



PASSENGERS SATISFACTION TOWARDS THE CURRENT  
AIRLINE SERVICE

by

Mr. Nattorn Bamroongsap

A Final Report of the Three-Credit Course  
CE 6998 Project

Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science  
in Computer and Engineering Management  
Assumption University

March 2003



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Project Title	Passengers Satisfaction towards the Current Airline Service
Name	Mr. Nattorn Bamroongsap
Project Advisor	Dr Chamnong Jungthirapanich
Academic Year	March 2003

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The Graduate School of Assumption University has approved this final report of the three-credit course, CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

Approval Committee:

  
(Dr. Chamnong Jungthirapanich)  
Dean and Advisor

  
(Prof. Dr. Srisakdi Charmonman)  
Chairman

  
(Assoc. Prof. Somchai Thayarnyong)  
MUA Representative

March 2003

## ABSTRACT

Airline service is involved in a service industry, which provides various kinds of services to the number of passengers around the world. Therefore, delivering the best quality service to the passengers is the central issue and is significant for the airlines to take advantage over the competitors. The main purpose of this research is evaluating the passenger's satisfaction towards the current airline services of Thai Airways International Public Co., Ltd., and enhancing the passenger's opportunity for improving or making better services for the benefit of the airlines.

To accomplish the purposes of the study, statistical treatment was applied to analyze the data. The Descriptive Analysis was used to determine demographic characteristics, the general information of Thai Airways passengers, and the factors related to passenger's service requirements. Crosstabulation was applied to explore the passenger's satisfaction toward overall in-flight service. Analysis of Variance (ANOVA) was used to examine the significant difference in passenger's satisfaction toward Thai Airways services with different types of airplanes.

In this research, ten hypotheses are designed to test the significant difference between business and economy class of passenger's satisfaction toward Thai Airways services with different types of airplanes.

The findings of the factors that have a significant effect on improving the quality of services are the most important aspects such as reliability in the business class and tangibility in economy class for the services of Thai airways.

Based on the findings of the study, recommendations are made to improve quality of seat accommodations, entertainment programs and equipment and some services of Thai Airways' flight attendants.

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Above all, the writer would like to express his gratitude to his parents whose willingness to invest continuously in his future has enabled him to achieve his educational goal. Finally, the writer wishes to present special appreciation to his family including his mother and father, all his sisters, and especially his lovely friends. Their bounteous love and psychological support always provided, pushed forward this project.

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## **I. INTRODUCTION**

### **1.1 The Overview of Airline Industry and Airline Service**

Air transport is now a big industry. Its origin can be traced back as far as 1919 just after the First World War, but it was not until peace was restored after the Second World War that the era of major expansion really began. Nowadays, the industry caters for around 1.5 billion passengers a year and it is the key element in the 'world's largest industry', travel and tourism.

Altogether there are approximately 1,200-scheduled airlines in the world, of which some 300 operate on international routes. Airlines exist in many different shapes and sizes. Two of the very largest are American Airlines and United Airlines. These two airlines carry over 80 million passengers annually and operate fleets of some 600 aircraft. Most national airlines depend for their livelihood on international traffic. Airlines of nations contracting a bilateral air service agreement receive the right to enter the industry, at least on routes to and from the home countries. Many airlines in the world are owned by state governments.

Customer service was defined as: 'Management systems organized to provide a continuing service link between the time a purchase order is placed and the time goods or services are received and consumed, with the objective of satisfying customer needs on a long-term basis.'

Airline service is involved in a service industry, which provides various kinds of services to the number of customers (from hereon, we use "passengers" instead) around the world. The afore-mentioned passenger services were mainly classified as: - the sales service, the ground service and the in-flight service. Each service plays a major roll affecting the operation of the whole airlines at its stage.

Therefore, delivering the best quality service to the passengers is the central issue and significant for the airlines to take the advantage over the competitors and this research has been conducted to survey the passenger's attitude towards the airline service and find the ways of improvement.

## **1.2 Growth and Distribution of World Passenger Traffic**

Air Transport is a high growth industry. Very few industries, if any, have enjoyed such growth for such a long period of time. Since 1945 world passenger traffic has grown at an average annual rate of 12 percent. Since 1960 it has grown at an average rate of 9 per cent per annum.

The rate of growth is slowing down as the industry gets larger and becomes mature. But world passenger traffic still increased at an average annual rate of 5 percent over the decade 1985-1995. One forecast, from the International Civil Aviation Organization, predicts growth of 5.5 percent up to 2005. At this rate of growth, world air traffic will almost triple in the next 20 years.

Figure on total traffic conceals variations from one part of the world to another (Table 1.1). There has been burgeoning growth in the Asia/Pacific region, with more modest growth in Europe and Africa. The rapid growth of Asia airlines, such as Thai Airways, Cathay Pacific, Malaysian Airlines and Singapore Airlines has effected some considerable changes in the structure of the international industry.

Table 1.1. Growth in World Passenger Traffic.

Region of airline registration	1985	1995	2005	Average annual growth rate (percent)	
				1985-95	1995-2005
Africa	36.7	51.0	77	3.3	4.0
Asia/Pacific	222.3	549.7	1260	9.5	8.5
Europe	428.2	549.3	870	2.5	4.5
Middle East	42.7	67.0	115	4.6	5.5
North America	569.2	902.7	1310	4.7	4.0
Latin America / Caribbean	68.3	107.9	175	4.7	5.0
World	1367	2228	3807	5.0	5.5

One possible explanation for the variation in growth rates by region is that regions are at different stages in the life cycle of the industry. (Figure 1.1) A possible hypothesis is that growth follows an S-shaped pattern over time: slow to begin with, then very rapid and finally slow again when the industry reaches maturity. On this interpretation, Africa would appear to be at the beginning stage, Asia in the rapid growth stage, and Europe and North America about to enter the mature stage.

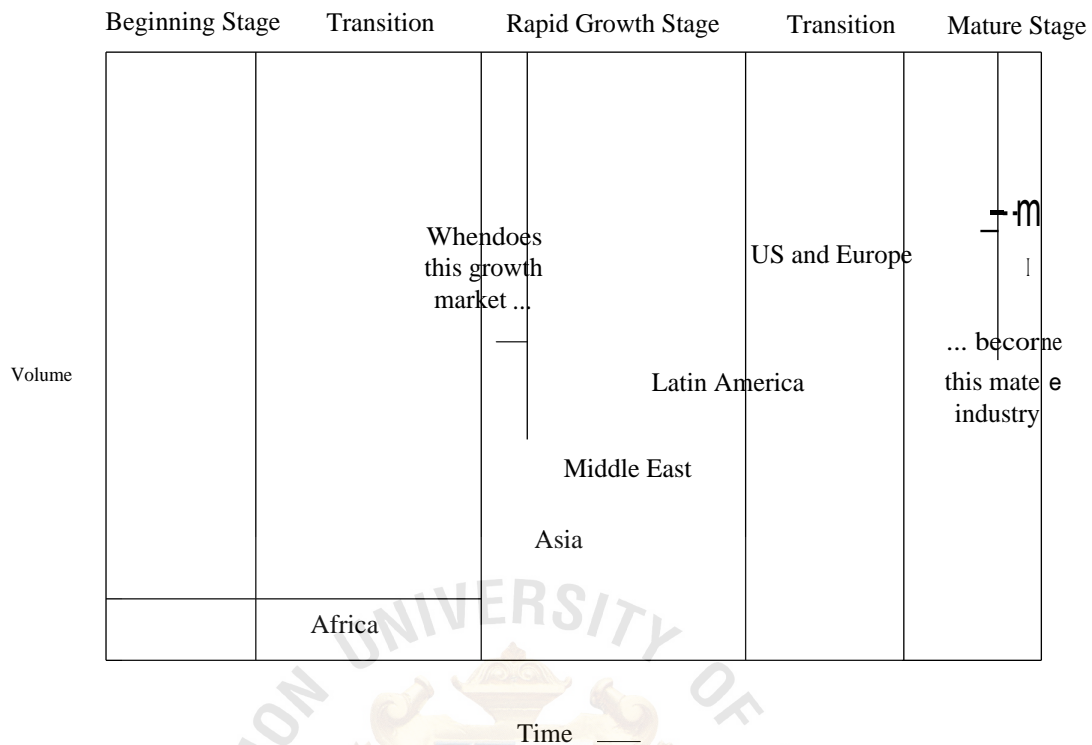


Figure 1.1. Market Life Cycle.

### 1.3 Airline Corporate Quality Objectives and Performance Monitoring

Generally, airline's mission and goals could be categorized to three performance areas as:

- (1) Customer Service
- (2) Safety and Reliability
- (3) Profitability

Quality of Customer Service is usually measured by international bodies such as INTRAMAR, where critical quality factors are identified and the world's top airlines are assessed according to how they fare in each factor. The top twelve quality factors influencing passenger choice and satisfaction as identified by INTRAMAR (1991) are Punctual flight (76%), Excellent In-flight service (59%), Superior aircraft (52%), Comfortable seats (48%), Efficient reservations (44%), Discounts (43%), Good Check-



in service (43%), Clean cabin (38%), Good food and beverages (36%), Frequent flying programs (28%), Superior business class (26%) and Superior first class (17%).

#### **1.4 Objectives of the Project**

- (1) To study the passenger's satisfaction toward the overall airline's service.
- (2) To identify the passenger's critical quality dimensions and level of importance affecting their decision for using the airlines.
- (3) To provide recommendations on the airline's service improvement.
- (4) To identify the passenger's service opportunities for the benefit of the airlines.
- (5) To utilize the questionnaire as a survey tool for the data analysis towards the passengers.

#### **1.5 Scope of the Project**

After the objectives had been thoroughly set up, we started looking at the scope of the study for carrying out a survey. The researcher focused on the following factors:

- (1) This study will provide information on passenger satisfaction and dissatisfaction towards the current airline's service by conducting a questionnaire survey, analyzing the information and ways of improvement.
- (2) This study will focus on the passengers in both business and economy class of the airlines.
- (3) The route network of this study will be regional route covering many countries in Asia depending on the aircraft type.

The regional route was chosen by us because Table 1.1 and Figure 1.1 clearly showed that Asia was in the rapid growth stage with average annual growth higher than the other regions. Therefore, it was very interesting to study the passengers' satisfaction in such a high growth region.

## **II. LITERATURE REVIEW**

### **The Overview of Thai Airways International Public Company Limited.**

#### **2.1 Company Background**

Thai Airways International Public Company Limited (THAI) is a state enterprise and Thailand's national airline. It provided domestic, regional and intercontinental flights covering many destinations around the world from the airline's home base in Bangkok.

The evolution of THAI from a small domestic operation to a fully-fledged global airline is the direct outcome of the far-sighted vision of the founders. Earlier on, they embarked on a course of building a reputation as a regional leader, pioneering routes to unusual destinations. They further strengthened our reach by forming strategic alliances with major airlines, becoming a key partner in a route network that now covers the globe.

THAI's popularity among the travelers comes from our comprehensive services and efficient, on-time operation. More than that, however, they are known for their gracious ground and in-flight service. This includes personal attention to passenger needs, with special treats (like gift orchids for all female passengers), and superb cuisine, which have earned us a place in the hearts of the travelling public.

