuraman et al. 1985) and Disconfirmation of Expectation (Patterson, 1993) models have been adopted to understand and assess the existing service quality level.

3.2 Conceptual Framework
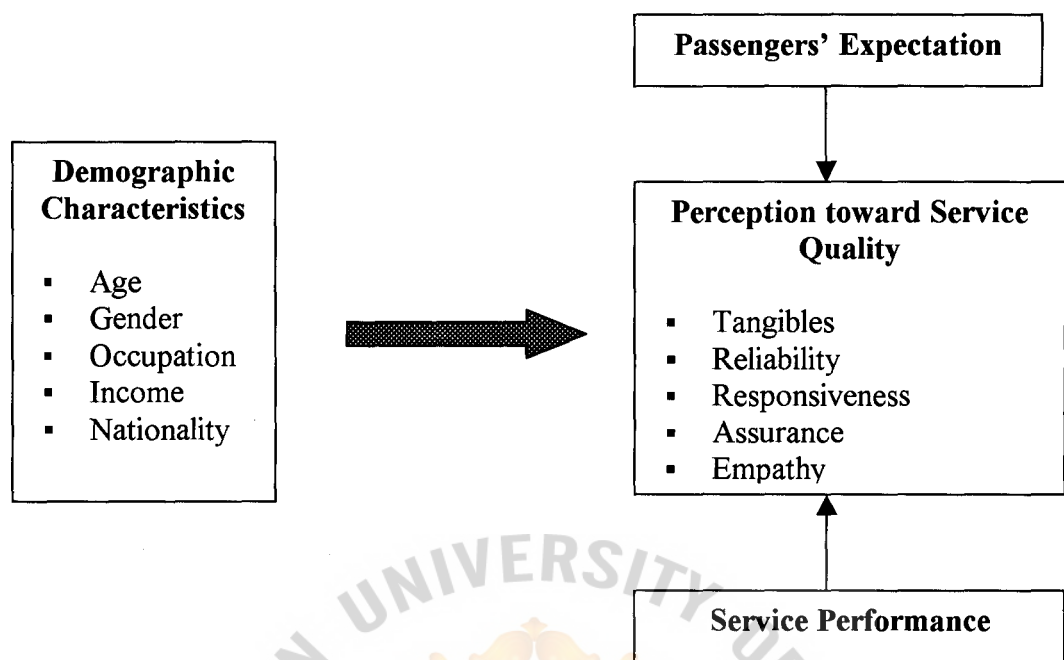
Figure 3.2: Conceptual Framework of the study

The conceptual framework of this study exhibited in Figure 3.2 is constructed based on the assumption that demographic factors have significant influence on passengers' perception toward service quality of Vietnam Airlines.

The objectives of this study are to assess the service quality of Vietnam Airlines from points of view of the international passengers and how the demographic characteristics of the passengers themselves effect their perception toward the service quality dimensions delivered by the Airlines. Therefore, the demographic characteristics of the passengers i.e. age, gender, income, occupation, and nationality will be used as independent variables, and their perception toward five dimensions of service quality delivered by the airlines i.e. tangibles, reliability, responsiveness, assurance, and empathy will be used as dependent variable. The discrepancy between the passengers' expectation and their perception is used as basis for measuring the service quality of the airlines or in other word, the level of passengers' satisfaction.

In order to relate these variables into operational study, each of these variables will be used to develop statement of hypotheses to test the effects of the independent variables on the dependent variables. Also, each of the dimensions of service quality will be used to evaluate the satisfaction of the airlines' passengers.

3.3 Research Hypotheses

H1o: Passengers are not satisfied with service quality of Vietnam Airlines.

H1a: Passengers are satisfied with service quality of Vietnam Airlines.

H2o: There is no relationship between demographic factors and passenger perception about service quality.

H2a: There is a relationship between demographic factors and passenger perception about service quality.

3.4 Operational Definition of the Variables

VARIABLES	OPERATIONAL COMPONENTS	MEASUREMENT
Age	1. 18-24 2. 25-34 3. 35-44 4. 45-54 5. 55-64 6. Over 65	Ordinal
Gender	1. Male 2. Female	Nominal
Occupation	1. Professional 2. Owner, Partner 3. Officer, clerical	Nominal

VARIABLES	OPERATIONAL COMPONENTS	MEASUREMENT
	4. Engineer	
	5. Laborer	
	6. Student	
	7. Retired	
	8. Unemployed	
	9. Other	
Income (per month after tax)	1. Less than 10,000 baht or 250 US$ 2. 10,000-20,000 baht or 250-450 US$ 3. 20,001-30,000 baht or 451-700US$ 4. 30,001-40,000 baht or 701-950 US$ 5. More than 40,000 or 951 US$	Ordinal
Nationality	1. Asian 2. European 3. North American 4. Other	Nominal
Tangibles	1. Up-to-date maintained modern aircraft fleet 2. Convenient location of ticket counters 3. Sufficient number of ticket counters 4. Well dressed, nice appearance of employees 5. Attractive aircraft interior 6. Adequate magazines, newspapers, and snack bar in a comfortable waiting hall 7. Sufficient personal space, when seated 8. Comfort seating in aircraft 9. Sufficient space for hand luggage 10. Good WC facilities 11. Aircraft does not make noise 12. Good quality of food on board 13. Sufficient amount of food	Interval

VARIABLES	OPERATIONAL COMPONENTS	MEASUREMENT
	14. Good quality of free alcoholic beverage 15. Sufficient quantity of free alcoholic beverage 16. Low price of the ticket	
Reliability	1. On time take-off and arrival 2. Being sympathetic and reassuring when passenger has a problem 3. Carrying out accurately flight procedure and flight status information 4. Providing convenient schedules 5. Providing frequent flyer program 6. Having good reputation	Interval
Responsiveness	1. Providing prompt reservation service 2. Check-in employees are helpfulness and courtesy 3. No waiting line at airport ticket counter for a long time 4. No waiting line at boarding gate for a long time 5. Prompt services from ground employees 6. Prompt service from air stewardesses. 7. Employees are willing to help passengers 8. Employees are too busy to respond to passengers' request promptly 9. Promptly baggage delivery	Interval
Assurance	1. Trustworthy employees 2. Feeling safe in traveling 3. Careful baggage handling 4. Polite, kind and ever smiling employees	Interval

VARIABLES	OPERATIONAL COMPONENTS	MEASUREMENT
	5. Individual attention	
Empathy	1. Employees anticipate and respond to passengers' needs	Interval
	2. Employees serve passengers with individual and personal attention	
	3. The Airlines have passengers' best interests at heart	
	4. The Airlines have service hours convenient to all its customers	

Table 3.1: Operational Definition of the Variables

CHAPTER 4

RESEARCH METHODOLOGY

This chapter is devoted to explaining the research methodology, which includes research design, target population, sampling design and procedures. Research instrument and scale construction will also be explained in detail in this chapter. Similarly, the data gathering procedures and statistical treatment will be presented in this chapter.

4.1 Research Method

The objective of this study is to assess the customer satisfaction of International passengers of Vietnam Airlines and the influence of demographic characteristics on their perception toward service quality dimensions of the airlines. Therefore, the study will be conducted as a case study of Vietnam Airlines

This case study will be based on the responses received on research questions from the respondents. Questionnaire is self-administered. The method used, therefore, is self-administered survey.

Descriptive hypotheses have been formed to test whether or not the passengers are satisfied with each dimension of service quality of Vietnam Airlines. Also, relational hypotheses will be used to test the effects and relationships between the independent variables i.e. demographic factors, and dependent variable i.e. perception of the passengers toward service quality.

Sample survey method for collection of data will be applied to provide a quick, inexpensive, and efficient means of assessing information about the population. The

analysis of detailed responses is expected to provide valuable insight for problem solving, evaluation, and strategy formulation and implementation.

4.2 Respondents and Sampling Procedures

4.2.1 Target population:

This research study aims at evaluating the international passengers' perception about service quality of Vietnam Airlines; therefore, the target population of the research is international passengers, who have taken flight with Vietnam Airlines on international routes at least once.

4.2.2 Sampling method:

Since it is impossible for the researcher to get the confirm list of passengers before flights, therefore, a convenience sample of passengers taking flight with Vietnam Airlines on international routes during the period of survey for this research will be selected. While a convenience sample has no controls to ensure precision, it may still be useful procedure, and cheapest, easiest method to conduct. Often we can take such a sample even to gain ideas about a subject of our interest (Cooper, 2000).

4.2.3 Sampling unit:

The sampling unit of this study is international passenger, who took flight with Vietnam Airlines on Bangkok-Hanoi or Hanoi-Bangkok routes. Questionnaires will be distributed on board during the flight by Vietnam Airlines crew personnel to all passengers on randomly selected flights, on random selected days.

4.2.4 Sample size:

As the non-probability sampling is applied, there is no specific method in determining sample size. Moreover, it is not practical to survey all the target population. In practice, a number of tables has been proposed by prominent researchers for determining sample size.

The theoretical principles for calculation of sample sizes of proportions are similar to the concepts of the formulas used for probability sampling method. The table 4.1 illustrates a sample size table for problems that involve sample proportions.

Size of Population	Required Sample for Tolerable Error			
	5%	4%	3%	2%
100	79	85	91	96
500	217	272	340	413
1,000	277	375	516	705
5,000	356	535	897	1,622
50,000	381	593	1,044	2,290
100,000	382	596	1,055	2,344
1,000,000	384	599	1,065	2,344
25,000,000	384	600	1,067	2,400

Table 4.1: Theoretical Sample Size for Different Size of Population
Source: Anderson, G. (1998)

According to the Vietnam Airlines Annual report 2000, the total number of international passengers carried by the airlines for the year is 1,185,590. Ignoring the seasonal characteristic of the airlines, the total passengers carried by the airlines for a period of three months, which is equal to the period the researcher is going to collect primary data from respondents, is assumed 300,000 passengers.

From the above table with 95% confidence level, the sample size of 384 passengers is supposed to be minimum required size of sample for this study.

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4.3 Pilot Survey

To detect the weakness in design and instrumentation, a pilot survey has been conducted with a group of 25 randomly selected passengers (Cooper, 2000). The questionnaire was administered using face-to-face interviews with the passengers waiting for their flights on Vietnam Airlines at Donmuang Airport, who have used the service of Vietnam Airlines before. The wordings of some questions and the question arrangement have been readjusted so that it becomes easy for the passengers participating in the survey to answer and the communication between the researcher and the respondents were not be biased.

A pretest of reliability of measurement scale has also been carried out on the data collected from the pilot survey. The reliability deals with an indicator's dependability. If it is a reliable indicator or measure, it gives the same result each time the same thing is measured (as long as what are measuring is not changing). Reliability means that the information provided by indicators (e.g., a questionnaire) does not vary as a result of characteristics of the indicator, instrument, or measurement device itself.

Three types of reliability:

i) *Stability reliability.* This is reliability across time. It addresses the question: "Does the measure or indicator deliver the same answer when applied in different time periods?" An indicator's degree of *stability reliability* by using the test *test-retest* method, with which it can be retest or re-administered the indicator to the same group of people. If what are measuring is stable and the indicator has stability reliability, then there will be the same result each time.

ii) *Representative reliability.* This is reliability across subpopulations or groups of people. It addresses the question: "Does the indicator deliver the same answer when applied to different groups?" An indicator has high *representative reliability* if it yields the same result for a construct when

applied to different subpopulations (e.g. different classes. recess, sexes, age groups).

iii)   *Equivalence reliability.* Equivalence reliability applies when multiple indicators i.e. multiple specific measures are used in the operationalization of a construct (e.g. several items in a questionnaire all measure the same construct). Equivalence reliability addresses the question: "Does the measure yields consistent result across the different indicators? If several different indicators measure the same construct, then a reliable measure gives the same result with all indicators.

Therefore, the questionnaires of this study are expected to go through equivalence reliability test.

There is a number of ways of assessing reliability, such as internal consistency, which requires calculating the alpha coefficient or Cronbach's alpha (the square root of the estimated correlation of the measure with error-less true scores). Negative values for alphas occur when the average inter-item correlation is negative, which violates the reliability model. This method is particularly easy to use since it requires only a single test administration (Carmines and Zeller, 1979).

Cronbach's alpha was used to test the internal consistency among the items included in the factor. As general rule, reliability should not be below 0.80 for widely used scales (Carmines and Zeller, 1979). For research using new scale, an alpha value of 0.7 is acceptable (Nunnaly, 1978), while other researchers such as Sethi and King (1991), recommended a threshold level of 0.50 for exploratory construct measurement. Because of the exploratory nature of this study, an alpha level of 0.50 is used as the limit.

The reliability of the scales for all the theoretical constructs is shown in the table 4.2. The alpha value for all questions in the questionnaire exceeds the minimum threshold level of 0.50.

Construct	Cronbach's Alpha	
	Part A: Expectation	Part B: Perception
Tangibles	.8898	.7764
Reliability	.5112	.6284
Responsiveness	.8176	.7084
Assurance	.5778	.7020
Empathy	.7641	.6322

Table 4.2: Reliability of the Scales for all the Theoretical Constructs

4.4 Research instruments/Questionnaires

The instrument to be used for this survey research is questionnaire. The questionnaire has been developed on the basis of the proposed conceptual framework of this study.