Few passengers are aware of the numerous behind-the-scenes activities that make THAI a self-sufficient airline. They operate our own Catering Department, Maintenance Department, and Cargo Department that serve, not only THAI's needs, but also those of numerous airlines operating into Bangkok. Many ancillary functions are devoted to enhancing the pleasure of travel by providing our customers with Limousine

Services, Royal Orchid Holidays, our Royal Orchid Plus frequent flyer program, hotel accommodations, convention facilities, and attractive incentive programs.

All these and more enable THAI to respond quickly and comprehensively to customers' requirements and passenger needs, qualities that have made them one of Asia's premier airlines.

#### 2.1.1 Company Objectives

The primary objectives of the company are as follows:

- (1) To provide safe and efficient air transportation to passengers and cargo shippers
- (2) To promote tourism and trade
- (3) To create opportunities for foreign currency exchange for the benefit of the national economy.
- (4) To represent the good image of Thailand.

#### 2.1.2 Chronology of Major Historical Events of THAI

Over the past 42 years, THAI has been at the forefront of the airline industry. THAI began its life as a domestic airline called Thai Airways Company (TAC). TAC was formed in 1951 when the Thai government purchased shares in three small private airlines and amalgamated their fleets in order to create a national airline. Rapid growth followed with air service reaching into formerly remote provinces of Thailand.

Firmly established as a domestic airline, they then decided to try their wings in a wider realm by launching several experimental flights to cities within the region. In 1960, they formed an alliance with Scandinavian Airlines System, and Thai Airways International was born. TAC remained a separate company and continued to provide service to cities within Thailand.

On May 1<sup>st</sup>, 1960, Her Majesty Queen Sirikit arrived at Bangkok International Airport to officiate at the ceremony for the inaugural flight. A propeller-driven Douglas DC-6B with a full load of 60 passengers took off from Bangkok en route to Hong Kong, Taipei and Tokyo. TG Flight 602, the maiden flight of THAI, Launched an air service that would soon be known throughout the world for its hospitality, unique service and style.

During the first year of operations, THAI connected Bangkok with nine major cities in Asia. They were Hong Kong, Taipei, Tokyo, Phnom Penh, Saigon, Rangoon, Calcutta, Kuala Lumpur and Singapore. Frequencies ranged from one to 3 flights per week. The passengers began experiencing a new dimension in air travel and Thai's reputation for superior service spread rapidly.

In 1965, only five years after its establishment, THAI recorded its first year of operating profits of 3.9 million baht. From this year onwards, THAI achieved profitable earnings per year, continuously growing by leaps and bounds.

For the first six years, THAI served 10 regional destinations with propeller-driven aircraft but in 1966, we scored an Asian first by offering the region's first all jet service. With our fleet of modern aircraft, they pioneered new routes, offering the first jet service to Bali (December 1967) and Katmandu (December 1968). By 1970, they were carrying a half million passengers each year and were ranked as Asia's third largest airline. It was time to stretch their wings even wider.

They did so in April 1971 when a THAI airliner touched down in Sydney on their first intercontinental flight. The following year they opened European service with flights to Copenhagen. Other cities followed quickly as they expanded from their home base, Bangkok. To accommodate an increasing demand, they began flying Airbus A300s in October 1977 and in October 1979, took delivery of our first Boeing 747s.



The first issue of Thai's Sawasdee in-flight magazine appeared in June 1971. The high quality of its travel articles and photography attracted the attention of passengers, who enjoyed reading it in flight and taking home as a souvenir. It also caught the notice of the travel industry who have through the years, given Sawasdee magazine numerous prestigious awards.

In 1980, they began flying Trans-Pacific routes to North American cities. Los Angeles and Seattle become THAI's gateway cities into United States of America. The decade also saw the expansion of ancillary facilities to provide broader-based service to our passengers and customers.

THAI introduced Royal Executive Class (Business Class) in 1983, created especially for travelling businessmen. Royal executive class passengers were given the royal treatment, separate cabins and a choice of gourmet meals and wines. Even after a long flight, business travelers could arrive at their destinations, rested and ready to take on their next meeting.

In December 1987, they opened their new corporate headquarters in Bangkok. Perhaps the most dramatic change was the merger between Thai Airways International and Thai Airways Company to bring international and domestic services under a single umbrella.

THAI and four majors world airlines — Lufthansa, United Airlines, SAS, and Air Canada joined together in 1997 to form the Star Alliance, the most extensive airline alliance in the world.

Thai's comprehensive network in the Asian region complemented the strong networks in Europe and North America of the other alliance partners and enabled passengers to enjoy unbeatable value and seamless travel across the world.

### 2.1.3 The Future Plan

The 1990s have seen further expansion of Thai route network and frequency of service but have also witnessed some fundamental changes to prepare us for the future.

In July 1993, we inaugurated our Royal Orchid Plus frequent flyer program, which enjoyed almost instant success. In July 1995 when they joined with Lufthansa and United Airlines to form a Global Alliance that will strengthen all three airlines. The same year saw the introduction of the THAI phone and in March 1996: they took delivery of our first Boeing, as a first step in modernizing our fleet to ensure that we remain a leader as they progress towards the 21<sup>st</sup> century. The coming years will see THAI acquire a new look which they proudly carry into the 21<sup>st</sup> century.

### 2.1.4 THAI' s Aircraft Fleet

THAI operates a modern fleet of 81 airplanes, many of them wide bodied aircraft. They utilize Airbus, Boeing aircraft on international routes and Airbus, ATR, and Boeing aircraft on domestic routes.

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Table 2.1. THAI' s Aircraft Fleet.

Aircraft Types	No. of Aircraft	No. of Seats	Seat Distribution (Class)		
			First	Business	Economy
B 747-400	9	405	18	62	325
	7	389	14	50	325
B747-300	2	405	18	62	325
MD-11	4	285	10	42	233
B 777-300	6	388	-	49	339
B 777-200	8	358	-	55	303
A 330-300	8	317	-	50	267
	4	305	-	42	263
A 300-600	6	261	-	28	233
	10	247	-	46	201
	5	260	-	28	232
B 737-400	10	149	-	12	137
ATR 72	2	66	-	-	66
Total	81	-	-	-	-

- (1) The Boeing 747 is a heavy, long-ranged, 4-engine aircraft. There are two models in the fleet: B747-400 and B747-300. The aircraft is configured into a three-class cabin layout.
- (2) The MD-11 is a heavy, long-range aircraft, built by the McDonnell Douglas Aircraft Company. The aircraft is configured into a three-class cabin layout.

- (3) The Boeing 777 passenger aircraft is a medium-to-long range subsonic commercial transport aircraft. There are two models in the fleet: B777-300 and B 777-200.
- (4) The Airbus 330-300 is a medium-to-long range commercial transport aircraft.
- (5) Airbus 300-600 is a short to medium range subsonic commercial transport aircraft.
- (6) The Boeing 737-400 jet transport is designed to operate over short to medium range. The seating layout may be varied to suit operating requirements.
- (7) The ATR 72 is a short-range subsonic transport.

#### 2.1.5 THAI Route Network and Destinations

Today, THAI 's World covers more than 73 key cities in 37 countries on 4 continents which are North Pacific Route, European Route, Australian and New Zealand Route and Regional Route (Asia). Through star Alliance, our strategic partnership with major world airlines, its route network has been extended even further than 600 destinations in 108 countries. Its special competence in serving more Asian countries than any other airline makes it a linchpin in a vital alliance that strengthens it as an airline and enables it to offer its passengers more, and easier, travel options than ever before.

As the scope of this research mainly focuses on the study of regional route only, we will provide the information of this route network in details for our further reference as follows:



(a) Thailand-Manila-Japan (Vice Versa)

Table 2.2. Regional Route (Thailand-Manila-Japan).

Route Services	Aircraft Type	No. of flights Per Week
Bangkok — Manila V.V.	A300-600	6
Bangkok — Manila V.V.	B777-200	14
Manila — Osaka V.V.	B777-200	14
Bangkok — Tokyo V.V.	B777-300	14
Bangkok — Tokyo V.V.	B777-200	12
Bangkok — Nagoya V.V.	A330-300	8
Bangkok — Fukuoka V.V.	A300-600	10
Bangkok — Osaka V.V.	A300-600	14

(b) Thailand-Hong Kong-Taiwan-Korea (Vice Versa)

Table 2.3. Regional Route (Thailand-Hong Kong-Taiwan-Korea).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Hong Kong V.V.	B747-400	28
Bangkok — Hong Kong V.V.	B777-300	28
Bangkok — Hong Kong V.V.	B777-200	14
Bangkok — Hong Kong V.V.	B777-200	14
Hong Kong — Taipei V.V.	B777-300	14
Hong Kong — Seoul V.V.	B777-200	14

Table 2.3. Regional Route (Thailand-Hong Kong-Taiwan-Korea). (Continued)

Route Services	Aircraft Type	No. of flights per week
Hong Kong — Taipei V.V.	B777-200	14
Bangkok — Taipei V.V.	A330-300	18
Bangkok — Taipei V.V.	B777-300	14
Taipei — Seoul V.V.	B777-300	14
Bangkok— Taipei V.V.	B777-300	14
Taipei — Seoul V.V.	A330-300	4
Bangkok — Kaohsiung V.V.	A330-300	14
Bangkok — Busan V.V.	A300-600	4
Bangkok — Seoul V.V.	A330-300	4
Bangkok — Seoul V.V.	B777-300	14

(c) Thailand-People's Republic of China (Vice Versa)

Table 2.4. Regional Route (Thailand-People's Republic of China).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Kunming V.V.	A300-600	10
Chiang Mai — Kunming V.V.	A300-600	4
Bangkok — Guangzhou V.V.	A300-600	14
Bangkok — Chengdu V.V.	A300-600	6
Bangkok — Shanghai V.V.	A330-300	28
Bangkok — Beijing V.V.	A330-300	14

(d) Thailand-Singapore-Indonesia (Vice Versa)

Table 2.5. Regional Route (Thailand-Singapore-Indonesia).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Denpasar V.V.	A330-300	14
Bangkok — Denpasar V.V.	A300-600	10
Bangkok — Jakarta V.V.	A300-600	10
Bangkok — Singapore V.V.	A330-300	14
Singapore — Jakarta V.V.	A330-300	14
Bangkok — Singapore V.V.	A300-600	14
Bangkok — Singapore V.V.	B777-200	42
Hadyai — Singapore V.V.	A300-600	14
Phuket — Singapore V.V.	A300-600	14

(e) Thailand-Malaysia-Bandar Seri Begawan (Vice Versa)

Table 2.6. Regional Route (Thailand-Malaysia-Bandar Seri Begawan).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Bandar Seri Begawan V.V.	A330-300	14
Bangkok — Kuala Lumpur V.V.	A330-300	14
Bangkok — Kuala Lumpur V.V.	A300-600	28
Bangkok — Penang V.V.	A300-600	14

(f) Thailand-Yangon-Dhaka-India-Katmandu-Columbo (Vice Versa)

Table 2.7. Regional Route (Thailand-Yangon-Dhaka-India-Katmandu-Colombo).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Yangon V.V.	A300-600	28
Bangkok — Dhaka V.V.	A330-300	14
Bangkok — Kolkata V.V.	A330-300	6
Bangkok — Delhi V.V.	A330-300	14
Bangkok — Mumbai V.V.	A330-300	6
Bangkok — Katmandu V.V.	A300-600	14
Bangkok — Columbo V.V.	A300-600	6
Hadyai — Singapore V.V.	A300-600	14

(g) Thailand-Pakistan-Muscat-Dubai-Kuwait (Vice Versa)

Table 2.8. Regional Route (Thailand-Pakistan-Muscat-Dubai-Kuwait).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Karachi V.V.	A330-300	8
Karachi — Muscat V.V.	A330-300	6
Bangkok — Lahore V.V.	A300-600	8
Bangkok — Dubai V.V.	A330-300	14
Dubai — Kuwait V.V.	A330-300	6

(h) Thailand-Vientiane-Phnom Penh-Vietnam (Vice Versa)

Table 2.9. Regional Route (Thailand-Vientiane-Phnom Penh-Vietnam).