The questionnaire is constructed in three parts:

▪ Part A is to evaluate the passenger's expectation about Vietnam Airlines' service quality. A horizontal numeric scale of 5 points is applied to each question for the expectation level. The scale from 1 to 5 expresses the increasing degree of expectation from "strong disagree" to "strong agree" for an attribute. Passengers will be requested to show the extent to which he/she thinks Vietnam Airlines offering services should possess the features described in each statement. There is no right or wrong answer, what the researcher is interested in a number that best shows the passenger's expectation about Vietnam Airlines offering service. Statements corresponding passenger's expectation is given in table 4.3

Quality dimension	Statements pertaining to the dimension	Answer for each statement (Strongly disagree…Strongly agree)
Tangibles	Statements E1 - E16	1 – 2 – 3 – 4 – 5
Reliability	Statements E17 – E22	1 – 2 – 3 – 4 – 5
Responsiveness	Statements E23 – E31	1 – 2 – 3 – 4 – 5
Assurance	Statement E32 – E36	1 – 2 – 3 – 4 – 5
Empathy	Statement E37 - E40	1 – 2 – 3 – 4 – 5

Table 4.3: Statements Corresponding to Expectation

▪ Part B is to evaluate the passenger's perception about Vietnam Airlines' service quality. Also a numerical scale of 5 points is applied to express the increasing degree of passenger's experience about Vietnam Airline service. A set of statements related to passengers' feelings about Vietnam Airlines has been prepared. For each statement, passenger will be requested to show the extent to which he/she believes Vietnam Airlines has the feature described by the statement. There is no right or wrong answer, what the researcher is interested in is a number that best shows the passenger's perception about Vietnam Airlines service quality. Statement corresponding to passenger's perception is given in table 4.4

Quality dimension	Statements pertaining to the dimension	Answer for each statement (Strongly disagree…Strongly agree)
Tangibles	Statements P1 - P16	1 – 2 – 3 – 4 – 5
Reliability	Statements P17 – P22	1 – 2 – 3 – 4 – 5
Responsiveness	Statements P23 – P31	1 – 2 – 3 – 4 – 5
Assurance	Statement P32 – P36	1 – 2 – 3 – 4 – 5
Empathy	Statement P37 - P40	1 – 2 – 3 – 4 – 5

Table 4.4: Statements Corresponding to Perception

- Part C is personal data of the respondent. Respondents will be requested to give their personal data corresponding to the group of age, gender, occupation, income, and nationality. These groups are given in table 4.6

DEMOGRAPHIC FACTORS	GROUPS
Age	1. 18-24 2. 25-34 3. 35-44 4. 45-54 5. 55-64 6. Over 65
Gender	1. Male 2. Female
Occupation	1. Professional 2. Owner, Partner 3. Officer, clerical 4. Engineer 5. Laborer 6. Student 7. Retired 8. Unemployed 9. Other
Income (per month after tax)	1. Less than 10,000 baht or 250 US$ 2. 10,000-20,000 baht or 250-450 US$ 3. 20,001-30,000 baht or 451-700US$ 4. 30,001-40,000 baht or 701-950 US$ 5. More than 40,000 or 951 US$

Table 4.5: Demographic Factors

This personal data of the passengers will be used to test the effects of demographic characteristics on the perception of the passengers toward service quality.

4.5 Collection of Data/Gathering Procedures

In this study, the data will be collected from primary as well as secondary sources. In case of primary data, the questionnaire will be used for surveying the sample group. It seems very difficult to get response from an arriving passenger, so the researcher will request to the management of Vietnam Airlines for permission and the stewardesses for help in distributing questionnaire on board during the flight and collecting the same after the passengers complete their response to the questionnaire.

Since the routes Bangkok-Hanoi and Hanoi-Bangkok are too short, many passengers may refuse to give response to the questionnaire. The results achieved in 48 surveys using the Total Design Method (TDM) shows response rates of 50 to 94%, with a median response rate of 74% (Cooper, 2000). Therefore, expecting a response rate of 74%, in order to achieve 384 responses of the sample size determined in the previous part, the researcher will distribute 520 questionnaires to passengers on different flights during the period of survey for this research.

The returned questionnaire will be encoded and interpreted using the Statistical Package for Social Science (SPSS) for window.

The secondary data has been collected from magazines, newspapers, quarterly and annual reports, as well as website of Vietnam Airlines. This data has been presented in the Vietnam Airlines Overview (Appendix A). Based on the secondary data and the findings of this study, the researcher will draw conclusions and give recommendation to Vietnam Airlines in terms of its service quality improvement.

4.6 Statistical Treatment of Data

With the application of the SPSS, the following approaches will be used for the data analysis and interpretation:

1. Descriptive statistics
2. Inferential statistics

4.6.1 Descriptive Statistics

The objective of the descriptive analysis is to transform the raw data into a form that will make them easy to understand and interpret. Describing responses collected from the questionnaire survey is the first stage of analysis.

In this study the researcher will use the most common way to summarize data collected from the respondents, which is to calculate averages, frequency distributions, and percentage distribution.

For the variables with ordinal scale of measurement such as age group and income group, or nominal scale such as gender, occupation, and nationality, tables of frequency and percentage will be applied.

For the variables with interval scale of measurement, tables of percentage and arithmetic mean will be applied to summarize the data.

4.6.2 Inferential Statistics

Inferential statistics is the second of two major categories of statistical procedures following the descriptive statistics. The inferential statistics will be used in testing the hypotheses listed in the chapter 3. The purpose of hypothesis testing is to determine the accuracy of the hypotheses due to the fact that the sample data has been collected, not a census one. The accuracy of hypotheses is evaluated by determining the statistical likelihood that the data reveal true differences, not random sampling error (Cooper, 2000).

To evaluate the level of service quality of Vietnam Airlines perceived by the International passengers, the dependent sample T-test is a best statistical technique to be used to compare two variables of all cases i.e. expectation and perception of all passengers who took flight with Vietnam Airlines. However, the dependent sample T-test method is based on the assumption that the distributions of the scores are normally distributed. This assumption is not met for the collected data of this study. Therefore, a different type of technique called *Wilcoxon Signed Ranks Test* will be used. The Wilcoxon Signed Ranks test is designed to test a hypothesis about the location (median) of a population distribution. It often involves the use of matched pairs, for example, before and after data, in which case it tests for a median difference of zero. The Wilcoxon Signed Ranks test does not require the assumption that the population is normally distributed.

Similarly, to test the relationship between demographic factors, which have nominal and ordinal measurement such as age groups, occupation, income level, nationality, and the perception of passengers toward the service quality, non-parametric statistical approach equivalent to analysis of variance (ANOVA) called *Kruskal-Wallis Test* will be applied due to the lack of distributional assumption for the ANOVA test. While analysis of variance tests depend on the assumption that all populations under comparison are normally distributed, the Kruskal-Wallis test places no such restriction on the comparison.

Since the gender variable has nominal measurement with two values i.e. male and female, the *Wilcoxon Mann-Whitney* approach will be used to test the relationship between gender variables and perception variables in place of the independent t-test when the normality assumption is questionable,

CHAPTER 5

DATA ANALYSIS

This chapter deals with analysis of collected data, which includes descriptive statistics analysis (section one) and inferential statistics (section two). Descriptive analysis and hypothesis testing are two statistical techniques used in the data analysis as they are best fit for providing optimal results that can meet the research problems and objectives.

As mentioned in chapter four, a total of 520 questionnaires have been distributed on board during the flight by Vietnam Airlines crew personnel to all passengers on randomly selected flights, on random selected days. The total of questionnaires returned was 290, resulting in response rate of 55.7%. It is quite far below the expected response rate 74%. The main reason is most probably due to the short time flight on the route Bangkok-Hanoi-Bangkok. The researcher has, therefore, distributed an additional number of 200 questionnaires to passengers.

The data collection resulted in the following response rate:

Questionnaires	Sets	Percentage (%)
Total questionnaires distributed	720	100%
Questionnaires returned		
Valid cases	384	53.3%
Invalid cases	13	1.8%
Total questionnaires returned	397	55.1%
Questionnaires not returned	323	44.9%

Table 5.1: Response rate

The entire data analysis is divided into two parts:

1. Descriptive statistics
2. Inferential statistics

5.1 Descriptive statistics

Descriptive analysis refers to the transformation of the raw data into a form that will make them easy to understand and interpret (Zikmund, 1999).

Distribution is the most significant theoretical distribution in statistics. It is a standard of comparison for describing distribution of sample data and is used with inferential statistics that assume normally distributed variables. The characteristics of location spread and shape describe distributions. Their definitions, applications, and formulas fall under the heading of "descriptive statistics" (Cooper, and Emory, 1995).

Descriptive statistics is an efficient mean of summarizing the characteristics of large set of data, which can be presented in frequency tables, percentages, bar charts, histogram, or cross tabulation. For this purpose of analyzing the data, the descriptive statistics of this study is segmented as follows:

- Frequency tables of personal data of respondents
- Exhibition of mean score of passengers' expectation and perception about service quality, and its distribution.

5.1.1 Frequency tables of personal data of respondents

5.1.1.1 Response statistics

Statistics		Age group	Gender	Occupation	Income group	Nationality
N	Valid	384	384	384	381	384
	Missing	0	0	0	3	0

Table 5.2: Response statistics

Table 5.2 shows statistics of response collected from the survey. All the responses about age, gender, occupation and nationality are valid. However, responses about income of three respondents are missing.

5.1.1.2 Gender of respondents

Gender		Frequency	Percent	Valid Percent
Valid	Male	218	56.8	56.8
	Female	166	43.2	43.2
	Total	384	100.0	100.0

Table 5.3: Gender of respondents

Table 5.3 shows gender of respondents in this research. It is viewed that 218 respondents of the sample size were male, and 166 respondents were female, representing 56.8% and 43.2% respectively.

5.1.1.3 Age of respondents

Age group			
	Frequency	**Percent**	**Valid Percent**
Under 25	35	9.1	9.1
25-34	99	25.8	25.8
35-44	118	30.7	30.7
Valid **45-54**	87	22.7	22.7
55-64	36	9.4	9.4
Over 64	9	2.3	2.3
Total	384	100.0	100.0

Table 5.4: Age of respondents

Table 5.4 illustrates range of respondents' age. Respondents aged 35-44 represented the majority, and counted for 30.07%. The respondents, who aged 25-34, and 45-54, represented 25.8% and 22.7% respectively. Respondents aged 25, 55-64, and over 64 counted for only 9.1%, 9.4%, and 2.3% respectively.

5.1.1.4 Occupation of respondents

Occupation			
	Frequency	**Percent**	**Valid Percent**
Professional	32	8.3	8.3
Owner/partner	67	17.4	17.4
Officer/clerical	72	18.8	18.8
Engineer	40	10.4	10.4
Laborer	25	6.5	6.5
Valid **Student**	54	14.1	14.1
Retired	16	4.2	4.2
Unemployed	9	2.3	2.3
Other	69	18.0	18.0
Total	384	100.0	100.0

Table 5.5: Occupation of respondents

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Table 5.5 shows the occupation of respondents. Respondents who are officer/clerical, owner/partner, and student represented the majority, and accounted for 18.8%, 17.4%, and 14.1% respectively. Engineer, professional, labor, retired, and unemployed accounted for 10.4%, 8.3%, 6.5%, 4.2%, and 2.3% respectively. Other profession accounted for 18%.

5.1.1.5 Income of respondents

Income group		Frequency	Percent	Valid Percent
Valid	Less than 10,000 baht	69	18.0	18.1
	10,000-20,000 baht	88	22.9	23.1
	20,001-30,000 baht	81	21.1	21.3
	30,001-40,000 baht	62	16.1	16.3
	More than 40,000 baht	81	21.1	21.3
	Total	381	99.2	100.0
Missing	9	3	.8	
Total		384	100.0	

Table 5.6: Income of respondents

Table 5.6 shows range of respondents' income. The number of respondents in each income group is not much different from each other. However, the income group of 10,000-20,000 baht per month represented the majority and accounted for 22.9%, the income groups of 20,001-30,000 baht, more than 40,000 baht, less than 10,000 baht, and 30,001-40,000 baht accounted for 21.1%, 21.1%, 18%, and 16.1% respectively.

5.1.1.6 Nationality of respondents

Table 5.7 illustrates nationality of respondents. It is seen that Asian respondents represented the majority, and accounted for 63.5%. European, North American, and others accounted for only 15.9%, 6.8%, and 13.8% respectively.

Nationality		Frequency	Percent	Valid Percent
Valid	Asian	244	63.5	63.5
	European	59	15.9	15.9
	North America	24	6.8	6.8
	Other	51	13.8	13.8
	Total	384	100.0	100.0

Table 5.7: Nationality of respondents

All the tables above give an overview of respondents' profile of the survey. It can be useful to the managers of Vietnam Airlines in positioning the market segment for the company on routes Bangkok-Hanoi, and Hanoi-Bangkok.

5.1.2 Exhibition of mean score of passengers' expectation and perception about service quality, and its distribution

This paragraph will show the comparison between passengers' expectation and perception about service quality dimensions through descriptives and boxplots. Descriptives will indicate the statistical data; Boxplots will display the symmetry of the distribution and incorporate numerical measures of central tendency and location in order to study the variability of the scores and the connection of scores in the tails of the distribution of data.

The paragraph also shows the test statistics of normality of the variables. The null hypothesis for this test is that the scores are normally distributed. If the statistic is not significant, then we cannot reject the null hypothesis that the distribution is normal. If the statistic is significant, then we do reject the null hypothesis that distribution is normal. To put in other way, if the significance level is at $\alpha < .05$, then the scores are not normally distributed.

5.1.2.1 Service quality dimension "Tangibles"

Descriptives			Statistic	Std. Error
Expectation about tangibles	Mean		3.5558	1.483E-02
	95% Confidence Interval for Mean	Lower Bound	3.5267	
		Upper Bound	3.5850	
	5% Trimmed Mean		3.5558	
	Median		3.5625	
	Variance		8.450E-02	
	Std. Deviation		.2907	
	Minimum		2.63	
	Maximum		4.31	
	Range		1.69	
	Interquartile Range		.4844	
	Skewness		.009	.125
	Kurtosis		-.496	.248
Perception about tangibles	Mean		3.4355	1.792E-02
	95% Confidence Interval for Mean	Lower Bound	3.4003	
		Upper Bound	3.4708	
	5% Trimmed Mean		3.4249	
	Median		3.3750	
	Variance		.123	
	Std. Deviation		.3511	
	Minimum		2.75	
	Maximum		4.31	
	Range		1.56	
	Interquartile Range		.5000	
	Skewness		.482	.125
	Kurtosis		-.305	.248

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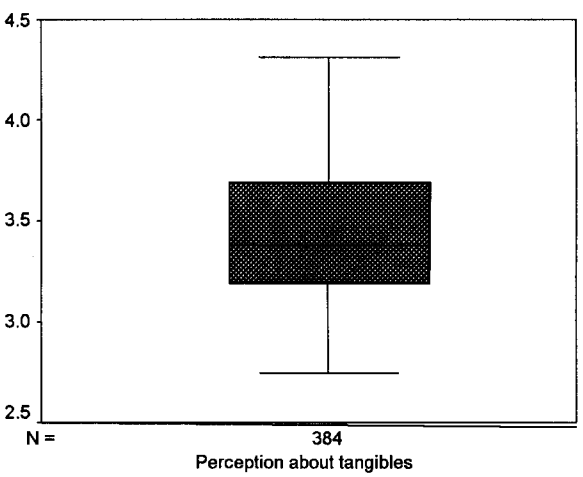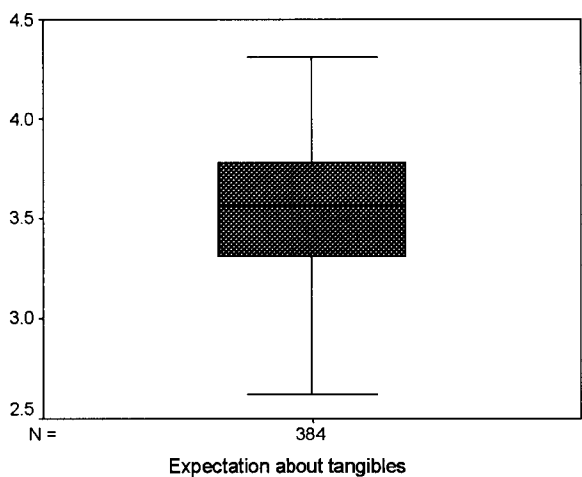
	Kolmogorov-Smirnov(a)		
Tests of Normality			
	Statistic	df	Sig.
Expectation about tangibles	.090	384	.000
Perception about tangibles	.119	384	.000
a Lilliefors Significance Correction			

Exhibit 5.1: Mean score of expectation and perception about "Tangibles"

From the exhibit 5.1, the boxplots show no outlier (extreme value) in expectation and perception about the dimension "Tangibles". However, the median shows the differences in skewness of the score distribution.

The test of normality shows that sig. (.000) for both expectation and perception variables are less than α (.05), hence we do reject the null hypothesis. We can conclude that the scores are not normally distributed.

5.1.2.2 Service quality dimension "Reliability"

Descriptives			Statistic	Std. Error
Expectation about reliability	Mean		3.6714	1.520E-02
	95% Confidence Interval for Mean	Lower Bound	3.6416	
		Upper Bound	3.7013	
	5% Trimmed Mean		3.6681	
	Median		3.6667	
	Variance		8.868E-02	
	Std. Deviation		.2978	
	Minimum		3.00	
	Maximum		4.50	
	Range		1.50	
	Interquartile Range		.3333	
	Skewness		.122	.125
	Kurtosis		-.160	.248
Perception about reliability	Mean		3.6823	1.577E-02
	95% Confidence Interval for Mean	Lower Bound	3.6513	
		Upper Bound	3.7133	
	5% Trimmed Mean		3.6884	
	Median		3.6667	
	Variance		9.549E-02	
	Std. Deviation		.3090	
	Minimum		2.67	
	Maximum		4.50	
	Range		1.83	
	Interquartile Range		.3333	
	Skewness		-.177	.125
	Kurtosis		.665	.248
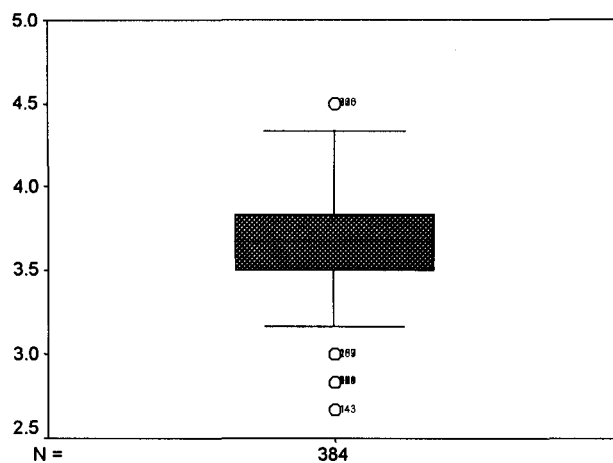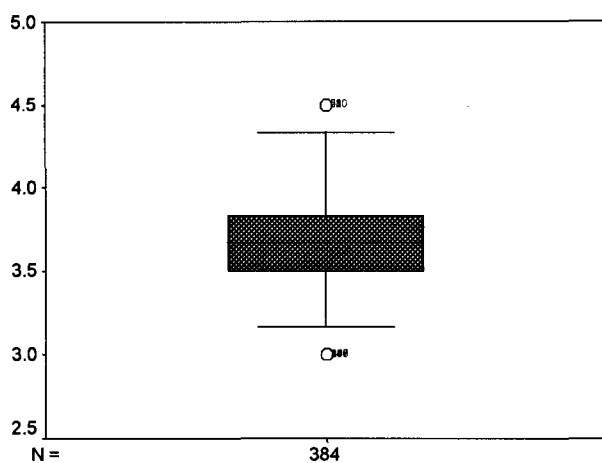
Tests of Normality			
	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
Expectation about reliability	.118	384	.000
Perception about reliability	.145	384	.000
a Lilliefors Significance Correction			

Exhibit 5.2: Mean score of expectation and perception about "Reliability"

From the exhibit 5.2, the boxplots show outliers in both expectation and perception about the dimension of "Reliability". These extreme values may drastically change the result of the hypothesis testing using T-test technique.

The test of normality shows that sig. (.000) for both expectation and perception variables are less than α (.05), hence we do reject the null hypothesis. We can conclude that the scores are not normally distributed.

5.1.2.3 Service quality dimension "Responsiveness"

Descriptives			Statistic	Std. Error
Expectation about responsiveness	Mean		3.6525	1.727E-02
	95% Confidence Interval for Mean	Lower Bound	3.6185	
		Upper Bound	3.6864	
	5% Trimmed Mean		3.6499	
	Median		3.6667	
	Variance		.115	
	Std. Deviation		.3384	
	Minimum		3.00	
	Maximum		4.56	
	Range		1.56	
	Interquartile Range		.4444	
	Skewness		.107	.125
	Kurtosis		-.590	.248
Perception about responsiveness	Mean		3.7098	1.632E-02
	95% Confidence Interval for Mean	Lower Bound	3.6777	
		Upper Bound	3.7419	
	5% Trimmed Mean		3.7054	
	Median		3.6667	
	Variance		.102	
	Std. Deviation		.3198	
	Minimum		2.89	
	Maximum		4.56	
	Range		1.67	
	Interquartile Range		.3333	
	Skewness		.311	.125
	Kurtosis		.258	.248

Tests of Normality			
	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
Expectation about responsiveness	.082	384	.000
Perception about responsiveness	.145	384	.000
a Lilliefors Significance Correction			

Exhibit 5.3: Mean score of expectation and perception about "Responsiveness"

From the exhibit 5.3, the boxplots show outliers in both expectation and perception about the dimension of "Responsiveness". The median shows the differences in skewness of the scores distribution.

The test of normality shows that sig. (.000) for both expectation and perception variables are less than α (.05), hence we do reject the null hypothesis. We can conclude that the scores are not normally distributed.

5.1.2.4 Service quality dimension "Assurance"

Descriptives			Statistic	Std. Error
Expectation about assurance	Mean		3.8729	1.694E-02
	95% Confidence Interval for Mean	Lower Bound	3.8396	
		Upper Bound	3.9062	
	5% Trimmed Mean		3.8611	
	Median		3.8000	
	Variance		.110	
	Std. Deviation		.3319	
	Minimum		3.00	
	Maximum		4.80	
	Range		1.80	
	Interquartile Range		.4000	
	Skewness		.627	.125
	Kurtosis		.218	.248
Perception about assurance	Mean		4.3099	1.700E-02
	95% Confidence Interval for Mean	Lower Bound	4.2765	
		Upper Bound	4.3433	
	5% Trimmed Mean		4.3133	
	Median		4.4000	
	Variance		.111	
	Std. Deviation		.3332	
	Minimum		3.60	
	Maximum		5.00	
	Range		1.40	
	Interquartile Range		.6000	
	Skewness		-.206	.125
	Kurtosis		-.601	.248
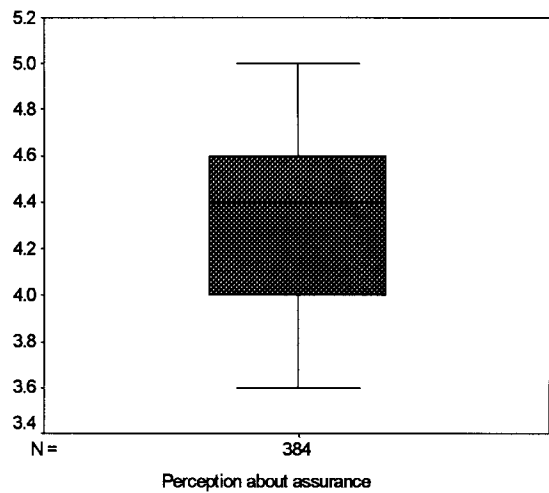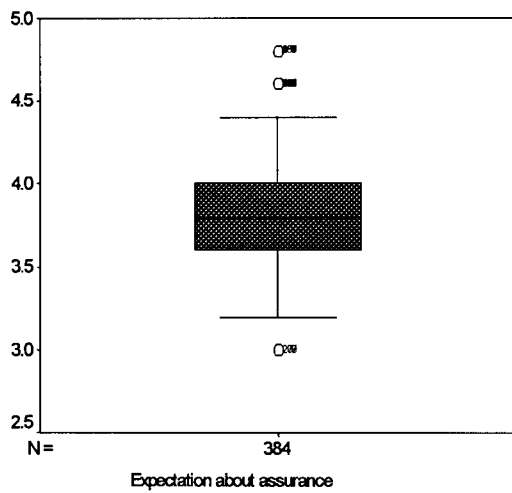
Tests of Normality			
	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
Expectation about assurance	.222	384	.000
Perception about assurance	.185	384	.000
a Lilliefors Significance Correction			

Exhibit 5.4: Mean score of expectation and perception about "Assurance"

From the exhibit 5.4, the boxplots show outliers in both expectation and perception about the dimension of "Assurance". The median shows differences in skewness of the scores distribution.

The test of normality shows that sig. (.000) for both expectation and perception variables are less than α (.05), hence we do reject the null hypothesis. We can conclude that the scores are not normally distributed.

5.1.2.5 Service quality dimension "Empathy"

Descriptives			Statistic	Std. Error
Expectation about empathy	Mean		3.2311	1.893E-02
	95% Confidence Interval for Mean	Lower Bound	3.1939	
		Upper Bound	3.2683	
	5% Trimmed Mean		3.2209	
	Median		3.2500	
	Variance		.138	
	Std. Deviation		.3709	
	Minimum		2.25	
	Maximum		4.25	
	Range		2.00	
	Interquartile Range		.5000	
	Skewness		.507	.125
	Kurtosis		-.185	.248
Perception about empathy	Mean		3.4499	2.173E-02
	95% Confidence Interval for Mean	Lower Bound	3.4071	
		Upper Bound	3.4926	
	5% Trimmed Mean		3.4481	
	Median		3.5000	
	Variance		.181	
	Std. Deviation		.4259	
	Minimum		2.25	
	Maximum		4.50	
	Range		2.25	
	Interquartile Range		.7500	
	Skewness		-.009	.125
	Kurtosis		-.332	.248

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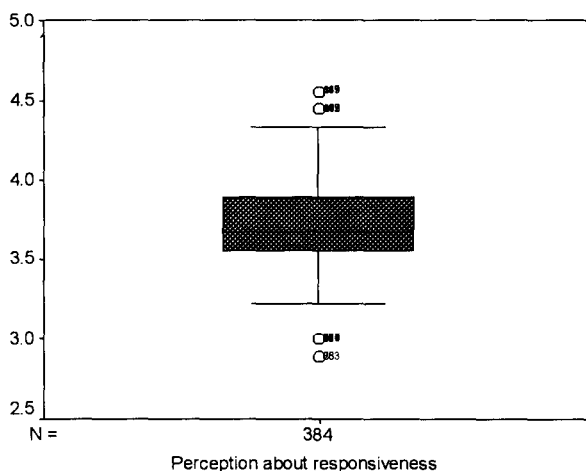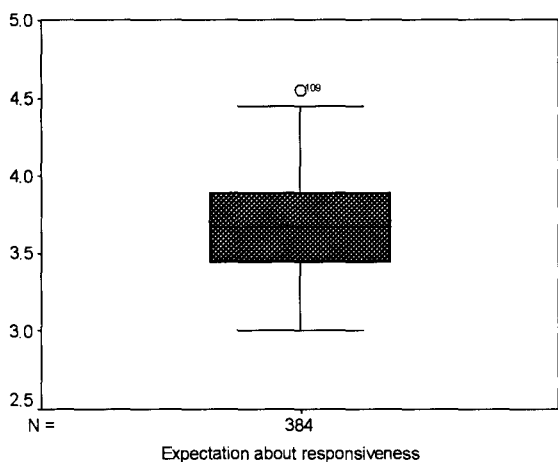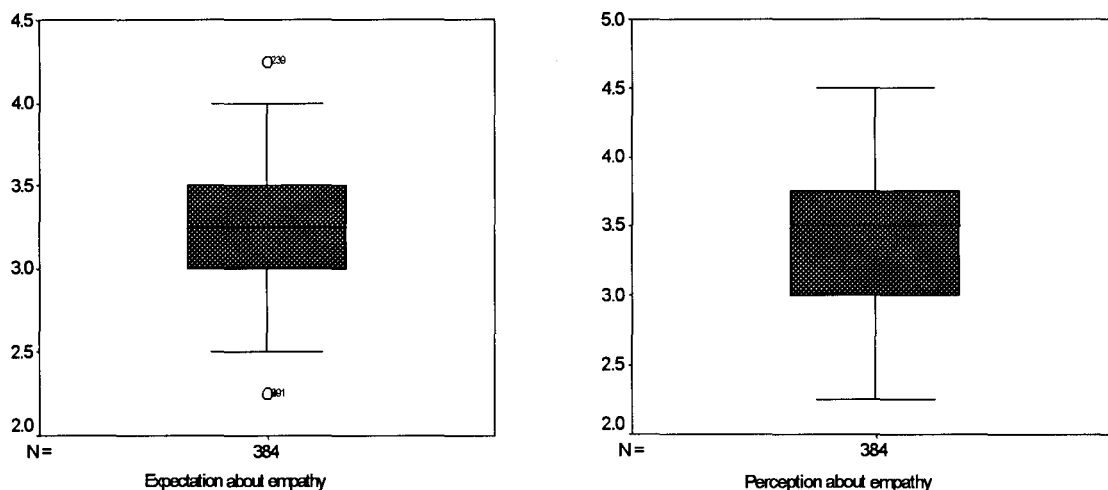| Tests of Normality			
	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
Expectation about empathy	.206	384	.000
Perception about empathy	.163	384	.000
a Lilliefors Significance Correction			

Exhibit 5.5: Mean score of expectation and perception about "Empathy"

From the exhibit 5.5, the boxplots show outliers in expectation about the dimension of "Empathy". The median shows the differences in skewness of the scores distribution.