Route Services	Aircraft Type	No. of flights per week
Bangkok — Vientiane V.V.	A300-600	14
Bangkok — Ho Chi Minh V.V.	B737-400	14
Bangkok — Ho Chi Minh V.V.	A300-600	14
Bangkok — Hanoi V.V.	A300-600	14
Bangkok — Da Nang V.V.	B737-400	6
Bangkok — Phnom Penh V.V.	A300-600	8
Bangkok — Phnom Penh V.V.	B737-400	20

2.1.6 Royal Orchid Service

Consistently voted one of the world's best airlines, for nearly 40 years, THAI has enjoyed a reputation for service and reliability that have made it one of the world's leading airlines.

Royal orchid service is noted for its attention to detail. Because, in addition to the flight attendants on board, it is the special, little touches that keep passengers coming back. A hot, wake-up towel, a breath mint, fresh sprays of orchids in the bathrooms, fish sauce and chili sauce to spice up each meal. Those may be mere details but they are notices and appreciated nonetheless. It is this attention given even to smallest details that has made Royal Orchid Service the standard by which the other airlines are judged.



Today, THAI is a global airline, their distinctive floral logo and corporate colors familiar in cities around the world. They are known as "Smooth as Silk" service that ensures that every flight is a pleasure.

The Star Alliance network also extends their global reach, enabling them to fly passengers to nearly every major city on every continent. Their punctuality has won the trust of the flying public throughout the world.

#### 2.1.7 Why the Passengers Choose to Fly THAI?

Among the numerous reasons that passengers choose THAI, comfort, service and reliability rank high.

(a) Comfort

Regardless of the class you fly, THAI's quiet elegance, comfort, and range of entertainment and cuisine options make travelling a pleasure.

All THAI international and domestic flights are non-smoking.

(b) Service

Hospitality is the key to THAI's appeal. For most passengers, it means a warm smile and a warmer greeting, as well as an eagerness to please that makes the passengers feel welcome the moment they step on board.

(c) Reliability

THAI's record of on time arrivals and departures, plus its quick response to special requests are prized by passengers and praised by the airline industry. It means that you, the traveler, can trust THAI to speed them to the destination with minimal delay.

### 2.1.8 In-flight Service

#### (a) Royal Executive Class (Business Class)

THAI's business class is the equivalent of many airlines' First class.

The details are as follows:

- (1) Commodious seats that recline up to 120 degrees provide ample comfort and support for work or relaxation. They include personal video screens on which one can watch a wide variety of entertainment programs from our onboard video library.
- (2) A range of superb Thai and Western dishes with complimentary drinks.
- (3) On intercontinental flights, use of a video walkman and choice of five first run movies, 3 classics films, one ballet or music video and one major sports event video from onboard video library.
- (4) Quality amenity kits for passengers on intercontinental flights to and from Japan, China, and Korea.
- (5) Use of the Royal Executive lounge at Bangkok International Airport Lounge. Offers telephone, internet connections, fax facilities, writing desks, changing room, Television, reading materials, complimentary drinks and snacks, and special rooms for small business meeting.
- (6) Use of Thai's royal orchid lounges and executive class lounges of partner airlines where available.

#### (b) Economy Class

Comfort and gracious service, Thai hallmarks, are found in abundance in THAI's economy cabins:

- (1) Plush seats with a reclination angle of up to 100 degrees combine leg room with the utmost in comfort.
- (2) Excellent meals equivalent to those served in some airlines' business class.
- (3) Two choices of entrees plus a wide variety of special meals for those with dietary preferences.
- (4) A wide range of entertainment programs and facilities as obtained in the entertainment section.
- (5) Magazines and newspapers from around the world as well as their own award-winning "Sawasdee" magazine to introduce you to Thailand' ancient culture.
- (6) Special facilities for parents with small children including bulkhead anchors for complimentary bassinets, bibs, toys, milk bottles, free diapers and diaper-changing shelves in the toilets.

(c) Delicious Thai Cuisine

THAI is renowned for its gracious in-flight service and its excellent meals in all Classes. It offers a choice between two entrees, and changes its menus on a regular basis to please frequent passengers. All drinks are complimentary.

THAI cuisine is a prime reason passengers fly with us. THAI chefs prepare delicious THAI, Western, Chinese, Asian, Japanese, Indian including the specialty meals to suit religious and health preferences, which must be ordered 48 hours before passengers' departure.

(d) In-flight Entertainment

THAI's broad in-flight entertainment program make long journey feel better.

- (1) Personal entertainment systems on intercontinental flights in Royal First and Royal Executive Classes as well as on all Boeing 777 Royal Executive Classes flights.
- (2) Three first-run feature movies on most intercontinental flights. Programs are changed monthly.
- (3) On individual screens mounted on Boeing 777 armrests, passengers can choose from among 5 features movies and one documentary channel, many in dual language.
- (4) Numerous video magazine features are aired including light entertainment, travel, documentary, sports, comedy, news, and Thai culture and life.
- (5) Audio Channels with programs created exclusively for THAI present classical, jazz, country, pop, light, and Thai music. Boeing 777 flights offer 13 channels of audio entertainment including Thai, Chinese, Japanese, and Korean selections.
- (6) Headphones are provided for in-flight entertainment except on a sector where the flying time is less than 90 minutes.
- (7) Playing cards are also available on request.
- (8) THAI's award-winning magazine, "Sawasdee", presents the best of Asian and global culture, cities, and people. The passengers can take a copy home.

(9) Choose from among a dozen magazines devoted to news, entertainment, sports, women's, and business subjects.

(e) Amenities

THAI provides female passengers with free Madam Pompadour orchids to brighten their flight. Children are also given gifts to help them enjoy their flight. Pillows and soft blankets are also provided for passenger comfort. Refreshing hot and cold towels and Eau De Cologne are available at flight intervals on all routes.

(f) Communication Devices

Some types of the aircraft are equipped with cordless telephones and facsimile machines.

(g) Carry-on Baggage Storage

Passengers may carry one item of hand baggage suitable for placing in a closed over-head bin or under the seat in front of them.

(h) On Board Duty Free Shopping

THAI provides Duty Free shopping on every international flight. Cabin personnel sell liquors, cigarettes, and perfumes, as well as items unique to THAI including wristwatches with Thai numerals and Thai silk ties and scarves. Catalogues in the seatback pockets display products, descriptions, and prices. Most major credit cards and currencies are accepted. The details of In-flight service activities step by step are summarized and shown in Figure 2.1.



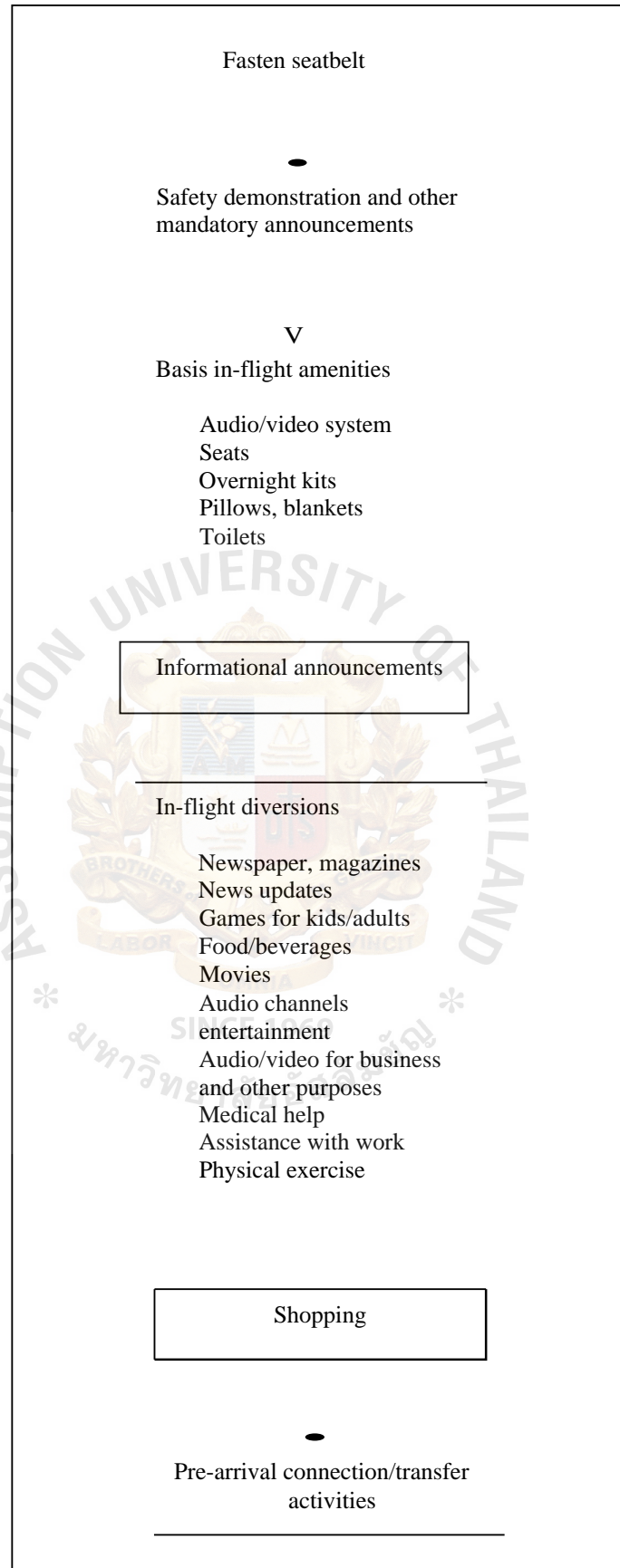


Figure 2.1. In-flight Service Activities.

## **Conceptual Review**

### **2.2 Service**

#### **2.2.1 Definition (Gronroos 1990)**

Range of definitions of services are suggested and looked at the service phenomenon, also rendered by service firms. Gronroos proposed the definitions, which would be a blend of the ones, suggested by Lehtinen, Koltler and Bloom, and Gummesson as follows:

"A Service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems.