The test of normality shows that sig. (.000) for both expectation and perception variables are less than α (.05), hence we do reject the null hypothesis. We can conclude that the scores are not normally distributed.

5.2 Inferential statistics

The objective of inferential statistics is to utilize sample data to make estimates, decisions, predictions, or generalizations about a larger set of data, e.g. population. One

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of the techniques for inferential statistics is testing hypothesis. It involves the analysis and verification of hypothesis statement in the population. The purpose of hypothesis testing is to determine the accuracy of hypotheses due to the fact that data has been collected as a sample, not a census (Cooper, 2000). In this study, hypothesis testing will be used to analyze the collected data.

Since multiple indicators i.e. multiple specific measures are used in the operationalization of a construct (e.g. several items in a questionnaire all measure the same construct), the questionnaires of this study are expected to go through reliability test. The inferential analysis is, therefore, composed of the two following parts:

- Reliability analysis
- Hypothesis testing

5.2.1 Reliability analysis

Cronbach's alpha was used to test the internal consistency among the items included in the factor. Sethi and King (1991), recommended a threshold level of 0.50 for exploratory construct measurement. Because of the exploratory nature of this study, an alpha level of 0.50 is used as the limit.

Construct	Cronbach's Alpha	
	Part A: Expectation	Part B: Perception
Tangibles	.8124	.8175
Reliability	.5088	.5458
Responsiveness	.8190	.6682
Assurance	.6257	.5900
Empathy	.6678	.7208

Table 5.8: Reliability of the Scales for all the Theoretical Constructs

The reliability of the scales for all the theoretical constructs is shown in the table 5.8. The alpha value for all questions in the questionnaire exceeds the minimum threshold level of 0.50. It indicates generally high coefficient of reliability and it is applicable to be used in the questionnaires for conducting the study.

5.2.2 Hypothesis testing

Testing hypotheses is an essential part of statistical inference in order to make use of information from a sample to draw conclusions (inferences) about the population from which the sample was taken. To formulate such a test, the question of interest is simplified into two competing claims/hypotheses between which we have a choice: the null hypothesis Ho against the alternative hypothesis H1 (Eastern, and McColl, 1992).

As mentioned in chapter four, non-parametric methods will be used to test the stated hypotheses of this study, as they are not dependent on the assumption of an underlying distribution.

5.2.2.1 Testing hypotheses of passenger satisfaction on service quality dimensions

To evaluate the service quality level of Vietnam Airlines perceived by its International passengers, as mentioned in chapter four, a statistical technique called Wilcoxon signed ranks test is used.

The objective of this test is to compare the medians between the expectation of passengers about the service delivered by Vietnam Airlines and its perceived performance. In this test expectation is used as basis of comparison to decide on disconfirmation paradigm. It is known from the literature review in the chapter two that satisfaction can occur if the perceived performance is more than or equal to expectation, unless otherwise. Thus, the hypothesis for passenger satisfaction testing will be as following:

Ho: Passengers are satisfied with the service quality

Ha: Passengers are not satisfied with the service quality

Or in statistical terms, it is stated as:

H1o: $d_{.50} \geq 0$

H1a: $d_{.50} < 0$

Where: $d_{.50}$ is the difference between medians of perceived performance and expectation (P-E)

Rejection rule: at 95% level of significant ($\alpha = .05$)

If $Z < -Z\alpha$, or tested significance (Asymp. Sig.) $< .05$ then reject Ho.

- **"Tangibles" dimension of service quality:**

H1o: Passengers are satisfied with the service quality on "Tangible" dimension

H1a: Passengers are not satisfied with the service quality on "Tangible" dimension

Or

H1o: Perceived performance of Vietnam Airlines (VNA) on "Tangibles" is more than or equal to expectation of its passengers

H1a: Perceived performance of Vietnam Airlines (VNA) on "Tangibles" is less than expectation of its passengers

From the table 5.9 the test statistics show that tested significant value Asymp. Sig. (.000) is less than .05, and Z_{test} (-4.975) is less than $-Z\alpha$ (-1.645, the critical value of Z at .05 significance level). Hence, the null hypothesis H1o is to be rejected with at least 95% confidence. In other word, there is enough evidence to claim that passengers are not satisfied with the service quality on the "Tangible" dimension.

Ranks				
		N	Mean Rank	Sum of Ranks
Perception about tangible - Expectation about tangibles	Negative Ranks	213(a)	207.01	44094.00
	Positive Ranks	155(b)	153.56	23802.00
	Ties	16(c)		
	Total	384		
a Perception about tangibles < Expectation about tangibles				
b Perception about tangibles > Expectation about tangibles				
c Expectation about tangibles = Perception about tangibles				

Test Statistics(b)	
	Perception about tangibles - Expectation about tangibles
Z	-4.975(a)
Asymp. Sig. (2-tailed)	.000
a Based on positive ranks.	
b Wilcoxon Signed Ranks Test	

Table 5.9: Test of passengers' satisfaction on service quality dimension "Tangibles"

- *"Reliability" dimension of service quality*

H2o: Passengers are satisfied with the service quality on "Reliability" dimension

H2a: Passengers are not satisfied with the service quality on "Reliability" dimension

Or

H2o: Perceived performance of Vietnam Airlines (VNA) on "Reliability" is more than or equal to expectation of its passengers

H2a: Perceived performance of Vietnam Airlines (VNA) on "Reliability" is less than expectation of its passengers

Ranks				
		N	Mean Rank	Sum of Ranks
Perception about reliability - Expectation about reliability	Negative Ranks	167(a)	147.55	24640.50
	Positive Ranks	153(b)	174.64	26719.50
	Ties	64(c)		
	Total	384		
a Perception about reliability < Expectation about reliability				
b Perception about reliability > Expectation about reliability				
c Expectation about reliability = Perception about reliability				

Test Statistics(b)	
	Perception about reliability - Expectation about reliability
Z	-.630(a)
Asymp. Sig. (2-tailed)	.529
a Based on negative ranks.	
b Wilcoxon Signed Ranks Test	

Table 5.10: Test of passengers' satisfaction on service quality dimension "Reliability"

From the table 5.10 the test statistics show that tested significant value Asymp. Sig. (.529) is more than .05, and Z_{test} (-.630) is more than $-Z\alpha$ (-1.645, the critical value of Z at .05 significance level). Hence, at 95% confidence level we fail to reject the null hypothesis H2o. In other word, there is enough evidence to claim that passengers are satisfied with the service quality on the "Reliability" dimension.

- *"Responsiveness" dimension of service quality*

H3o: Passengers are satisfied with the service quality on "Responsiveness" dimension
H3a: Passengers are not satisfied with the service quality on "Responsiveness" dimension

Or

H3o: Perceived performance of Vietnam Airlines (VNA) on "Responsiveness" is more than or equal to expectation of its passengers

H3a: Perceived performance of Vietnam Airlines (VNA) on "Responsiveness" is less than expectation of its passengers

Ranks		N	Mean Rank	Sum of Ranks
Perception about responsiveness - Expectation about responsiveness	Negative Ranks	130(a)	168.05	21846.50
	Positive Ranks	201(b)	164.67	33099.50
	Ties	53(c)		
	Total	384		
a Perception about responsiveness < Expectation about responsiveness				
b Perception about responsiveness > Expectation about responsiveness				
c Expectation about responsiveness = Perception about responsiveness				

Test Statistics(b)	Perception about responsiveness - Expectation about responsiveness
Z	-3.241(a)
Asymp. Sig. (2-tailed)	.001
a Based on negative ranks.	
b Wilcoxon Signed Ranks Test	

Table 5.11: Test of passengers' satisfaction on service quality dimension "Responsiveness"

From the table 5.11 the test statistics show that tested significant value Asymp. Sig. (.001) is less than .05, and Z_{test} (-3.241) is less than $-Z\alpha$ (-1.645, the critical value of Z at .05 significance level). Hence, the null hypothesis H3o is to be rejected with at least 95%

confidence. In other word, there is enough evidence to claim that passengers are not satisfied with the service quality on the "Responsiveness" dimension.

- *"Assurance" dimension of service quality*

H4o: Passengers are satisfied with the service quality on "Assurance" dimension

H4a: Passengers are not satisfied with the service quality on "Assurance" dimension

Or

H4o: Perceived performance of Vietnam Airlines (VNA) on "Assurance" is more than or equal to expectation of its passengers

H4a: Perceived performance of Vietnam Airlines (VNA) on "Assurance" is less than expectation of its passengers

Ranks		N	Mean Rank	Sum of Ranks
Perception about assurance - Expectation about assurance	Negative Ranks	67(a)	111.59	7476.50
	Positive Ranks	296(b)	197.94	58589.50
	Ties	21(c)		
	Total	384		
a Perception about assurance < Expectation about assurance				
b Perception about assurance > Expectation about assurance				
c Expectation about assurance = Perception about assurance				

Test Statistics(b)	
	Perception about assurance - Expectation about assurance
Z	-12.830(a)
Asymp. Sig. (2-tailed)	.000
a Based on negative ranks.	
b Wilcoxon Signed Ranks Test	

Table 5.12: Test of passengers' satisfaction on service quality dimension "Assurance"

From the table 5.12 the test statistics show that tested significant value Asymp. Sig. (.000) is less than .05, and Z_{test} (-12.830) is less than $-Z_\alpha$ (-1.645, the critical value of Z at .05 significance level). Hence, the null hypothesis H4o is to be rejected with at least 95% confidence. In other word, there is enough evidence to claim that passengers are not satisfied with the service quality on the "Assurance" dimension.

- *"Empathy" dimension of service quality*

H5o: Passengers are satisfied with the service quality on "Empathy" dimension

H4a: Passengers are not satisfied with the service quality on "Empathy" dimension

Or

H5o: Perceived performance of Vietnam Airlines (VNA) on "Empathy" is more than or equal to expectation of its passengers

H5a: Perceived performance of Vietnam Airlines (VNA) on "Empathy" is less than expectation of its passengers

Ranks				
		N	Mean Rank	Sum of Ranks
Perception about empathy - Expectation about empathy	Negative Ranks	107(a)	134.82	14425.50
	Positive Ranks	225(b)	181.57	40852.50
	Ties	52(c)		
	Total	384		
a Perception about empathy < Expectation about empathy				
b Perception about empathy > Expectation about empathy				
c Expectation about empathy = Perception about empathy				

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Test Statistics(b)	
	Perception about empathy - Expectation about empathy
Z	-7.626(a)
Asymp. Sig. (2-tailed)	.000
a Based on negative ranks.	
b Wilcoxon Signed Ranks Test	

Table 5. 13: Test of passengers' satisfaction on service quality dimension "Empathy"

From the table 5.13 the test statistics show that tested significant value Asymp. Sig. (.000) is less than .05, and Z_{test} (-7.626) is less than $-Z\alpha$ (-1.645, the critical value of Z at .05 significance level). Hence, the null hypothesis H5o is to be rejected with at least 95% confidence. In other word, there is enough evidence to claim that passengers are not satisfied with the service quality on the "Empathy" dimension.

5.2.2.2 Testing hypotheses of relationship between demographic factors and satisfaction on service quality

As mentioned in the chapter four, non-parametric methods will be used to test the stated hypotheses of relationship between passengers' demographic factors and perception about service quality delivered by Vietnam Airline.

▪ **Relationship between gender and perception about service quality**

To test the hypothesis of relationship between passengers' gender and perception about service quality, a statistical technique called Mann-Whitney test is used. This test is an alternative to the independent t-test, when the assumption of normality or equality of variance is not met. This, like many non-parametric tests, uses the ranks of the data rather than their raw values to calculate the statistic. Since this test does not make a distribution assumption, it is not as powerful as the t-test.

The hypotheses for the comparison of two independent groups - male and female passengers are:

Ho: The perception about service quality is the same for male and female passengers

Ha: The perception about service quality is not the same for male and female passengers

Test Statistics(a)					
	Satisfaction on tangibles	Satisfaction on reliability	Satisfaction on responsiveness	Satisfaction on assurance	Satisfaction on empathy
Mann-Whitney U	17920.500	16783.500	17046.000	16158.000	17331.000
Wilcoxon W	41791.500	40654.500	30907.000	30019.000	31192.000
Z	-.161	-1.225	-.979	-1.812	-.716
Asymp. Sig. (2-tailed)	.872	.220	.327	.070	.474
a Grouping Variable: Gender					

Table 5.14: Test of relationship between gender and perception about service quality

From the table 5.14, the test statistics show that all of the tested significant values Asymp. Sig. (2-tailed) are more than α (.05). Hence, at 95% confidence level we fail to reject the null hypothesis Ho. In other word, there is enough evidence to claim that the perception about service quality is the same for male and female. We conclude that there is no relationship between gender and perception about service quality.

- **Relationship between age and perception about service quality**

Kruskal-Wallis test is used for testing hypotheses of relationship between age groups and their perception about service quality. As mentioned in chapter four, this test is an alternative to the one way ANOVA, when the assumption of normality or equality of variance is not met. This, like many non-parametric tests, uses the ranks of the data

rather than their raw values to calculate the statistic. Since this test does not make a distributional assumption, it is not as powerful as the ANOVA.

The hypotheses for comparison of perception about service quality of 6 age groups are:

Ho: The satisfaction levels of service quality for all groups of age are equal
Ha: The satisfaction levels of service quality for all groups of age are not equal

Test Statistics(a,b)					
	Satisfaction on tangibles	Satisfaction on reliability	Satisfaction on responsiveness	Satisfaction on assurance	Satisfaction on empathy
Chi-Square	32.540	32.402	48.786	26.539	6.778
df	5	5	5	5	5
Asymp. Sig.	.000	.000	.000	.000	.238
a Kruskal Wallis Test					
b Grouping Variable: Age group					

Table 5.15: Test of relationship between age group and perception about service quality

From the table 5.15, the test statistics show that all the tested significant values Asymp. Sig. are less than α (.05), except for the dimension "Empathy". Hence, at 95% confidence level null hypotheses Ho for four dimensions "Tangibles", "Reliability", "Responsiveness", and "Assurance" are to be rejected. We conclude that there is enough evidence to claim that the perception about service quality on these four dimensions is not the same for the six groups of age.

However, the tested significant value (Asymp. Sig.) for the dimension "Empathy" is more than α (.05). Hence, at 95% confidence level we fail to reject the null hypothesis

Ho. We conclude that there is enough evidence to claim that perception about service quality on the dimension "Empathy" is the same for all groups of age.

- **Relationship between occupation and perception about service quality**

For testing hypothesis of relationship between passengers' occupation and their perception about service quality, the non-parametric method Kruskal-Wallis is also used. The hypotheses are as following:

Ho: The satisfaction levels of service quality for all occupations are equal

Ha: The satisfaction levels of service quality for all occupations are not equal

Test Statistics(a,b)					
	Satisfaction on tangibles	Satisfaction on reliability	Satisfaction on responsiveness	Satisfaction on assurance	Satisfaction on empathy
Chi-Square	45.363	74.885	60.571	51.777	18.252
df	8	8	8	8	8
Asymp. Sig.	.000	.000	.000	.000	.019
a Kruskal Wallis Test					
b Grouping Variable: Occupation					

Table 5.16: Test of relationship between occupation and perception about service quality

From the table 5.16, the test statistics show that all of the tested significant values Asymp. Sig. are less than α (.05). Hence, at 95% confidence level we reject the null hypotheses Ho for five dimensions "Tangibles", "Reliability", "Responsiveness", and "Assurance", and "Empathy". We can conclude that there is enough evidence to claim that the perception about service quality on all the five dimensions is not the same for the nine groups of occupation.

- **Relationship between income and perception about service quality**

Similarly, non-parametric method, Kruskal-Wallis is used to test the relationship between passengers' income and their perception about service quality. The hypotheses are as following:

Ho: The satisfaction levels of service quality for all income groups are equal
Ha: The satisfaction levels of service quality for all income groups are not equal

Test Statistics(a,b)					
	Satisfaction on tangibles	Satisfaction on reliability	Satisfaction on responsiveness	Satisfaction on assurance	Satisfaction on empathy
Chi-Square	5.843	11.706	1.769	45.425	41.230
df	4	4	4	4	4
Asymp. Sig.	.211	.020	.778	.000	.000
a Kruskal Wallis Test					
b Grouping Variable: Income group					

Table 5.17: Test of relationship between income and perception about service quality

From the table 5.17, the test statistics show that the tested significant values Asymp. Sig. for the service quality dimensions "Tangibles" and "Responsiveness" are less than α (.05). Hence, at 95% confidence level we reject the null hypotheses Ho for these two dimensions. We can conclude that there is enough evidence to claim the perception about service quality on the dimensions "Tangibles" and "Responsiveness" is not the same for the five income groups.

However, the tested significant values Asymp. Sig. for the dimensions "Reliability", "Assurance", and "Empathy" is more than α (.05). Hence, at 95% confidence level we

fail to reject the null hypotheses Ho for these three dimensions. We conclude that there is enough evidence to claim perception about service quality on the dimension "Reliability", "Assurance", and "Empathy" is the same for all income groups.

- **Relationship between nationality and perception about service quality**

Test Statistics(a,b)					
	Satisfaction on tangibles	Satisfaction on reliability	Satisfaction on responsiveness	Satisfaction on assurance	Satisfaction on empathy
Chi-Square	22.466	32.068	5.804	26.661	21.298
df	3	3	3	3	3
Asymp. Sig.	.000	.000	.122	.000	.000
a Kruskal Wallis Test					
b Grouping Variable: Nationality					

Table 5.18: Test of relationship between nationality and perception about service quality

From the table 5.18, the test statistics show that all of the tested significant values Asymp. Sig. for the five service quality dimensions are less than α (.05), except for the dimension "Responsiveness". Hence, at 95% confidence level we reject the null hypotheses Ho for these four dimensions. We can conclude that there is enough evidence to claim the perception about service quality on the dimensions "Tangibles", "Reliability", "Assurance", and "Empathy" is not the same for the nationality.

However, the tested significant value Asymp. Sig. for the dimension "Responsiveness" is more than α (.05). Hence, at 95% confidence level we fail to reject the null hypotheses Ho for this dimension. We conclude that there is enough evidence to claim perception about service quality on the dimension "Responsiveness" is the same for all income groups.

CHAPTER 6

Conclusions and Recommendations

This chapter will provide summary of the research results, against which conclusions will be drawn. Recommendations also will be given for Vietnam Airlines in order to define the corrective action and direction in quality improvement process to deliver better service to the customers, and be competitive in the market.

6.1 Summary of Findings

From the two groups of hypotheses tested in the chapter four, the results will be presented in two parts

- Hypotheses of customers satisfaction
- Hypotheses of relationship between customers demographic characteristics and satisfaction

6.1.1 Results from tested hypotheses of customer satisfaction

The hypotheses of customer satisfaction have been tested in light of the first objective of this study "To assess the customer satisfaction of International passengers of Vietnam Airlines". The test has been done on each dimension of the service quality. Non-parametric statistic technique called Wilcoxon singed ranks test is applied due to the fact that the required assumption of distribution for the T-test is not met in this study. Relying on ranks rather than actual data, this method may ignore some information in the data.

Hypothesis	Z value	Significance value	Result
Ho: Passengers are *satisfied* with "Tangibles" Ha: Passengers are *not satisfied* with "Tangibles"	-4.975	.000	Reject Ho
Ho: Passengers are *satisfied* with "Reliability" Ha: Passengers are *not satisfied* with Reliability"	-.630	.529	Fail to reject Ho
Ho: Passengers *are satisfied* with "Responsiveness" Ha: Passengers *are not satisfied* with "Responsiveness"	-3.241	.000	Reject Ho
Ho: Passengers *are satisfied* with "Assurance" Ha: Passengers *are not satisfied* with Assurance"	-12.830	.000	Reject Ho
Ho: Passengers are *satisfied* with "Empathy" Ha: Passengers are *not satisfied* with "Empathy"	-7.626	.000	Reject Ho

Table 6.1: Tested hypotheses of customer satisfaction at 95% confidence level

The results of the tested hypotheses show that the International passengers of Vietnam Airlines are satisfied with the dimension "Reliability" of the service delivered by the Airlines. However, the passengers are not satisfied with the other four dimensions of service quality delivered by the Airlines: tangibles, responsiveness, assurance, and empathy.

6.1.2 Results from tested hypotheses of relationship between customers demographic characteristics and satisfaction

The hypotheses of relationship between customer demographic characteristics and satisfaction have been tested to pursue the second objective of this study "To evaluate the relationship of demographic factors and passengers' perception toward service quality dimensions of Vietnam Airlines".

The test has been done using non-parametric methods due to the lack of distributional assumption required for parametric ones: independent T-test and ANOVA. The result, therefore, has its limitation for being incapable of answering the focused question. The test can answer whether the distributions of the scores are different in some way, but does not show how they differ in mean. To put in another way, from the hypothesis testing the conclusion can be made is whether the passengers with different demographic characteristics perceive service quality differently, but conclusion about how differently the passengers of different demographic groups perceive the service quality cannot be made.

- **Test relationship between gender and perception toward service quality using Mann Whitney test.**

Hypothesis	Asymp. Sig.	Result
Ho: Male and female passengers perceive service quality dimension "Tangibles" *indifferently* Ha: Male and female passengers perceive service quality dimension "Tangibles" *differently*	.872	Fail to reject Ho
Ho: Male and female passengers perceive service quality dimension "Reliability" *indifferently* Ha: Male and female passengers perceive service quality dimension "Reliability" *differently*	.220	Fail to reject Ho
Ho: Male and female passengers perceive service quality dimension "Responsiveness" *indifferently* Ha: Male and female passengers perceive service quality dimension "Responsiveness" *differently*	.327	Fail to reject Ho
Ho: Male and female passengers perceive service quality dimension "Assurance" *indifferently* Ha: Male and female passengers perceive service quality dimension "Assurance" *differently*	.070	Fail to reject Ho
Ho: Male and female passengers perceive service quality dimension "Empathy" *indifferently* Ho: Male and female passengers perceive service quality dimension "Empathy" *differently*	.474	Fail to reject Ho

Table 6.2: Tested hypotheses of relationship of gender and customer satisfaction at 95% confidence level

- **Test relationship between age and perception toward service quality using Kruskal Wallis test**

Hypothesis	Asymp. Sig.	Result
Ho: Passengers with different age perceive service quality dimension "Tangibles" *indifferently* Ha: Passengers with different age perceive service quality dimension "Tangibles" *differently*	.000	Reject Ho
Ho: Passengers with different age perceive service quality dimension "Reliability" *indifferently* Ha: Passengers with different age perceive service quality dimension "Reliability" *differently*	.000	Reject Ho
Ho: Passengers with different age perceive service quality dimension "Responsiveness" *indifferently* Ha: Passengers with different age perceive service quality dimension "Responsiveness" *differently*	.000	Reject Ho
Ho: Passengers with different age perceive service quality dimension "Assurance" *indifferently* Ha: Passengers with different age perceive service quality dimension "Assurance" *differently*	.000	Reject Ho
Ho: Passengers with different age perceive service quality dimension "Empathy" *indifferently* Ha: Passengers with different age perceive service quality dimension "Empathy" *differently*	.238	Fail to reject Ho

Table 6.3: Tested hypotheses of relationship of age and customer satisfaction at 95% confidence level

- **Test relationship between occupation and perception toward service quality using Kruskal Wallis test**

Hypothesis	Asymp. Sig.	Result
Ho: Passengers with different occupation perceive service quality dimension "Tangibles" *indifferently* Ha: Passengers with different occupation perceive service quality dimension "Tangibles" *differently*	.000	Reject Ho
Ho: Passengers with different occupation perceive service quality dimension "Reliability" *indifferently* Ha: Passengers with different occupation perceive service quality dimension "Reliability" *differently*	.000	Reject Ho
Ho: Passengers with different occupation perceive service quality dimension "Responsiveness" *indifferently* Ha: Passengers with different occupation perceive service quality dimension "Responsiveness" *differently*	.000	Reject Ho
Ho: Passengers with different occupation perceive service quality dimension "Assurance" *indifferently* Ha: Passengers with different occupation perceive service quality dimension "Assurance" *differently*	.000	Reject Ho
Ho: Passengers with different occupation perceive service quality dimension "Empathy" *indifferently* Ha: Passengers with different occupation perceive service quality dimension "Empathy" *differently*	.019	Reject Ho

Table 6.4: Tested hypotheses of relationship of occupation and customer satisfaction at 95% confidence level

- **Test relationship between income and perception toward service quality using Kruskal Wallis test**

Hypothesis	Asymp. Sig.	Result
Ho: Passengers with different income perceive service quality dimension "Tangibles" *indifferently* Ha: Passengers with different income perceive service quality dimension "Tangibles" *differently*	.000	Fail to reject Ho
Ho: Passengers with different income perceive service quality dimension "Reliability" *indifferently* Ha: Passengers with different income perceive service quality dimension "Reliability" *differently*	.000	Reject Ho
Ho: Passengers with different income perceive service quality dimension "Responsiveness" *indifferently* Ha: Passengers with different income perceive service quality dimension "Responsiveness" *differently*	.000	Fail to reject Ho
Ho: Passengers with different income perceive service quality dimension "Assurance" *indifferently* Ha: Passengers with different income perceive service quality dimension "Assurance" *differently*	.000	Reject Ho
Ho: Passengers with different income perceive service quality dimension "Empathy" *indifferently* Ha: Passengers with different income perceive service quality dimension "Empathy" *differently*	.019	Reject Ho

Table 6.5: Tested hypotheses of relationship of income and customer satisfaction at 95% confidence level

▪ **Test relationship between nationality and perception toward service quality using Kruskal Wallis test**

Hypothesis	Asymp. Sig.	Result
Ho: Passengers with different nationality perceive service quality dimension "Tangibles" *indifferently* Ha: Passengers with different nationality perceive service quality dimension "Tangibles" *differently*	.000	Reject Ho
Ho: Passengers with different nationality perceive service quality dimension "Reliability" *indifferently* Ha: Passengers with different nationality perceive service quality dimension "Reliability" *differently*	.000	Reject Ho
Ho: Passengers with different nationality perceive service quality dimension "Responsiveness" *indifferently* Ha: Passengers with different nationality perceive service quality dimension "Responsiveness" *differently*	.000	Fail to reject Ho
Ho: Passengers with different nationality perceive service quality dimension "Assurance" *indifferently* Ha: Passengers with different nationality perceive service quality dimension "Assurance" *differently*	.000	Reject Ho
Ho: Passengers with different nationality perceive service quality dimension "Empathy" *indifferently* Ha: Passengers with different nationality perceive service quality dimension "Empathy" *differently*	.019	Reject Ho

Table 6.6: Tested hypotheses of relationship of nationality and customer satisfaction at 95% confidence level

From the tables 6.2, 6.3, 6.4, 6.5, and 6.6 we can see that there is no difference in male and female passengers perception toward service quality, however, demographic characteristics in terms of age, occupation, income and nationality generally have influence on the passengers perception toward service quality.

6.2 Implications of Findings

Vietnam Airlines is now in a stage of rapid development. However, the open door policy and autonomy policy for state enterprise of Vietnam Government, the company has to do business in the highly competitive environment. The changing airline industry environment in Vietnam requires Vietnam Airlines to change its strategies so that it can survive and compete with foreign companies on international routes, where the monopoly status and privilege is not exist. In order to do this, passenger satisfaction and service quality improvement is becoming a primary concern of the airlines, so that it can keep loyal customers, attract new ones, and increase market share in the global market.

If Vietnam Airlines wants to become a quality-driven organization, firstly it has to build the quality culture. This requires the recognition of top management of the airlines.

The results of this study indicate that international passengers are satisfied with only one dimension of service quality out of five, the "Reliability" dimension. It includes the following attributes:

- On time take-off and arrival
- Being sympathetic and reassuring when passenger has a problem
- Carrying out accurately flight procedure and flight status information
- Providing convenient schedules
- Fluent language ability of employees
- Having good reputation

The passengers are not satisfied with dimensions: tangibles, responsiveness, assurance, and empathy.

Performance of Vietnam Airlines in tangibles dimension does not meet expectation of international passengers implies that there are lack of technical infrastructure such as modern aircraft fleet, seats, lounges, equipment, facilities for special service, lack of food

and drink variety to satisfy different taste of different nationalities. All these factors influence service quality of the airlines. As the result, the passengers may perceive ticket price high compared to it of the airlines with high service quality standard. In turn, it effects the satisfaction level of this dimension, which includes the attribute "ticket price".

Performance of Vietnam Airlines in responsiveness dimension does not meet expectation of international passengers implies that there is lack of willingness, helpfulness/courtesy, prompt baggage delivery etc., need of long waiting time at ticket counters or boarding gates, and employees/stewardesses may be too busy to respond to passengers request promptly.

Performance of Vietnam Airlines in assurance dimension does not meet expectation of international passengers implies that there is lack of feeling safe in traveling, careful baggage handling, individual attention, and professional skills of employees to follow the procedures and service standards of the airline industry when serving customers to convince them with assured service and trustworthiness.