#### **2.2.2 Defining Services (Lovelock 1998)**

Services have traditionally been difficult to define because of their diversity and the fact that the process underlying production and delivery are often hard to grasp. In many cases, both inputs and outputs are intangible. Various definitions of services exist. Two that capture the essence of services are:

- (1) A service is any act or performance that one party can offer to another, and one that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product.
- (2) Services are economic activities that provide time, place and form utility, while bringing about a change in, or for, the recipient of the service.

### 2.2.3 Broad Generic Differences between Goods and Services (Lovelock 1998)

#### (1) Service products as Intangible Performances

Although services often include tangible elements such as sitting in an airline seat or getting damaged equipment repaired, the service performance itself is basically an intangible.

#### (2) Customer Involvement in the Production Process

Performing a service involves assembling and delivering the output of a combination of physical facilities and mental or physical labor. Customers are often actively involved in helping to create the service product by serving themselves as in a fast-food restaurant or Laundromat or by cooperating with the service personnel in settings such as some consultancy engagements, sporting events, hotels, universities, or hospitals.

#### (3) People as Part of the product

In high-contact services, customers not only come into contact with service personnel, they may also rub shoulders with the other customers. The difference between two service businesses often lies in the quality of the employees who deliver the service. Similarly, the type of customers who patronize a particular service business helps to define the nature of the service experience. As such, people become part of the product in many services.

#### (4) Quality Control Problems

Manufactured goods can be checked for conformance with quality standards long before they reach the customer. The same is broadly true for services where 'production' is completed in the customer's absence,

with the benefits being enjoyed later. Examples include car repair, cleaning services, etc.

But in those situations where services are consumed as they are produced, final assembly must take place under real-time conditions. Simultaneous production and consumption can result in wide variations in performance quality, with mistakes and shortcomings becoming harder to conceal.

(5) Harder for Customer to Evaluate

Most goods are relatively high in search qualities, i.e., possess attributes, which a customer can assess prior to purchase and consumption, such as color, style, shape, price, fit, feel, hardness and smell.

Other goods and some services may emphasize experience qualities in attributes, which can be discerned only during consumption such as taste, wearability, ease of handling, quietness, and personal treatment.

Finally, there are credence qualities, characteristics that customers find hard to evaluate even after purchase and consumption such as surgery, technical repairs and management advice.

(6) Absence of Inventories for Services

Because a service is a deed or performance, rather than a tangible item the customer keeps, it's perishable and cannot be inventoried.

(7) Importance of the Time Factor

Most services are delivered in real time. Customers have to be physically present to receive service from organization such as airlines, hospitals and restaurants.

## (8) Different Distribution Channels

Unlike manufacturers, which require physical distribution channels to move goods from factory to customers, many service businesses either use electronic channels or else combine the service factory, retail outlet, and point of consumption into one.

### 2.2.4 Distinctive Characteristics of Airline Services

Service marketing academics and practitioners argued that services required treatment as a result of their distinctive characteristics; intangibility, inseparability, heterogeneity and perishability. The definition of each characteristic applying with the airline service is described as follows:

- (a) Intangibility refers to the fact that a large component of many services offers is immaterial or intangible and cannot be presented in a concrete manner to consumer prior to purchase.

Because services are performances and experiences rather than objects, precise manufacturing specifications concerning uniform quality can rarely be set.

Unlike automobiles and audiocassettes, airline service cannot be measured, tested, and verified in advance of sale to assure quality. Moreover, when what is being sold is purely a performance, the criteria customers used to evaluate it may be complex and difficult to capture precisely.

- (b) Inseparability refers to the notion that, in many service operations, production and consumption cannot be separated, that is, a service is to a great extent consumed at the same time as it is produced.

Quality in services often occurs during service delivery, usually in an interaction between customer and the provider, rather than being engineered at the manufacturing plant and delivered intact to the customer.

Unlike good producers, airline service providers do not have the benefit of a factory serving as a buffer between production and consumption. Service passengers are often in the service factory, observing and evaluating the production process as they experience service.

- (c) Heterogeneity is closely linked to inseparability, as it is very difficult to apply quality standards to services to ensure an identical service output, when so much depends on the cooperation and participation of individual customers.

The performance often varies from producer to producer, from customer to customer, and from day to day. The quality of the interaction that the flight attendants have with their passengers can rarely be standardized to ensure uniformity that the way quality of goods produced in a manufacturing plant can.

- (d) Perishability refers to the fact that services cannot be stored. Unlike physical goods that can be largely stored in the warehouse of the producer, the service of flight attendant is occurred and passed by.

## 2.3 Service Marketing

### 2.3.1 The Characteristics of Service Markets (Lovelock 1996)

Most service markets exhibit the following unique characteristics:

- (1) The product exhibits a varying degree of intangibility. A good is an object, a device, a thing but a service is a deed, a performance, an effort.



- (2) The product is perishable and hence if unsold is lost forever because it cannot be stored for later consumption.
- (3) Production and consumption are often inseparable.
- (4) The provider usually retained ownership and the customer has only temporary access.

The unique characteristics of service industries cause customers to use a very different range of factors from those that influence purchase satisfaction for tangible goods. The parameters identified by Garvin, ranked in declining order of priority, are:

- (1) The tangible evidence of service (e.g. physical appearance of facilities and staff.
- (2) Reliability with which service is provided.
- (3) A genuine willingness of staff to respond to customer needs.
- (4) The knowledge exhibited by staff about all aspects of the organization's policies and service provision procedures.
- (5) The credibility of information communicated.
- (6) A genuine sense of caring for the customer.
- (7) The general level of courtesy in dealing with all types of customers and their problems.
- (8) The communication skills of staff, especially in listening and responding to the customers.

### 2.3.2 The Nature of Service Marketing (Gronroos 1990)

By nature of service, there is an interaction between production and consumption over a period of time. This interaction is called a buyer-seller interaction or service encounter and impact to the customer's perception of the service. The nature of service marketing is shown in Figure 2.2.

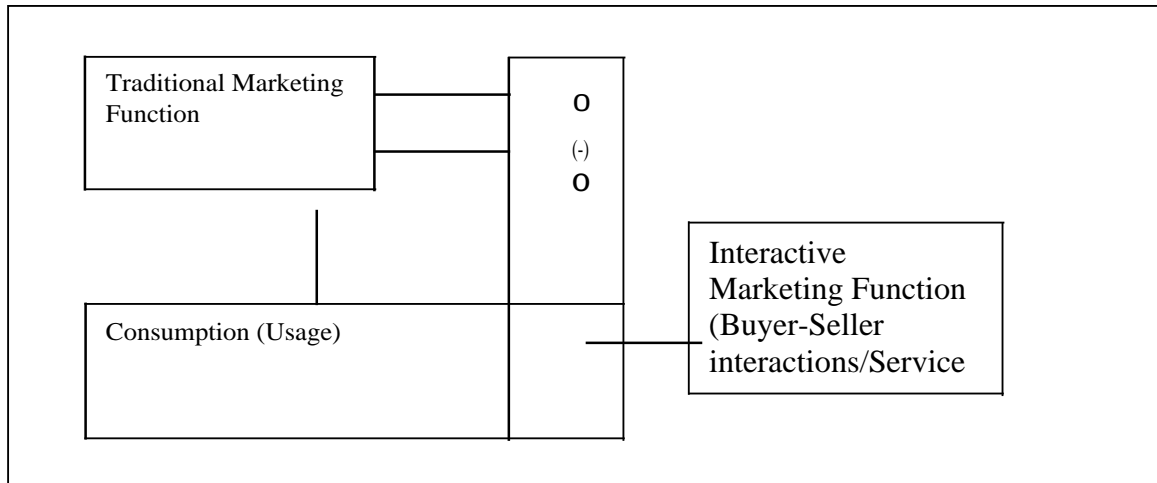


Figure 2.2. The Nature of Service Marketing.

## 2.4 Airline Marketing

### 2.4.1 Marketing the Airline Product as Services

To the average customer, a product is just a physical item with certain uses and particular appearance. In terms of the marketing mix, a product is something purchased by customers encompasses functional, psychological, and aesthetic features as well as convenience, reliability, etc.

The airline product is not a physical item at all but services that customers find useful. Safety, on-time reliability, conveniences in terms of air services, aircraft type, and even the carrier's image are part of the airline product as services that satisfy certain customer needs. This definition is consistent with the airline-marketing concept, which stresses the importance of customer needs.

#### 2.4.2 The Characteristics of the Airline Product.

In marketing the airline product, there are certain unique characteristics that must be recognized:

- (1) The product (service) cannot be kept in inventory to match fluctuations in demand. The revenue lost as a result of an unfilled seat when the aircraft departs is lost forever.
- (2) The service is usually personalized. Two people who take the same flight might come away with completely different opinions about the service, depending on their individual experiences.
- (3) There is no such thing as replacement of a bad product, as is the case in the sale of the other products.
- (4) It is difficult to check the quality of the service before the final sale. There is no showdown to visit to test the product before purchase.
- (5) Delivery of the product cannot always be guaranteed, due to mechanical problems or the unpredictability of the weather.
- (6) The service can be produced only in batches, as opposed to individual units.

### 2.5 Quality

#### 2.5.1 Definitions of Quality

Quality is summative in nature. It is not a discrete entity but rather a broad term covering the totality of all characteristics of a product or service that commands superiority and excellence.

The word "quality" has a lot of meanings and definitions to people to the context.

Definitions developed by ISO (International Organization for Standardization) are listed as below:

- (1) Quality is fitness for purpose or use.
- (2) Quality is conformance to specifications.
- (3) Quality is freedom from deficiencies.
- (4) Quality is customer satisfaction.
- (5) Quality means customer value.
- (6) Quality means credibility
- (7) Quality means pride of ownership.

According to Quality Vocabulary of ISO-8402 (1986), Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy or implied needs.

Montgomery 1996, Quality is the extent to which products meet the requirements of people who use them.

#### 2.5.2 Approaches to Defining Quality

Garvin 1988 described five approaches to define quality. They are as follows:

- (1) Transcendent: The idea of this approach is that quality cannot be defined, and is recognized only when it is seen.

The transcendent view of quality is synonymous with innate excellence, a mark of uncompromising standards and high achievement. The transcendent approach is equal to the quality with fine craftsmanship and a rejection of mass production, we can learn and recognize the quality through the experience.

- (2) Product-based: Quality is based on the presence or absence of a particular attribute.

This approach view quality as a precise and measurable variable. Difference in quality reflects differences in the amount of some ingredients

or attributes of the product. This approach is totally objective and based on more than preferences alone.

- (3) **Manufacturing-based:** This refers to the quality in manufacturing that conforms a product or service to a predetermined set of requirements.

This approach focuses on supply side and is primarily concerned with engineering and manufacturing practices. It focuses on conformity to the requirements or developed specifications and drive to cost reduction.

- (4) **User-based:** Quality is determined solely by the product's ability to satisfy the customer's requirements, expectations, or wants. In other words, it is fitness for use.

Its definition start with the premise that quality lies in the eyes of the beholder. It is highly subjective; providing the maximum satisfaction to the specified customers, capture the quality the difference by shifting demand curve, and making products fit for use.

- (5) **Value-based:** Products or services with certain characteristics have to be offered at an acceptable price for quality to be defined.

Valued-based definitions define quality in terms of value and price.

This approach is difficult to apply practically because it is blended between excellences and worth. The hybrid as a result is affordable excellence only.

Many researchers described that the nature of service should have a distinctive approach to define and measure perceived quality. It is more difficult for customers to evaluate the quality of services than the quality of products. This is true because of certain distinctive characteristics of services such as their intangibility, variability, the fact that services are simultaneously produced and consumed, and their perishability.

The quality of service will be the result of an evaluation process by which the customers compare their perceptions and its outcome against what they expected.

### 2.5.3 Strategic Definition of Quality

As we moved into a new consumer-oriented economy, a new definition of quality that can be applied to describe the management approach for achieving the organizational objectives was required. Tenner and Detoro 1992 suggested a strategic definition of quality as:

A basic business strategy that provides goods and services that completely satisfy both internal and external customers by meeting their explicit and implicit expectations.

### 2.5.4 Quality Dimension (Gronroos 1990)

Service is concerned with both of the tangible and the intangible components because it is experiences where the production and consumption activities occur simultaneously. The interaction between the customers and the service providers is called "buyer-seller interactions" and this impacts on the perceived service.

According to Gronroos, there are 2 dimensions of quality service, which are perceived by the customers.

- (a) Technical dimension: Technical dimension refers to the quantifiable aspects of service. What the customers have received in the interaction affects the quality evaluation.
- (b) Functional dimension: Functional dimension refers to how the technical dimension is delivered to the customers, or how they experience the service.

Corporate and/or local image is very important to most services because it can impact the customer's quality perception. As far as the quality perception is concerned,



the image can be viewed as a filter. Two service quality dimensions are shown in Figure 2.3.

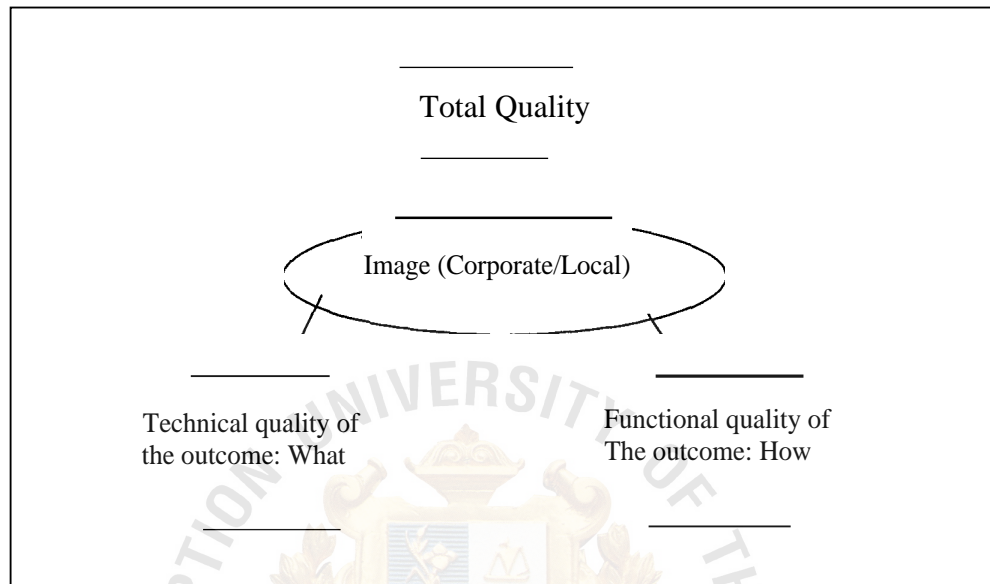


Figure 2.3. Two-Service Quality Dimensions.

## 2.6 Service Quality

### 2.6.1 Ten Generic Dimensions of Service Quality (Zeithaml, Berry, Parasuraman 1990)

Zeithaml, Berry and Parasuraman 1990 concluded that service quality is defined by the customers. Service quality is defined as the discrepancy between customer's expectation and perceptions. They conducted the most extensive research into perceptions of service quality through focus group research. Ten generic dimensions used by customer in evaluating service quality are as follows:

- (a) Tangibles: Appearance of physical facilities, equipment, personnel, and communication materials.

- (b) Reliability: Ability to perform the promised service dependably and accurately.
- (c) Responsiveness: Willingness to help customers and provide prompt service.
- (d) Competence: Possession of the required skills and knowledge to perform the service.
- (e) Courtesy: Politeness, respect, consideration, and friendliness of contact personnel.
- (f) Credibility: Trustworthiness, believability, honesty of the service provider.
- (g) Security: Freedom from danger, risk, or doubt.
- (h) Access: Approachability and ease of contact.
- (i) Communication: Keeping customer informed in language they can understand and listening to them.
- (i) Understanding Making the effort to get to know customers and their needs.

2.6.2 SERVQUAL: An Instrument for Measuring Service Quality (Zeithaml, Berry, Parasuraman 1990)

SERVQUAL was developed as an instrument to measure the customer's perception of service quality. This research involved the customer surveys in five different services sectors: product repair and maintenance and retail banking, long-distance telephone, securities brokerage, and credit cards.

The statistical analysis was conducted several times to construct SERVQUAL, it revealed a high degree of correlation between these variables and they consolidated the original ten dimensions of perceived service quality into five broad dimensions:

- (1) Tangibles (appearance of physical elements)
- (2) Reliability (dependable, accurate performance)

- (3) Responsiveness (Promptness and helpfulness)
- (4) Assurance (Competence, courtesy, credibility and security)
- (5) Empathy (easy access, good communications and customer understandings)

The correspondence between SERVQUAL dimensions and original dimension for evaluating service quality is shown in Figure 2.4.



	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Tangible					
Reliability					
Responsiveness					
Competence Courtesy Credibility Security Access					
Communication Understanding the Customer					

Figure 2.4. Correspondence between SERVQUAL Dimensions and Original Ten Dimension for Evaluating Service Quality.

### 2.6.3 Perceived Service Quality

The quality experiences are connected to the perceived quality. The good perceived quality is obtained when the customer's expectation meets the expected quality. On the other hand, the poorly perceived quality is obtained when the customer's expectation is not met. The expected quality is functioned by a number of factors.

- (1) Market communication e.g. advertising, public relation, direct mail, sales campaign
- (2) Image e.g. corporate/image
- (3) Word-of-mouth

#### (4) Customer needs

Total perceived quality is a result of comparison between the expectation and the experiences of the customer. The total perceived quality is shown in Figure 2.5.

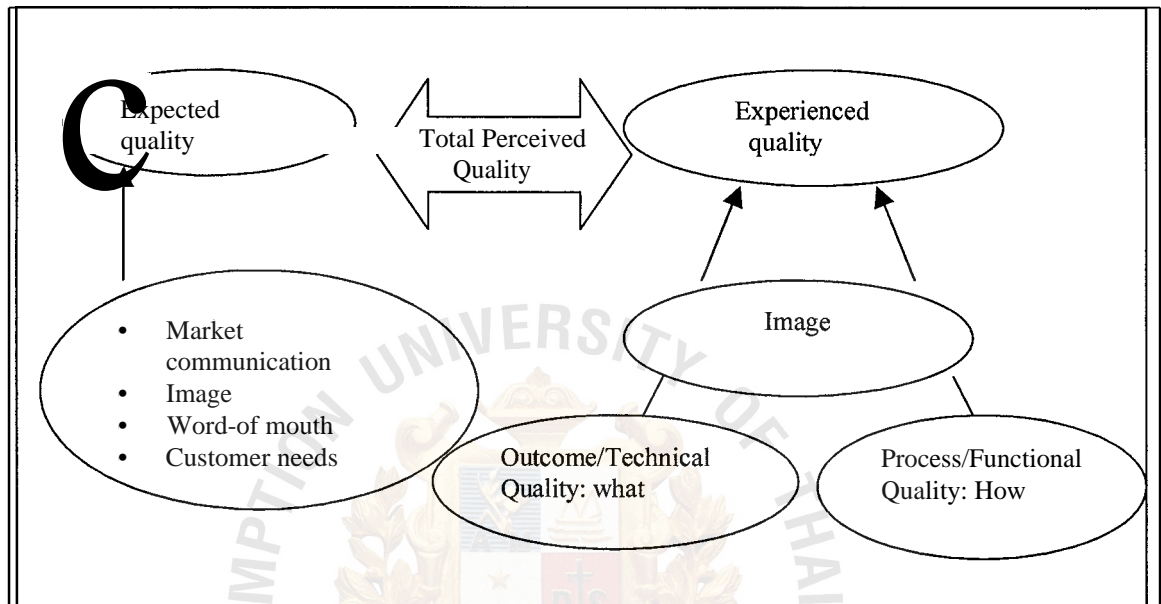


Figure 2.5. Total Perceived Quality.

If the customer's experience exceed the expectations, the perceived quality is positive. If the customer's experience does not exceed the expectations, the perceived quality will be low or negative.

#### 2.6.4 Conceptual Model of Service Quality (Zeithaml, Berry, Parasuraman 1990)

The exploratory qualitative research with senior executives was conducted and these findings were instrumental for developing the service quality gap model. There are 4 gaps revealed as key shortfalls and could make poor quality of service as

perceived by the customers. The conceptual model of service quality is shown in Figure 2.6.