Performance of Vietnam Airlines in empathy dimension does not meet expectation of international passengers implies that there is lack of professional skills of employees in anticipating customers' needs, serving them with individual attention, and lack of convenience in service hours.

The results of this study also indicate that passengers with different age, occupation, income, and nationality perceive service quality delivered by Vietnam Airlines differently. It implies that there is difference in either their expectation or perception toward service performance of the airlines.

As mentioned in the subchapter 6.1.2, due to the necessity of using the non-parametric statistic technique in testing hypotheses of relationship between demographic factors and customer perception toward service quality, the limitation of the test makes it impossible for researcher to draw a sound conclusion on this important aspect.

Though, all the conclusions made from the results of this study can add values to setting up strategies for Vietnam Airlines in quality improvement.

6.3 Recommendations

In order to improve service quality what a service company needs are capital, manpower, and technology. In the situation of Vietnam Airlines, capital comes from government source. Thus those recommendations such as buy new aircrafts, equipment, are not appropriated in this research. The recommendations here focus on how to improve service quality of Vietnam Airlines within its capability.

6.3.1 Service quality improvement actions

- **Service quality dimension "Tangibles"**

From the research findings, the passengers are not satisfied with the service quality offered by Vietnam Airlines on the dimension "Tangibles". As mentioned earlier, the researcher will not give recommendations on the attributes concerning the need of buying new modern aircraft, equipment ... However, some correction actions can be taken by Vietnam Airlines to improve its service quality on this dimension:

✓ Passenger-friendly airport should be considered as a high priority of Vietnam Airlines. The instructions should be made clear enough that customers can follow easily. For example, there should be an instruction board announcing the limit of foreign currencies travelers are allowed to bring in/out so that the passengers can follow the rules. Some non-ASEAN passengers made wrong queue in ASEAN section, and they have to change the queue as requested by the immigration officers. At an International airport, this problem should not exist.

✓ Passengers are now seeking more pleasant waiting areas/lounges. It is suggested that some works of art can be installed to soothe the red-eye traveler. Accessibility to retail stores can be another sought-after amenity.

✓ Better airline food is not less concerned to passengers nowadays as they are more health-conscious and demanding more "light", healthy, nutritious menus on flights. It is suggested Vietnam Airlines to offer "naturally grown" products, organic dairy products, vegetables, meats free-range animals, as well as fruit and fruit juices. Variety of menus should also be considered to satisfy different taste of different nationalities.

✓ Convenient location and sufficient number of ticket counters seem to be not enough to satisfy the passengers who get to use our service from every corner of the world. They enjoy the convenience of electronic access to airlines. Electronic access/Internet booking practices have been increasing. Vietnam Airlines should set up this facility very soon to make it convenient for the international passengers.

✓ Ticket price is most concerned to every passenger. It is suggested Vietnam Airlines to include fares available at the air ticket offices and airport ticket service counters, when quoting the lowest fare available to passengers. The company should also notify customers that lower fares may be available through other distribution systems.

• **Service quality dimension "Reliability"**

Though, the findings of this study indicate that the International passengers are satisfied with service quality on this dimension. However, some actions can be taken to improve it.

✓ On time take-off and arrival is of significant concern to an airline traveler. On time take-off and arrival or even cancellation of flight very often is not controlled by the Airlines. It is very much depends on the weather as well. The Airlines should ensure that master airport flight information display monitors contain

accurate, up-to-date/up-to-minute flight information and that information is consistent with that shown on the carrier's flight information display monitors.

✓ The Airlines should also clarify terminology used to advise passengers of unscheduled delays or interruptions in service, such as "extended period of time" and "emergency", in order better to inform passengers about what they can expect during on-board delays.

✓ The Airlines may establish a toll-free telephone number that passenger may use to check on the status of delayed/cancelled flight.

✓ Disclose, without being requested, the on-time performance and cancellation rate for a chronically-delayed or cancelled flight whenever a customer makes a reservation or purchases a ticket on such a flight

- **Service quality dimension "Responsiveness"**

Apart from technical facilities, the most critical factor to improve the service quality dimension "Responsiveness" is human resource. Therefore, it is suggested Vietnam Airlines to put emphasize on the human resource development.

✓ Training program is needed to improve the skills of air crew and front-line employees. The training program can be implemented into two steps. 1) In house training: It is to reduce cost to equip employees with basic skills on how to best serve the customers; 2) Professional training: it can be done by sending crew members to other top airlines in the region and the world in satisfying the customers' demand with top service quality. These employees will not only bring back the expertise they learn from their colleagues during their training but also be change agents and champions in promoting a new culture of service towards customers' expectation to compete against its competitors in the region.

✓ Employees selection should be done in an effective and transparent way (without personal influences) in order to guarantee the new recruits. The company should deploy standardized job contents, updating job requirement, anticipating workforce that will be required and designing specific standard, selection process

as much as possible and empowering immediate supervisors taking part in deciding who should be chosen. By doing this, supervisor's responsibility for the service quality objectives of the company will be accelerated from the first selection process for his/her team.

- **Service quality dimension "Assurance"**

  ✓ Feeling save in traveling is most important attribute in service quality. Once on board, passengers want safe, ergonomically correct cabin environment, sense of security. In the future, multiple cameras might be mounted around the cabin to capture evidence of unruly passengers on film for legal reasons. More life-saving medical equipment should be provided.

  ✓ It is suggested Vietnam Airlines to establish a customer service quality assurance and performance measurement system, and establish an internal audit process to measure compliance with commitments.

  ✓ Careful baggage handling is also one of the factors contributing to service quality. Avoiding the mishandled baggage requires an extensive study of the process involved at each site including the training of personnel, tagging and loading, movement of baggage from check-in to loading, tracking of baggage.

- **Service quality dimension "Empathy"**

  Human resource is also most critical factor contributing to service quality dimension "Empathy". Therefore, it is to recommended the company to emphasize on the human resource development as recommended in the improvement of the dimension "Responsiveness"

- **Influence of demographic characteristics on passenger perception toward service quality**

The principal implication for management is that on the whole, they should be more cognizant of demographic influences on customer expectation and perception toward service quality. Therefore, it has become a critical strategic task for management to systematically gain feedback from their customers as to their service's ability to satisfy needs and meet expectations.

Systematically listening to customers allows management to measure how well they are doing in serving their different customer segments and when benchmarked with other firms gain some understanding of their competitive position in the marketplace. Gaining feedback also helps management to identify customer segments who are most predisposed to value their service, as well as the almost satisfied and dissatisfied who need extra attention in an effort to elevate their user status.

As mentioned earlier, one of the limitations of this research study is that the findings do not reveal the direction of how differently the customers with different demographic characteristics perceive service quality. Therefore, the researcher cannot give a sound recommendation.

6.3.2 Recommendations for Management of Vietnam Airlines

- The recognition of top management of Vietnam Airlines of quality concepts is very important if the carrier wants quality to be its culture. To become quality driven services, the management levels of Vietnam Airlines should become fully attended to the practice of quality management.

- The leaders of the company have to understand that Service Quality is very practical, that it makes a meaningful financial difference, and that it makes a meaningful difference in both customers' and employees' satisfaction.

- The company management should carry out a Quality Improvement Program. In order to implement this program successfully, management should have a plan to help all employees understand the benefits of the program that the company intends to implement.

- The company management should support commit to the Quality Improvement Program on one route, for example, Hanoi-Bangkok-Hanoi as a pilot study for the whole Quality Improvement Program of the company. After the success of this pilot study, it can be extended to other International routes.

- When the management is committed to the quality improvement, there should be a quality improvement team to prepare for the plan. Members of the team can be from each related section to the service delivery process. It also includes member from finance and marketing department and executives so that the program can be implemented effectively.

- When the Service Quality Improvement Program implemented for the pilot study, it is suggested that the company keep track on the following quality measurement on a monthly, quarterly and annual basis for the route where the pilot study has been carried out:

1. Sales
2. Market share
3. Profit
4. Defection rate
5. Customer count
6. Customer complaints
7. Customer satisfaction survey
8. Employee turnover
9. Claims of the customers
10. Customer service performance standards
11. Repeat business by the customers

This evaluation is integrated with the benefit-cost analysis so that the managers can take the right decision on the quality improvement program.

- The company should detail the budget plan for the quality improvement program incorporated with the benefits and profits the program brings to the company. The plan will be submitted to the top management and related department for approval.

6.3.3 Recommendations for further studies

The scope of this study is to take use of the Gap Models developed by Parasuraman et al., 1985 to evaluate the existing service quality level of Vietnam Airlines. Due to the limitation of time, the researcher have emphasized only on the gap 5: the difference between the expected service and actually perceived service delivery. Closing and narrowing this gap is the final goal of the service firms. Since this gap is the function of the other four, therefore a further study can be conducted on all five gaps to better understand all the causes of the gap 5.

Further studies can also be applied for more number of airlines, so that comparative studies could be assessed rather than doing a case study taking expectation of passengers as benchmark.

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Vietnam Airlines, Annual Report 2000

APPENDIXES

APPENDIX A

VIETNAM AIRLINES OVERVIEW

1. Introduction

Vietnam Civil Aviation was established in 1976 with a fleet of only 5 small aircrafts produced in the former Soviet Union. The first international route was to link with Beijing, then Vientiane in 1977.

In April 1989, Vietnam Airlines (VNA) was set up as a state-owned enterprise. At the same time VNA started leasing the modern jumbo jet-aircraft of Ansett (Australian Airlines) and Region Air in Singapore to upgrade its image and operation. In 1996, VNA was formed bringing several service companies together, with the airlines as its core.

During the period of more than 40 years, VNA has constantly been growing. It has now become one of the biggest state-owned enterprises, playing the leading role in the development of the country. It is also known as one of the young and promising airlines in Asia.

Today, VNA has a total fleet of 29 aircrafts of all kind. It has planned to buy five new planes from Airbus to increase its capacity to serve its international expanded routes.

2. Mission and objectives of VNA

Mission

The official mission of VNA is to be the leading airline company in Vietnam and the region while maintaining a sustainable growth and profitability.

Objectives

The corporate objectives of VNA are:

- Expand both of its international and domestic route networks.

- Increase and improve its service quality.

- Strengthen the flights in ASEAN and determine that AFTA market will be the home-base market of the Airlines so that it can expand to other region in the world.

- Develop step by step the hub strategy toward Hanoi (Noi Bai International airport) and Ho Chi Minh City (Tan Son Nhat Airport) to turn them into gateways of Southeast Asia.

- Have alliance with the tourism industry to promote Vietnam as a must-see destination in this new millennium.

3. Organization Structure

VNA has a multidivisional structure. It composes of a Board of Management that appointed a General Director to directly control activities of the company's strategy.

To assist the General Director, there are 3 Deputy General Directors. The organization structure of VNA consists of 5 sections named Administration section, Commercial section, Technical section and Flight Operation section. Each section is broken down into key departments and divisions subsequently.
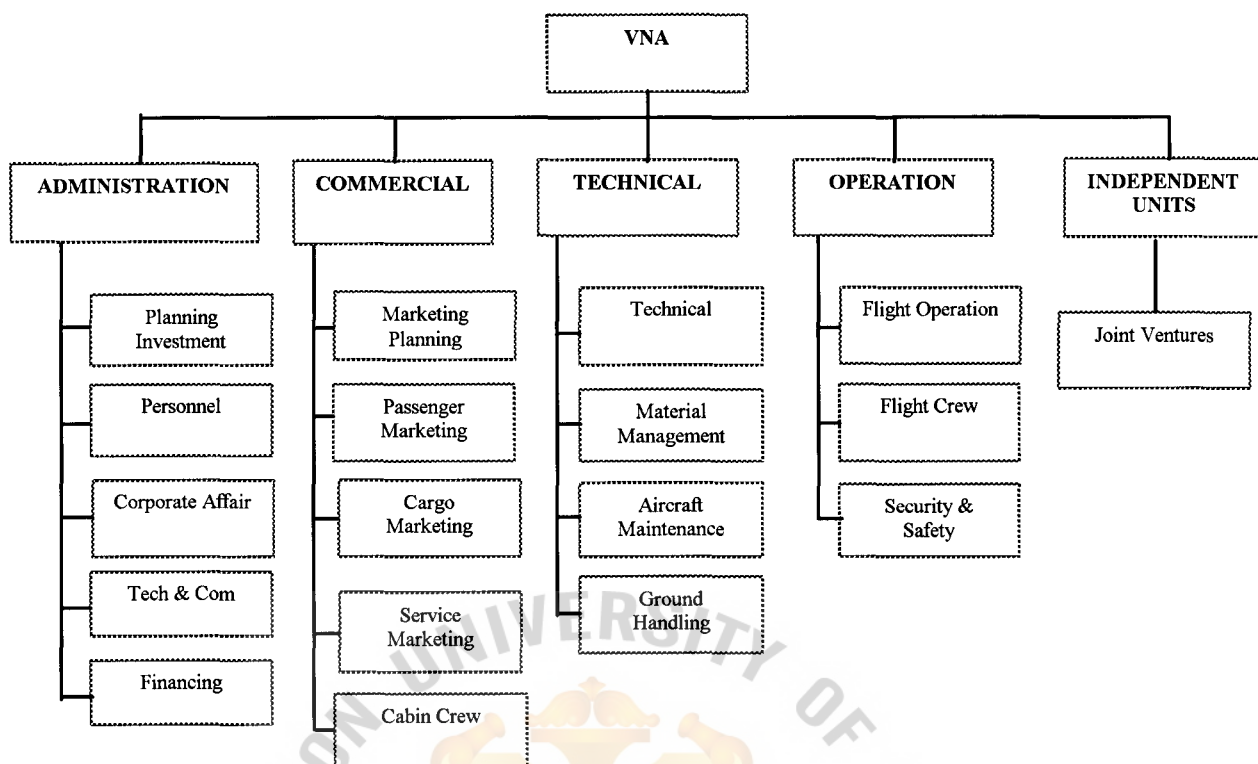
Figure A.1: The Organizational Chart of VNA

Source: VNA, Administration Department, 2000

4. Airlines market situation

4.1. Social – Economic environment

It is predicted that Vietnam's GDP growth rate still keeps the growth rate from 6% to 8% for the period of 2001-2005 (Vietnam Investment Review, 2000). At the same time, when Vietnam becomes member of such international organization as APEC, AFTA, and WTO, VNA will have the opportunities to comprehensively develop both air transportation and other appropriate related services.

International tourist arrival is forecasted to have a growth rate from 6% to 9% for the same period, which will create a great development opportunity for the airline industry (Vietnam Tourism Magazine, 2001).

3

In recent years, the government has started to implement air traffic policies to relax competitiveness by applying open sky policy in some routes. For instance, it allowed the open sky freedom for sub-Mekong region countries such as Vietnam, Laos, Cambodia, and Myanmar and later for all the regional countries.

Recently, the government has just allowed VNA to buy five new more Airbus as well as platform upgrade to support the development of the young airlines industry of Vietnam (Reuters, 25/06/2001).

4.2. Market situation

During the years from 1991 to 2000, VNA experienced an average growth of 25.11% per annum, in which the international passengers increased with around 22.61% per annum and the domestic passengers increased 27.61%. VNA performance from 1991 to 2000 is illustrated in table A.1 and table A. 2

Total of domestic passengers carried from 1991 to 2000							
Year	Total of passenger carried by the market	Change in absolute number	Change in percentage	VN market share	Total of passenger carried by VN	Change in absolute number	Change in percentage
1991	235,771	*		100.00%	235,771		
1992	457,172	221,401	93.91%	98.03%	448,180	212,409	90.09%
1993	678,725	221,553	48.46%	95.29%	646,733	198,553	44.30%
1994	1,038,831	360,106	53.06%	93.20%	968,162	321,429	49.70%
1995	1,424,443	385,612	37.12%	94.08%	1,340,066	371,904	38.41%
1996	1,623,399	198,956	13.97%	92.91%	1,508,353	168,287	12.56%
1997	1,652,544	29,145	1.8%	95%	1,569,847	61,494	4.1%
1998	1,675,454	22,910	1.4%	93.7%	1,569,087	-760	-0,05%
1999	1,677,656	2,202	2.67%	95.06%	1,594,159	25,072	1.61%
2000	1,855,783	178,127	10%	93%	1,718,410	124,251	7.00%

Table A.3 Total of domestic passengers (1991-2000)

Total of international passengers carried from 1991 to 2000							
Year	Total of passenger carried by the market	Change in absolute number	Change in percentage	VN market share	Total of passenger carried by VN	Change in absolute number	Change in percentage
1991	565,700			39.62%	224,155		
1992	876,300	310,600	54.91%	42.52%	372,564	148,409	66.21%
1993	1,146,585	270,285	30.84%	36.46%	418,049	45,485	12.21%
1994	1,626,335	479,750	41.84%	40.55%	659,464	241,415	57.75%
1995	2,060,570	434,235	26.70%	43.75%	901,413	241,949	36.69%
1996	2,263,797	203,227	9.86%	44.29%	1,002,576	101,163	11.22%
1997	2,324,555	60,758	2%	42.9%	973,610	-28,966	-2.8%
1998	2,360,807	36,252	1.56%	38.64%	912,330	-61.280	-6.3%
1999	2,601,160	240,353	11.35%	38.48%	998540	86,210	9.51%
2000	3,034,636	433,476	17%	39%	1,185,590	187,050	19%

Table A.3 Total of international passengers (1991-2000)

Source: VNA, Market Planing Department, 2000

Since the late 1997, because of the financial crisis in Asia, like other airlines in the region, VNA was also heavily affected. As a result, in 1997, the total international passengers dropped to -2% and in 1998 this number was down to -6.3% and the total domestic passengers was down to -0.05%, especially further tourists and business travelers (VNA, Market Planning Department, 2000).

In the main Asia Pacific routes, the market share of Vietnam shows a declining trend (Table A. 4). Its position has been deteriorated in most of the routes in Pacific – Asia Region, especially SGN-TPE, SGN-SIN, SGN-SEL, SGN-KUL and SGN-BKK routes were badly affected.

Years	SGN-BKK	SGN-CAN	SGN-KIX	SGN-KUL	SGN-MNL	SGN-SEL	SGN-SIN	SGN-TPE	SGN-MEL/SYD
1996	38.6	42.9	51.2	40.8	21.5	37.9	40.6	21.8	54.0
1997	34.1	32.2	53.0	38.9	22.7	29.4	35.4	20.2	53.0
1998	31.1	39.0	46.7	34.6	37.7	15.0	29.2	18.7	51.0
1999	30.6	41.3	40.1	38.0	100.0	7.9	31.3	20.2	100.0

Table A.4 Market share of VNA in main Asia-Pacific routes (1996-1999)

Source: VNA, Market Planning Department, 2000

Note: SGN-MNL route: PR suspended its service since June 1998

SGN-MEL/SYD route: QF suspended its service since April 1998

In 1997, VNA suffered a loss of VND 48 billions. As a reaction, VNA issued new policies in May 1998 in the hope of recovery. It has implemented measures such as suspending lost-making routes, cut cost on operation, intensive and careful investment in advertising and promotion.

Due to these corrective actions, VNA has gained the better results in 1999. The total passengers carried by the airlines reached 2,592,699 including 998,540 international passengers, increasing 9.51% compared to that of 1998, whereas the foreign passengers occupied 27%, an increase of 14% compared to 1998. This is partly due to the positive economic recovery of the Asian region. The demand for tourist arrivals from other countries in the region has significantly increased. The total of passengers from Northeast Asia increased by 18%, from North America increased by 20% and from South-East Asia increased 5%, from Western Europe increased by 8% and from the other rest of Europe by 3% (VNA, Market Planning Department, 2000)

Although the domestic and international markets have been recovering since 1999, the whole market expansion was only increased 1%.

As shown in Figure A.2, the total revenue of VNA amounted to 4,200 billion VND in 2000. The total revenue from carried passengers was 3,359 billion VND in 1999; an increase of 14% compared with that of 1998.
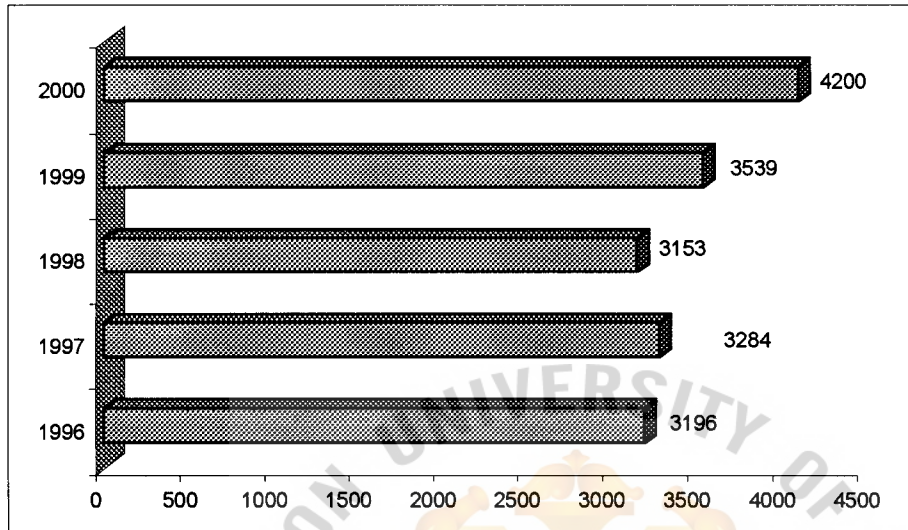
Unit: billion VND

Figure A.2 Total passenger revenue (1996-2000)
Source: VNA, Financial Department, 2001

5. International flight network and routes

At present, VNA exploit 22 international destinations with the international route map being divided in to 5 main regions:

- Indochina: composed of Lao and Cambodia.
- Southeast Asia: composed of Thailand, Singapore, Malaysia and the Philippines.
- South Pacific: Australia.
- Northeast Asia: composed of Japan, Seoul, Taiwan, China, and Hong Kong.
- Middle East and Europe: composed of Dubai, Zurich, France.

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VNA has 15 domestic flight destinations in the north, middle, and south of Vietnam with high frequency.

6. Competition

VNA has 17 competitors in its market:

In Southeast Asia: Malaysia Airlines (MH), Singapore Airlines (SQ), Thai International Airways (TG), Royal Air Cambodge (VJ), Royal Phnompenh Airways (RL), Royal Khmer (FE), Lao Aviation (QV) and Philippines Airlines (PR). Although PR had ever been a main competitors of VNA on the route MNL-SGN-MNL but it suspended its services in June 1998 and now is not considered as a VNA's competitor.

In Northeast Asia: Asiana Airlines (OZ), China Airlines (CI), China Southern Airlines (CZ), Eva Airways (BR), Pacific Airlines (BL), Japan Airlines (JL) and Cathay Pacific (CX).

In Europe: Air France (AF), Swiss Air (SR) and Aeroflot (SU)

In the South Pacific: Qantas Airways (QF) on the route SGN-MEL/SYD-SGN but Qantas Airways suspended its service on March 1998. So it is no longer a competitor of VNA.

In the year 2001, VNA has opened and reopened four routes including Shanghai, Beijing, Kunming, and Moscow to expand its market.

It is projected that the growth rate o the airline market in the Asia Pacific will be very high in the next 15 years. Therefore, this is a very good opportunity for VNA to become one of the leading airlines in the regions.

7. Vietnam Airlines services

Like other airlines in the world, VNA covers a set of complex services which are reservation service, ground handling service (pre-flight service), in-flight service, and after-flight service, such as frequent flier program, transit without visa entry, hotel reservation, etc.

Reservation service

VNA has its own reservation system named GABRIEL II. In order to increase its competitiveness in the region and ensure comfort to customers, VNA has also set up a joint venture with ABACUS Singapore and takes part in several other international computerized reservation systems such as GALILEO, AMADEUS, and APOLLO.

Ground handling service

VNA now is currently seeking ways to improve its images by minimizing the check-in time, providing entertainment in the waiting lounge, keeping the flights on time. In case of a delay, it tries first to work it out what can be the reasons in order to have an appropriate solution; and to make sure that the reason of delay, cancellation be informed to passengers. The Departure Control System (DSC) was introduced recently help accelerate the check in process.

In- flight service

VNA supplies sufficient magazines and newspapers, serving a variety of drinks and giving more choice of meal to the passengers. Especially in long haul flights, more choice of audio-video entertainment is offered.

After-flight service

In order to provide comfort and a complete service, VNA now offers its passengers after-flight service like hotel arrangement, and hotel-airport-hotel transportation. Especially for transit passenger, in cooperation with some Vietnamese companies, VNA offers customers hotel accommodation services and transportation services.

8. Efforts have being made by VNA to improve service quality

In the year 2000, VNA started with the campaign to build its image as a convenient and enjoyable airline. Its ambitious goal is to become a leading Airline company in the region. In order to offer a high service quality to customers, VNA focuses on some aspects that it seriously intends to satisfy the customers in the whole process of service delivery.

Safety

For safety, VNA has done its best to cooperate with other air safety companies in the world to help it improve the safety conditions and train its employees in order to improve its image as a safe airline. It especially pays attention to safety regulations in the flight.

Cooperation with partners

VNA also have several cooperation agreements with tour agencies and companies to open new domestic and international tours to take advantage of tourism industry and introduce Vietnam's culture to international tourists.

Facilities upgrade

To expand its routes and support its development, it has planned to acquire new fleet to serve the customers' needs at present and in the future. It will increase its fleet to 30 aircrafts in 2005.

To provide better service at the airport, the company also considers expanding the Tan Son Nhat airport platform and equipping it with modern facilities to become more competitive against other airlines.

Entertainment

For the in-flight process, it installs video for long flight and several magazines for all flights to improve in-flight entertainment conditions.

Employees policy and training

About attitude of employees, it promotes a friendly and helpful cabin culture to satisfy the passengers during the flight. Through the slogan "Customer is the King", it attempts to improve employees' attitude, especially for domestic flight (Tuoi Tre Chu Nhat, 2001). It has encouraged the cabin attendants serve customer better through high salary policy, about USD 600 per month.

Food and drinks

It also offers a variety of food to bring good tastes to the customers. For long flight, it arranges a better in-flight menu which includes European, Asian, and Vietnamese cuisine to bring an enjoyable experience to customer during their flight.

Price

It still applies two-tier price policy, one for domestic customers and another for foreigners. Many customers complain about this because they think they are discriminated and unfair.

Service evaluation

All the activities are evaluated periodically to provide better and consistent level of quality to customers. As an example, for reservation service, it has equipped advanced facilities in Ho Chi Minh City to create convenience and comfort for the customers.

(Source: VNA Annual report, 2001)

Appendix B: A survey on passenger perception about Vietnam Airlines service quality

Dear Sir/Madam,

I am a MBA student at Assumption University, Bangkok, Thailand, and carrying out a survey on international passenger perception about service quality of Vietnam Airlines. Kindly please take a few minutes to fill up the form below. All information from this questionnaire will be confidential and used for academic purpose only.

Thank you very much for your cooperation.

Part A: EXPECTATION

Please show the extent to which you think Vietnam Airlines (VNA) offering service should possess the features described in each statement. There are no right or wrong answers – all I am interested in is a number that best shows your Expectation about (VNA)

Part B: PERCEPTION

For each statement, please show the extent to which you believe VNA has the feature described by the statement. There are no right or wrong answers – all I am interested in is a number that best shows your perception about VNA.