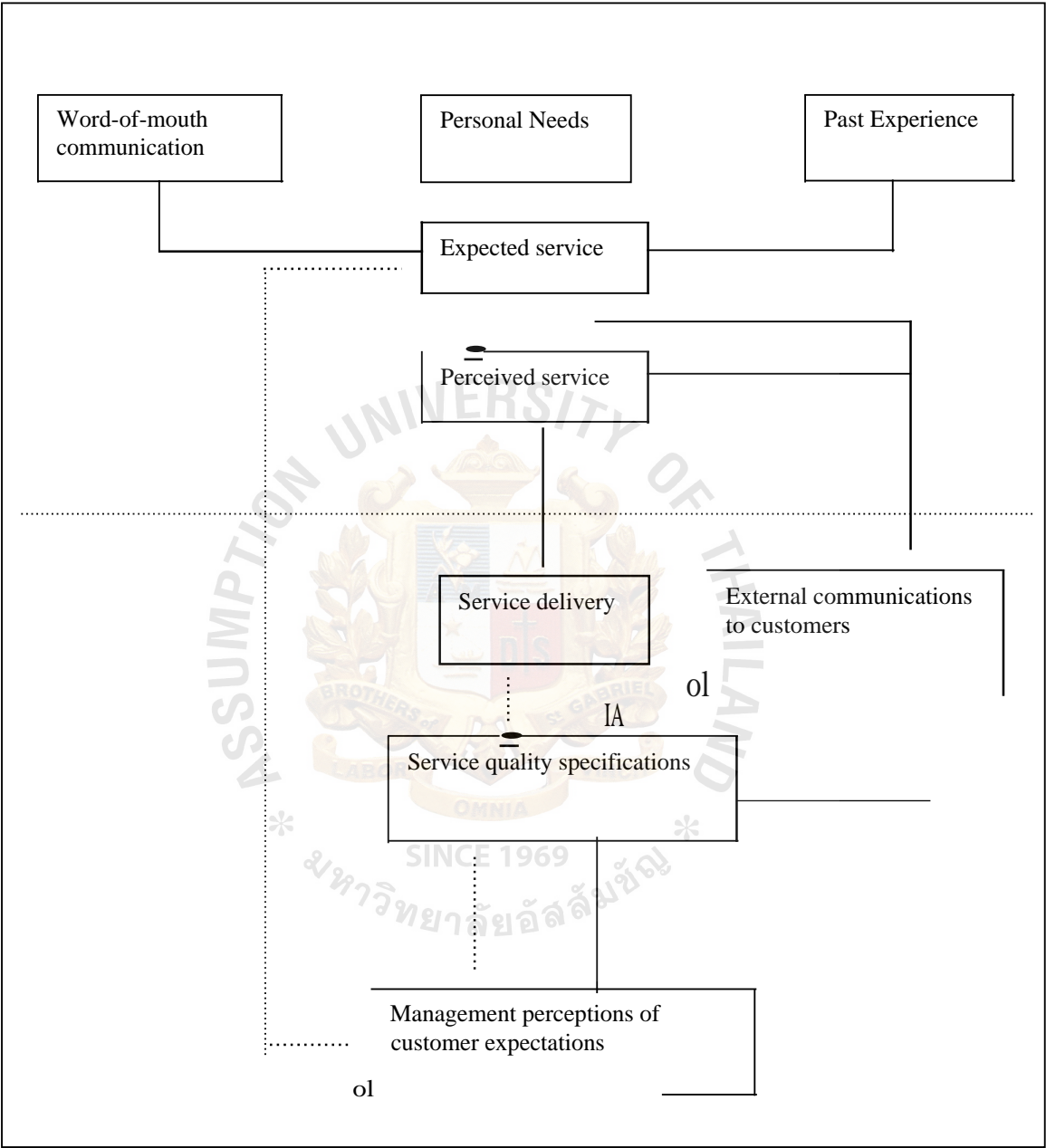


Figure 2.6. Conceptual Model of Service Quality.



### 2.6.5 Identifying Service Quality Gaps

Christopher 1992 indicated that there is a gap between service performance and expectations, that is, performance does not match expectations. There is a need for management to fully understand what main influences are both on expectations and on perceptions of performance.

Zeithaml, Berry and Parasuraman 1990 identify four potential shortfalls that may lead to a gap between what customers expect and what they receive as follows:

Gap1 : Not knowing what customers expect

Gap2 : Specifying service standards that do not accurately reflect what management believes to be customers' expectations.

Gap 3 : Service performance that does not match specifications

Gap 4: Not living up to the levels of service performance that are promoted and promised by marketing communications.

### 2.6.6 Correcting Service Quality Gaps

Zeithaml, Berry and Parasuraman 1990 proposed a series of generic steps for closing the mentioned 4 gaps as listed below:

Gap 1: Learn what customers expect

- (1) Get a better understanding of customer expectations through research.
- (2) Increase direct interaction between managers and customers to improve understanding.
- (3) Improve upward communication from contact personnel to management
- (4) Turn information and insights into action.

Gap 2: Establish the right service quality standards

- (1) Ensure that management displays consistent to quality as defined from the customer's point of view.

- (2) Set, communicate and reinforce customer-oriented service standards.
- (3) Become receptive to new ways of doing business that overcomes barriers to delivering service.
- (4) Establishing clear service quality goals that are challenging, realistic and explicitly designed to meet customer expectations.
- (5) Ensure that employees understand and accept goals and priorities.
- (6) Measure performance and provide regular feedback.

Gap 3: Ensure that service performance meets standards

- (1) Understand how to contribute to customer satisfaction
- (2) Enhance performance by selecting the most appropriate and reliable technology and equipment.
- (3) Measure employee performance and recognition to delivery of quality service.
- (4) Build teamwork so that employees work well together.
- (5) Treat customers as partial employees, clarify their roles in service delivery, train and motivate them to perform well in their roles as co-producers.

Gap 4: Ensure that delivery matches promises

- (1) Allow service providers to preview the advertisements before customers are exposed to them.
- (2) Ensure that consistent standards of service are delivered across multiple locations.
- (3) Ensure that advertising content accurately reflects those service characteristics that are most important to customers in their encounters with the organization.

- (4) Manage customers' expectations by letting them know what is and is not possible and the reasons why.
- (5) Identify and explain uncontrollable reasons of shortcomings in service performance.
- (6) Offer customers different levels of service at different prices, explaining the differences between these levels.

#### 2.6.7 Characteristics of Service Leaders

Service leaders may appear in all shapes and sizes (Zeithaml, Berry, Panasuraman 1990). They proposed the common characteristics as follows:

- (1) Service Vision

Service leaders have the ability to see that service quality is a success key that it is integral to the organization's future. They realize that quality of service is the foundation for competition.

- (2) High Standards

True service leaders recognize the importance of high standards and the opportunities that can be found in small actions. It can enable the customers to differentiate their organization from other organizations.

- (3) In-the-field leadership style

A Hands-on approach by service leaders is necessary to build a climate of teamwork within the organization. Service leaders must be visible to their people in order to lead effectively.

- (4) Personal leadership and integrity

These are the essential characteristics of service leaders because they enable them to earn the trust of associates and thus make their leadership

more effective. Without them, it would be impossible to build a service-minded attitude in an organization.

## **2.7 Service Satisfaction** (Chaston 1993)

### **2.7.1 A Source of Dissatisfaction**

A fascinating aspect of the service sector is that it represents the greatest source of customer dissatisfaction.

One of the fundamental reasons for this high level of dissatisfaction is that some marketers have yet to acquire an adequate understanding of how to fulfil customer needs through effective management process.

### **2.7.2 Beyond Customer Care**

Some management gurus proposed that the only necessity for delivering satisfaction in the service sector is to be nice to the customer.

The reality of delivering customer satisfaction in the service sector is that it cannot be achieved merely by focusing on a single variable such as range of product choice or employee interpersonal skills.

Satisfaction occurs when the customers expectations are equal to the perceptions formed during all the processes associated with selection, purchase and consumption of the desired service. The interaction of customer and organization in the service provision process is shown in Figure 2.7 as follows:

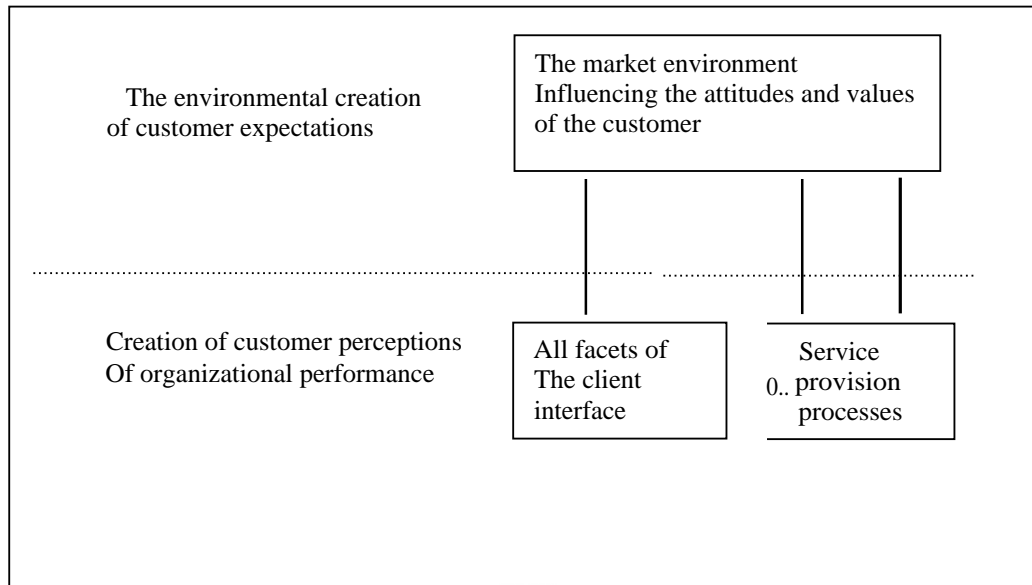


Figure 2.7. The Interaction of Customer and Organization in the Service Provision Process.

The parameters that influence customer perceptions are the client interface and the service provision process. The client interface components comprise all the facets of the organization with which the customer comes into contact. The service provision process may be an event, which the customer can directly observe or may occur at a location removed from the customer. The customers will use factors such as time and accuracy of response to form a perception about the efficiency of the provision process.

To ensure all aspects of organizational behavior that can influence customer perceptions are effectively managed, it is necessary that the marketer should develop the map of all activities relating with the service selection, provision and consumption process. The research should be conducted involving various ways to collect data. These data then provide basis for specifying policies and procedures for ensuring that the organization delivers customer satisfaction.

## **2.8 Customer Satisfaction** (Lovelock, Patterson, Walker 1998)

### **2.8.1 Definition**

Customer satisfaction is a consumer's post-purchase evaluation of the overall service experience (process and outcome). It is an affective (emotion) state or feeling reaction in which the consumer's needs, desires and expectations during the course of the service experience have been met or exceeded.

### **2.8.2 Benefits of Customer Satisfaction and Service Quality**

- (1) Insulates customers from competition
- (2) Create sustainable advantage
- (3) Reduce failure costs
- (4) Encourage repeat patronage and loyalty
- (5) Enhance and promote positive word of mouth
- (6) Lower costs of attracting new customers

### **2.8.3 Model of Customer Satisfaction Processes** (Patterson 1998)

The dominant model in satisfaction research is the disconfirmation of expectations paradigm. This model shows that satisfaction is related to the variation between a customer's pre-purchase expectations and perceptions of service performance. Any difference between expectations and perceived is called disconfirmation.