Tangibles	Part A: Expectation *Strongly Disagree...Strongly Agree*					Part B: Perception *Strongly Disagree...Strongly Agree*				
1. Up-to-date maintained modern aircraft fleet	1	2	3	4	5	1	2	3	4	5
2. Convenient location of ticket counters	1	2	3	4	5	1	2	3	4	5
3. Sufficient number of ticket counters	1	2	3	4	5	1	2	3	4	5
4. Well dressed, nice appearance of employees	1	2	3	4	5	1	2	3	4	5
5. Attractive aircraft interior	1	2	3	4	5	1	2	3	4	5
6. Adequate magazines, newspapers, and snack bar in a comfortable waiting hall	1	2	3	4	5	1	2	3	4	5
7. Sufficient personal space, when seated	1	2	3	4	5	1	2	3	4	5
8. Comfort seating in aircraft	1	2	3	4	5	1	2	3	4	5

		1	2	3	4	5	1	2	3	4	5
9.	Sufficient space for hand luggage	1	2	3	4	5	1	2	3	4	5
10.	Good WC facilities	1	2	3	4	5	1	2	3	4	5
11.	Aircraft does not make noise	1	2	3	4	5	1	2	3	4	5
12.	Good quality of food on board	1	2	3	4	5	1	2	3	4	5
13.	Sufficient amount of food	1	2	3	4	5	1	2	3	4	5
14.	Good quality of free alcoholic beverage	1	2	3	4	5	1	2	3	4	5
15.	Sufficient quantity of free alcoholic beverage	1	2	3	4	5	1	2	3	4	5
16.	Low price of the ticket	1	2	3	4	5	1	2	3	4	5
Reliability											
17.	On time take-off and arrival	1	2	3	4	5	1	2	3	4	5
18.	Being sympathetic and reassuring when passenger has a problem	1	2	3	4	5	1	2	3	4	5
19.	Carrying out accurately flight procedure and flight status information	1	2	3	4	5	1	2	3	4	5
20.	Providing convenient schedules	1	2	3	4	5	1	2	3	4	5
21.	Fluent language ability of employees	1	2	3	4	5	1	2	3	4	5
22.	Having good reputation	1	2	3	4	5	1	2	3	4	5
Responsiveness											
23.	Providing prompt reservation service	1	2	3	4	5	1	2	3	4	5
24.	Check-in employees are helpfulness and courtesy	1	2	3	4	5	1	2	3	4	5
25.	No waiting line at airport ticket counter for a long time	1	2	3	4	5	1	2	3	4	5
26.	No waiting line at boarding gate for a long time	1	2	3	4	5	1	2	3	4	5
27.	Prompt services from ground employees	1	2	3	4	5	1	2	3	4	5
28.	Prompt service from air stewardesses.	1	2	3	4	5	1	2	3	4	5
29.	Employees are willing to help passengers	1	2	3	4	5	1	2	3	4	5
30.	Employees are not too busy to respond to passengers' request promptly	1	2	3	4	5	1	2	3	4	5
31.	Promptly baggage delivery	1	2	3	4	5	1	2	3	4	5
Assurance											
32.	Trustworthy employees	1	2	3	4	5	1	2	3	4	5
33.	Feeling safe in traveling	1	2	3	4	5	1	2	3	4	5
34.	Careful baggage handling	1	2	3	4	5	1	2	3	4	5
35.	Polite, kind and ever smiling employees	1	2	3	4	5	1	2	3	4	5
36.	Individual attention	1	2	3	4	5	1	2	3	4	5

Empathy										
37. Employees anticipate and respond to passengers' needs	1	2	3	4	5	1	2	3	4	5
38. Employees serve passengers with individual and personal attention	1	2	3	4	5	1	2	3	4	5
39. The Airlines have passengers' best interests at heart	1	2	3	4	5	1	2	3	4	5
40. The Airlines have service hours convenient to all its customers	1	2	3	4	5	1	2	3	4	5

Part C: PERSONAL DATA

Age: Under 25 ☐   25-34 ☐   35-44 ☐   45-54 ☐   55-64 ☐   Over 64 ☐

Gender: Male ☐   Female ☐

Occupation: Professional ☐   Owner/Partner ☐   Officer/clerical ☐   Engineer ☐   Laborer ☐

Student ☐   Retired ☐   Unemployed ☐   Other ☐

Income : Less than Bath10,000 ☐   10,000-20,000 ☐   20,001-30,000 ☐   30,001-40,000 ☐   More than 40,000 ☐
Or less than US$ 250   or US$ 250-450   or US$ 451-700   or US$ 701-950   or more than 950

Nationality: Asian ☐   European ☐   North America ☐   Other ☐

Thank you for your time

3

Thưa quí hành khách,

Bảng điều tra này là một luận văn tốt nghiệp của sinh viên Cao Học ngành Quản Trị Kinh Doanh, Trường Đại Học Asumption, Băng Cốc, Thái Lan.

Chúng tôi rất mong nhận được sự hợp tác tích cực của quí vị trong việc trả lời câu hỏi điều tra này nhằm tìm hiểu về sự mong đợi va đánh giá quí khách của chất lượng phục vụ của Hàng Không Việt Nam (HKVN)

Xin chân thành cảm ơn.

Phần A: Mong đợi của quí khách

Hãy chọn phương án thích hợp nhất đã được sắp xếp từ 1 đến 5 (rất không đồng ý … rất đồng ý), để nêu lên mức độ mong đợi của quí khách về từng tiêu chí trong chất lượng phục vụ của HKVN. Sẽ không có câu hỏi đúng hay sai, mục đích là nêu lên mức độ mong đợi của quí khách trước dịch vụ.

Phần B: Nhận thức của quí khách

Hãy chọn phương án thích hợp nhất đã được sắp xếp tu 1 đến 5 (rất không đồng ý … rất đồng ý), để nêu lên nhận thức của quí khách về chất lượng phục vụ của HKVN. Sẽ không có câu hỏi đúng hay sai, mục đích là nêu lên nhận thức của quí khách sau dịch vụ.

Vật chất	Phần A: Mong đợi *Rất không đồng ý …rất đồng ý*					Phần B: Nhận thức *Rất không đồng ý … rất đồng ý*				
1. Máy bay hiện đại	1	2	3	4	5	1	2	3	4	5
2. Vị trí quầy vé thuận tiện	1	2	3	4	5	1	2	3	4	5
3. Đủ số quầy vé	1	2	3	4	5	1	2	3	4	5
4. Nhân viên có hình thức và mặc đẹp	1	2	3	4	5	1	2	3	4	5
5. Nội thất máy bay hấp dẫn	1	2	3	4	5	1	2	3	4	5
6. Đủ báo chí và quán bar ở phòng đợi	1	2	3	4	5	1	2	3	4	5
7. Chỗ ngồi đủ rộng	1	2	3	4	5	1	2	3	4	5
8. Chỗ ngồi thoải mái	1	2	3	4	5	1	2	3	4	5
9. Chỗ để hành lý đủ rộng	1	2	3	4	5	1	2	3	4	5
10. Nhà vệ sinh tiện nghi	1	2	3	4	5	1	2	3	4	5

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	1	2	3	4	5	1	2	3	4	5
11. Máy bay không có tiếng ồn	1	2	3	4	5	1	2	3	4	5
12. Thức ăn ngon	1	2	3	4	5	1	2	3	4	5
13. Lượng thức ăn đủ	1	2	3	4	5	1	2	3	4	5
14. Rượu bia nước uống ngon	1	2	3	4	5	1	2	3	4	5
15. Đủ rượu bia nước uống	1	2	3	4	5	1	2	3	4	5
16. Giá vé rẻ	1	2	3	4	5	1	2	3	4	5
Tin cậy										
17. Cất, hạ cánh đúng giờ	1	2	3	4	5	1	2	3	4	5
18. Thông cảm và động viên khi hành khách gặp khó khăn	1	2	3	4	5	1	2	3	4	5
19. Thông tin về tình trạng chuyến bay chính xác	1	2	3	4	5	1	2	3	4	5
20. Lịch bay thuận tiện	1	2	3	4	5	1	2	3	4	5
21. Ngôn ngữ trôi chảy	1	2	3	4	5	1	2	3	4	5
22. Có uy tín	1	2	3	4	5	1	2	3	4	5
Phúc đáp										
23. Dịch vụ đặt chỗ kịp thời	1	2	3	4	5	1	2	3	4	5
24. Nhân viên đón khách nhiệt tình, lịch sự	1	2	3	4	5	1	2	3	4	5
25. Không phải chờ đợi ở quầy vé	1	2	3	4	5	1	2	3	4	5
26. Không phải chờ đợi ở cửa lên máy bay	1	2	3	4	5	1	2	3	4	5
27. Nhân viên mặt đất phục vụ kịp thời	1	2	3	4	5	1	2	3	4	5
28. Tiếp viên phục vụ kịp thời	1	2	3	4	5	1	2	3	4	5
29. Nhân viên sẵn sang giúp đỡ khách	1	2	3	4	5	1	2	3	4	5
30. Nhân viên không quá bận để trả lời khách	1	2	3	4	5	1	2	3	4	5
31. Trả hành lý nhanh	1	2	3	4	5	1	2	3	4	5
Bảo đảm										
32. Nhân viên đáng tin cậy	1	2	3	4	5	1	2	3	4	5
33. An toàn trong chuyến bay	1	2	3	4	5	1	2	3	4	5
34. Vận chuyển hành lý cẩn thận	1	2	3	4	5	1	2	3	4	5
35. Nhân viên lịch sự, tươi cười nhã nhặn	1	2	3	4	5	1	2	3	4	5
36. Chu đáo	1	2	3	4	5	1	2	3	4	5
Thông cảm										
37. Nhân viên đón được ý khách	1	2	3	4	5	1	2	3	4	5

38. Nhân viên phục vụ khách với sự đồng cảm	1	2	3	4	5	1	2	3	4	5
39. Hãng hàng không phục vụ vì quyền lợi của khách	1	2	3	4	5	1	2	3	4	5
40. Hãng hàng không có giờ phục vụ thuận tiện cho khách	1	2	3	4	5	1	2	3	4	5

Phần C: Thông tin cá nhân

Tuổi: Dưới 25 ☐   25-34 ☐   35-44 ☐   45-54 ☐   55-64 ☐   Trên 64 ☐

Giới tính: Nam ☐   Nữ ☐

Nghề Nghiệp: Chuyên gia ☐   Kinh doanh ☐   Nhân viên ☐   Kỹ sư ☐   Cônh nhân ☐

Sinh viên ☐   Hưu trí ☐   Thất nghiệp ☐   Nghề khác ☐

Thu Nhập: Dưới 10,000 Bạt ☐   10,000-20,000 ☐   20,001-30,000 ☐   30,001-40,000 ☐   Trên 40,000 ☐
Hay dưới US$ 250   hay US$ 250-450   hay US$ 451-700   hay US$ 701-950   hay trên 950

Quốc tịch: Châu Á ☐   Châu Âu ☐   Bắc Mỹ ☐   Quốc tịch khác ☐

XIN CẢM ƠN

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Computer Output of Reliability Analysis

****** Method 1 (space saver) will be used for this analysis ******

Expectation-Tangibles

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	E1	Up-to-date maintained modern aircraft fleet
2.	E2	Convenient location of ticket counters
3.	E3	Sufficient number of ticket counters
4.	E4	Well dressed, nice appearance of employees
5.	E5	Attractive aircraft interior
6.	E6	Adequate magazines, newspapers, and snack bar
7.	E7	Sufficient personal space, when seated
8.	E8	Comfort seating in aircraft
9.	E9	Sufficient space for hand luggage
10.	E10	Good WC facilities
11.	E11	Aircraft does not make noise
12.	E12	Good quality of food on board
13.	E13	Sufficient amount of food
14.	E14	Good quality of free alcoholic beverage
15.	E15	Sufficient quantity of free alcoholic beverage
16.	E16	Low price of ticket

Reliability Coefficients

N of Cases = 384.0   N of Items = 16

Alpha = .8124

Expectation-Reliability

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	E17	On time take-off and arrival
2.	E18	Being sympathetic and reassuring when passenger has problem
3.	E19	Carrying out accurately flight procedure
4.	E20	Providing convenient schedules
5.	E21	Fluent language ability of employees
6.	E22	Having good reputation

Reliability Coefficients

N of Cases = 384.0   N of Items = 6

Alpha = .5088

Expectation-Responsiveness

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	E23	Providing prompt reservation service
2.	E24	Check-in employees are helpful and court
3.	E25	No waiting line at airport ticket counters for a long time
4.	E26	No waiting line at boarding gate for a long time
5.	E27	Prompt service from ground employees
6.	E28	Prompt service from air stewardesses
7.	E29	Employees are willing to help passengers
8.	E30	Employees are not too busy to respond to customers
9.	E31	Prompt baggage delivery

Reliability Coefficients

N of Cases =   384.0   N of Items = 9

Alpha =   .8190

Expectation-Assurance

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	E32	Trustworthy employees
2.	E33	Feeling safe in traveling
3.	E34	Careful baggage handling
4.	E35	Polite, kind and ever smiling employees
5.	E36	Individual attention

Reliability Coefficients

N of Cases =   384.0   N of Items = 5

Alpha =   .6257

Expectation-Empathy

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	E37	Employees anticipate and respond to pass
2.	E38	Employees serve passengers with individual attention
3.	E39	The Airlines have passengers' best inter
4.	E40	The Airlines have service hours convenient to all customers

Reliability Coefficients

N of Cases =   384.0   N of Items = 4

Alpha =   .6678

Perception-Tangibles

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	P1	Up-to-date maintained modern aircraft fleet
2.	P2	Convenient location of ticket counters
3.	P3	Sufficient number of ticket counters
4.	P4	Well dressed, nice appearance of employees
5.	P5	Attractive aircraft interior
6.	P6	Adequate magazines, newspapers, and snack bar
7.	P7	Sufficient personal space, when seated
8.	P8	Comfort seating in aircraft
9.	P9	Sufficient space for hand luggage
10.	P10	Good WC facilities
11.	P11	Aircraft does not make noise
12.	P12	Good quality of food on board
13.	P13	Sufficient amount of food
14.	P14	Good quality of free alcoholic beverage
15.	P15	Sufficient quantity of free alcoholic beverage
16.	P16	Low price of ticket

Reliability Coefficients

N of Cases =   384.0   N of Items = 16

Alpha =   .8175

Perception-Reliability

RELIABILITY ANALYSIS - SCALE (ALPHA)

1.	P17	On time take-off and arrival
2.	P18	Being sympathetic and reassuring when passenger has problem
3.	P19	Carrying out accurately flight procedure
4.	P20	Providing convenient schedules
5.	P21	Fluent language ability of employees
6.	P22	Having good reputation

Reliability Coefficients

N of Cases =   384.0   N of Items = 6

Alpha =   .5458

Perception-Responsiveness

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

1. P23   Providing prompt reservation service
2. P24   Check-in employees are helpful and court
3. P25   No waiting line at airport ticket counters
4. P26   No waiting line at boarding gate for a l
5. P27   Prompt service from ground employees
6. P28   Prompt service from air stewardesses
7. P29   Employees are willing to help passengers
8. P30   Employees are not too busy to respond to customers
9. P31   Prompt baggage delivery

Reliability Coefficients

N of Cases =   384.0   N of Items = 9

Alpha =   .6682

Perception-Assurance

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

1. P32   Trustworthy employees
2. P33   Feeling safe in traveling
3. P34   Careful baggage handling
4. P35   Polite, kind and ever smiling employees
5. P36   Individual attention

Reliability Coefficients

N of Cases =   384.0   N of Items = 5

Alpha =   .5900

Perception-Empathy

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

1. P37   Employees anticipate and respond to pass
2. P38   Employees serve passengers with individual attention
3. P39   The Airlines have passengers' best inter
4. P40   The Airlines have service hours convenient to all customers

Reliability Coefficients

N of Cases =   384.0   N of Items = 4

Alpha =   .7208

4