If the service performance is much better than expectations, then high satisfaction will most likely result. When a service experience is much as expected, the customer is satisfied. However, when performance does not live up to expectations, dissatisfaction results. This theory indicates that expectations are crucial as a comparison standard in the formation of satisfaction judgments. The disconfirmation of expectations model was shown as follows:



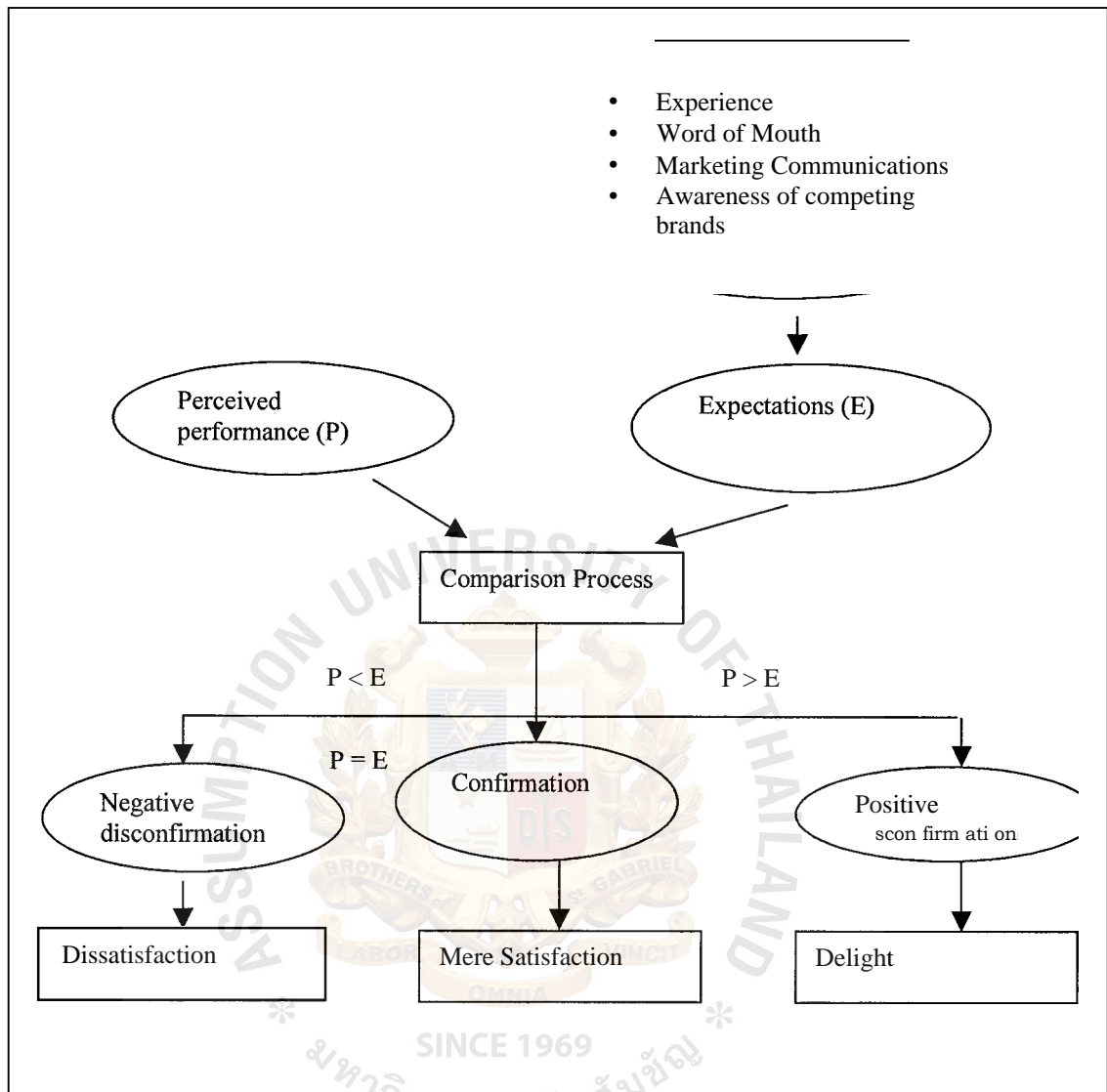


Figure 2.8. The Disconfirmation of Expectations Model.

## 2.8.4 Model of Customer Satisfaction Questionnaire: Development and Use

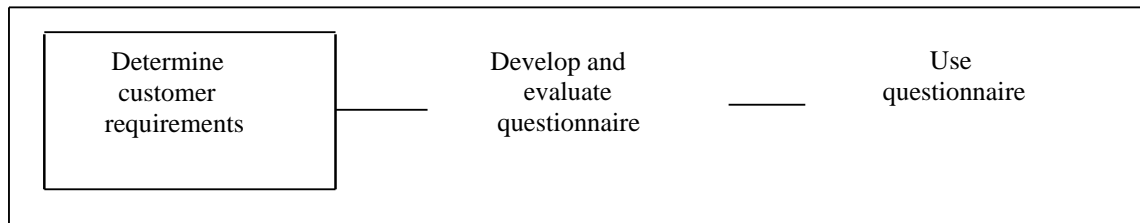


Figure 2.9. A General Model for the Development and Use of Customer Satisfaction Questionnaires.

This model illustrates the process in general. Each phase of the process contains specific steps, each focusing on an important element in the understanding of customers' opinions. The details of each step are as follows:

### Step 1: Determine Customer Requirements

The purpose of determining customer requirements is to establish a comprehensive list of all important quality dimensions that describe the service or product. It is important to understand the quality dimensions so that we will know how customers define the quality of the service or product.

Two methods designed to identify important quality dimensions of products or services are as follows:

#### (1) Quality Dimension Development Approach

These lists of dimensions can be generated in various ways, using different sources of information such as scientific, professional and trade journals.

## (2) Critical Incident Approach

This approach focuses on obtaining information from customers about the services and products they receive.

### Step 2: Development and Evaluate Questionnaire

Customer satisfaction questionnaires are constructed in four phases as follows:

#### (1) Determining questions or items to be used in the questionnaire

When developing questionnaires to assess customer satisfaction with a given service and product, the research must ensure that the questions are concise, unambiguous, specific and enhancing the information.

#### (2) Selecting the response format

A response format determines how customers can respond to the items on the questionnaire. The choice of a response format is an extremely important step in the development process since the response format determines how the data from the questionnaire can be used.

There are several possible response formats or scaling methods for questionnaires. Including Thurstone's method of equal-appearing intervals, Guttman's scalogram approach, the Likert scaling method and the checklist format.

The Likert-type format is designed to allow customers to respond in varying degrees to each item that describes the service or product. The Likert format is shown as follows:

Totally satisfied	=	1
Mostly satisfied	=	2
Somewhat satisfied	=	3
Mostly dissatisfied	=	4

Totally dissatisfied = 5

The Checklist format should be used only when the satisfaction items are being used as the items in the questionnaire. For each of the items in the questionnaire, the customers will be allowed to respond either "yes" or "no". Customers are asked to respond "yes" if the satisfaction item reflects the service or product they received and "no" if the item does not reflect the service or product they received.

(3) Writing the introduction to the questionnaire

The introduction should be brief It should explain the purpose of the questionnaire and provide the instructions for completing the questionnaire.

(4) Determining the content of the final questionnaire

There are two methods of item selection that can be included in the customer satisfaction questionnaire.

(a) Judgement item selection: The most critical element of this process is examining the similarity of items within a given quality dimension or customer requirement.

(b) Mathematical item selection: Another method of selecting items is to administer all items generated from the critical incidents approach to some actual customers. After the customers complete the questionnaire, conduct item analysis on the data.

Item analysis is a catch-all phrase that includes such processes as correlational analysis and factor analysis.

### **III. RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Part of the process of problem definition includes specifying the objectives of the research project. (Churchill, JR.1996). This project is a descriptive research determined by qualitative data to serve the main purpose of evaluating the passenger's satisfaction towards the current' airline services of Thai Airways International Public Co., Ltd., and to enhance the passenger's opportunity for improving or making better services for the benefit of the airlines. Service requirements of the underwriting services in question will be reflected by ten dimensions of service quality and SERVQUAL to determine the passenger's satisfaction level. The steps of this study are as follows:

- (1) Issuance of 200 sets of questionnaire in English and distributing them to 200 passengers who are on board and involved in the regional route service of Thai Airways International Public Co., Ltd.
- (2) Collecting the questionnaire from the respondents.
- (3) Assigning code into the questionnaire
- (4) Summarizing data in order to input them into the computer.
- (5) Input data to the SPSS program and analyze them.
- (6) Concluding, evaluating the result and presenting them in both tabular and graphical format.
- (7) Recommending the passenger's attitude and find the ways of improvement.

#### **3.2 Research Design**

This research uses the questionnaire to collect the data that has 4 parts, which include 19 questions. The questions are as follows:

Part 1: There are 5 questions developed in closed-ended and multiple choices as the question type. All questions are related with the passenger's primary background for choosing to fly with Thai Airways.

Part 2: There is only 1 question developed in Likert-scale format concerning with how each service plays the important role for the passengers. Likert-scale is used for attitude measurement to understand the passenger satisfaction level. The degree of satisfaction with each statement will be obtained and state the attitudes and perception of the respondents in that topic. Ordinal scale of measurement is used for comparing the service requirements of the passengers in respect of the airline's service.

Part 3: There is one open-ended question and there are 6 Likert-scale questions to rate the passenger's satisfaction level for each service requirements. There are in total 31 items in Likert-scale format, which were designed to represent 5 SERVQUAL dimensions, namely, tangible, reliability, responsiveness, assurance and empathy. The dimensions and the questions are:

- (a) Tangible (Item 7a-7i, 8a-8e, 9a-9d, 10a-10m, 11n)
- (b) Reliability (Item 11a-11g)
- (c) Responsiveness (Item 11i)
- (d) Assurance (Item 11i-11k, 11m)
- (e) Empathy (Item 11h)

All items in brackets are those listed in the questionnaires (Appendix A)

Part 4: There are 6 questions consisting of the respondent's information. It includes gender, age, marital status, education, occupation and the level of income.



### 3.3 Data Collection

#### 3.3.1 Primary Data Analysis

The data is specifically collected through questionnaires. 200 sets of questionnaires are distributed to the respondents. Then the researcher waits for helping the respondents in case they did not understand the questionnaire items. Subsequently, the researcher checks the mistakes or incomplete data. If there is something wrong, the questionnaire is returned to the respondents and have them filled properly.

#### 3.3.2 Secondary Data Analysis

The data is collected from theoretical study (literature review), journals, travel magazine, articles, books or research reports Internet and personal experience.

### 3.4 Sample Population

#### 3.4.1 Sample Size

Referring to Tables 2.1 — 2.9 in the literature review part, we calculate the total maximum number of passengers in the regional route according to the type of aircraft, the maximum capacity and number of flights operated per week, shown hereunder:

Table 3.1. Total Maximum Number of Passengers per Week.

Route Services	No. of flights / week	Aircraft Capacity	Total Passengers
Bangkok — Manila	6	261	1,566
Bangkok — Manila	14	358	5,012
Manila—Osaka	14	358	5,012
Bangkok — Tokyo	14	388	5,432
Bangkok — Tokyo	12	358	4,296
Bangkok — Nagoya	8	305	2,440

Table 3.1. Total Maximum Number of Passengers per Week. (Continued)

Route Services	No. of flights / week	Aircraft Capacity	Total Passengers
Bangkok—Fukuoka	10	260	2,600
Bangkok — Osaka	14	260	3,640
Bangkok-Hong Kong	28	389	10,892
Bangkok-Hong Kong	28	405	11,340
Bangkok-Hong Kong	14	358	5,012
Bangkok-Hong Kong	14	358	5,012
Hong Kong-Taipei	14	388	5,432
Hong Kong-Seoul	14	358	5,012
Hong Kong-Taipei	14	358	5,012
Bangkok—Taipei	18	317	5,706
Bangkok-Taipei	14	388	5,432
Taipei-Seoul	14	388	5,432
Bangkok-Taipei	14	388	5,432
Taipei-Seoul	4	317	1,268
Bangkok—Kaohsiung	14	305	4,270
Bangkok-Busan	4	247	988
Bangkok-Seoul	4	317	1,268
Bangkok-Seoul	14	388	5,432
Bangkok-Kunming	10	247	2,470
Chiang Mai-Kunming	4	247	988
Bangkok-Guangzhou	14	261	3,654
Bangkok-Chendu	6	247	1,482

Table 3.1. Total Maximum Number of Passengers per Week. (Continued)

Bangkok-Shanghai	28	317	8,870
Bangkok-Beijing	14	317	4,438
Bangkok-Denpasar	14	305	4,270
Bangkok-Denpasar	10	247	2,470
Bangkok-Jakarta	10	260	2,600
Bangkok-Singapore	14	261	3,654
Singapore-Jakarta	14	261	3,654
Bangkok-Singapore	14	260	3,640
Bangkok-Singapore	42	358	15,036
Hadyai-Singapore	14	247	3,458
Phuket-Singapore	14	247	3,458
Bangkok-Brunei	14	149	2,086
Bangkok-Kualalumpu	14	305	4,270
Bangkok-Kualalumpu	28	260	7,280
Bangkok-Penang	14	260	3,640
Bangkok-Yangon	28	247	6,916
Bangkok-Dhaka	14	317	4,438
Bangkok-Kolkata	6	317	1,902
Bangkok-Delhi	14	305	4,270
Bangkok-Mumbai	6	305	1,830
Bangkok-Katmandu	14	260	3,640
Bangkok-Columbo	6	260	1,560
Hadyai-Singapore	14	247	3,458

Table 3.1. Total Maximum Number of Passengers per Week. (Continued)

Bangkok-Karachi	8	305	2,440
Karachi-Muscat	6	305	1,830
Bangkok-Lahore	8	261	2,088
Bangkok-Dubai	14	317	4,438
Dubai-Kuwait	6	317	1,902
Bangkok-Vientiane	14	247	3,458
Bangkok-HoChiMinh	14	149	2,086
Bangkok-Hochiminh	14	247	3,458
Bangkok-Hanoi	14	247	3,458
Bangkok-Da Nang	6	149	894
Bangkok-Phnompenh	8	247	1,976
Bangkok-Phnompenh	20	149	2,980
Total Maximum Number of Passengers per week			312,228

he total maximum numbers of 312,228 passengers are calculated based on the maximum capacity of the aircraft. We assume that all route and aircraft were fully flight.

However, not all flights are fully flight. Some flights left with about 10 or 20 seats but some flights left with more than 50 seats. Unfortunately, the researcher has no accurate data and knowledge about the exact number of passengers who are on board since there is no reference or textbooks concerning about it. Moreover, the company is reluctant to provide the internal data for their benefits.

At the time of proceeding this research, the world situation was stable and calm, as there was no sign and act of terrorism and war. Furthermore, many countries in Asia were during the school semester-off period. Thai Airways International Public Co., Ltd. and Tourism Authority of Thailand (TAT), in addition, also jointly cooperated to promote a tourism campaign in Thailand for such a period.

Based on the above factors and the researcher's experience, we estimate that 75% of the total maximum number of passengers is applied and acceptable. Therefore, the estimated number of passengers is:

$$0.75 * 312,228 = 234,171$$

The statistical formula to be used to determine the sample size of definite population is shown in the following equation.

where;

$$n = N / 1 + Ne^2$$

n = Sample size

N = Number of population

E = Sampling error

In this case, the sample size depends sharply on the sampling error. Ideally, the researcher prefers a small error but it brings about a large sample size, high costs and time consumption.

Practically, the researcher assumes 7% sampling error. Therefore, sample size needed to be drawn to pursuit the research objectives is equal to:

$$n = N / 1 + Ne^2$$

where

n = Sample size

N = 234,171

E = 7%

$$234,171 / 1 + 234,171 (0.0049)$$

$$234,171 / 1 + 1,147.4379$$

$$234,171 / 1,148.4379$$

$$203.90$$

Thus, the sample size = 200 respondents

### 3.4.2 Sampling Procedure

The researcher can employ the probability sampling method once the target population can be specified. Each respondent, or sample, will be drawn randomly with no limitation.

### 3.5 Data Analysis and Interpretation

After completion of data collection, the data will be interpreted or Statistical Package for Social Sciences (SPSS). The form of data presentation from these procedures is presented in easily interpretable formats. All the statistical procedures will be carried out on computer software package to ensure accuracy and to minimize cost.

Two statistical procedures will be used in this research, which are descriptive statistics and Bivariate Correlation Test. The researcher will use SPSS for statistical analysis. The statistical tools will be used to answer the following research questions based on the statement of problem of this research.

- (1) Descriptive analysis will be performed to derive the frequency tables, and percentages in order to observe the distribution of variables within the populations based on the frequency of occurrence, and percentage of occurrence exhibited by the population regarding the various factors affecting the purchase decision.
- (2) Analysis of Variance (ANOVA F-test). It is the analysis of the effects of one treatment variable on an interval-scale or ratio scaled dependent variable; a



technique to determine if statistically significant differences of means occur between two or more groups. (Zikmund 2000). The ANOVA is the ratio as shown below

Table 3.2. ANOVA Summary Table.

$$F = \frac{\text{Ms between}}{\text{MS within}}$$

Source of variation	of squares	Degree of freedom	Mean Square	F-ratio
Between groups	SSb	c-1	MSb	-
Within groups	SSw	n-c	MSw	F = MS between / MS within
Total	SS <sub>t</sub>	n-1	-	-

Where:

c = number of groups

n = number of observations in group

The level of statistic significant in this research is at  $\alpha = 0.05$  with 95% confidence in order to test the hypothesis.

Based on this study, the mean score were weighted as follows:

Rating Scale	Interpretation
5.00 — 4.20	Totally important / Totally satisfaction
4.19 — 3.40	Mostly important / Mostly satisfaction

3.39 — 2.60	Somewhat important / Somewhat satisfaction
2.59 — 1.80	Mostly unimportant / Mostly dissatisfaction
1.79 — 1.00	Totally unimportant / Totally dissatisfaction

### **3.6 Research Hypothesis**

#### **Hypothesis 1**

- H1o: There is no significant difference in Business class of passenger's satisfaction for tangible factor with different types of airplanes.
- H1a: There is a significant difference in Business class of passenger's satisfaction for tangible factor with different types of airplanes.

#### **Hypothesis 2**

- H2o: There is no significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes.
- H2a: There is a significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes.

#### **Hypothesis 3**

- H3o: There is no significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes.
- H3a: There is a significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes.

#### **Hypothesis 4**

- H4o: There is no significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes.
- H4a: There is a significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes.

### **Hypothesis 5**

H5o: There is no significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

H5a: There is a significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

### **Hypothesis 6**

H6o: There is no significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes.

H6a: There is a significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes.

### **Hypothesis 7**

H7o: There is no significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes.

H7a: There is a significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes.

### **Hypothesis 8**

H8o: There is no significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

H8a: There is a significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

### **Hypothesis 9**

H9o: There is no significant difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes.

H9a: There is a significant difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes.

### **Hypothesis 10**

**H10o:** There is no significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes.

**H10a:** There is a significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes.

### **3.7 Research Report Preparation**

Research report summarizes the project research results and conclusion.



## **IV. ANALYSIS AND DISCUSSION OF RESULTS**

The project has surveyed the passenger's satisfaction toward the airline services of Thai Airways. This chapter presents the results of analysis based on 200 samples of collected questionnaires. The data analysis part can be divided into five sections. The first section includes the presentation of total respondents' demographic characteristic, which is classified by age, gender, marital status, education, occupation, income, and nationality. The second section presents the general information of customer behavior. The third section presents passenger's service requirements. The forward section presents passenger's satisfaction toward overall in-flight services. And the last section presents hypothesis testing.

Each hypothesis was evaluated by using SPSS (Statistical Package for Social Science) version 10 statistical analysis software. A significant level of 0.05 has been used as the criterion for significant in all analysis

### **4.1 Respondents Characteristics**

To identify the characteristic of respondents participating in this study, the descriptive analysis is applied to analyze the data. The characteristic of respondents included age, gender, marital status, education, occupation are demonstrated in Tables 4.1 to 4.7.

Descriptive analysis refers to the transformation of the raw data into a form that will make them easy to understand and interpret. Describing responses or observation is typically the first form of analysis. The calculation of averages, frequency distributions, and percentage distributions is the most common form of summarizing data. Descriptive Statistics describe data in terms of measures of central tendency that data found in the

samples. The Primary purpose of descriptive statistics is to describe and characterize the sample under study (Davis 1996).

Table 4.1. Gender.

		Count	Column %
Gender	Male	122	61.0
	,Female	78	39.0

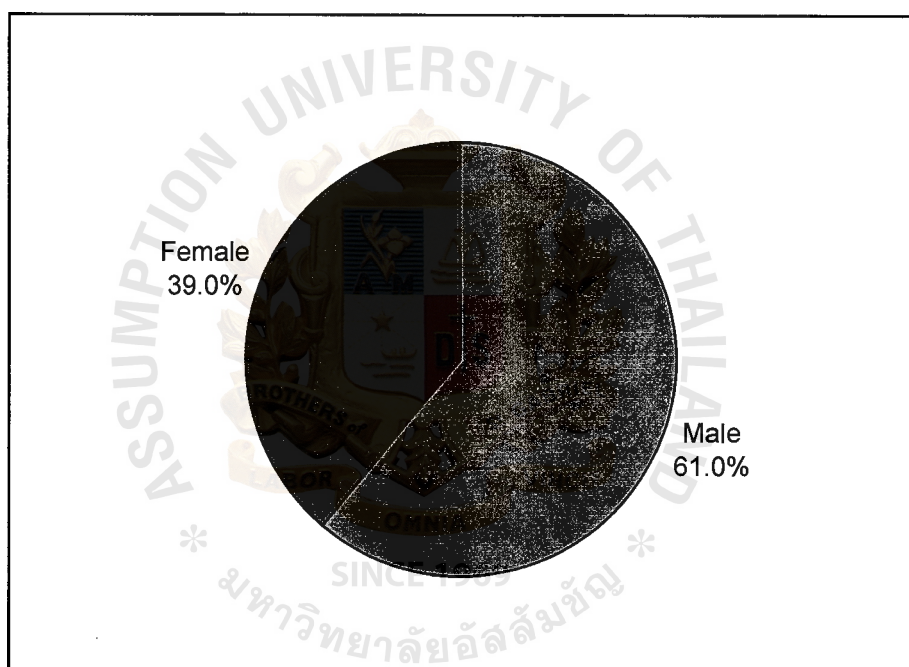


Figure 4.1. Gender of the Respondents.

Table 4.1 shows the frequency distribution of gender of the 200 respondents. The respondents include 122 or 61.0 percent male and 78 or 39.0 percent female respondents.

From the result, it indicates that the majority of respondents in this research are male. Figure 4.1 shows the gender of 200 respondents in pie chart.

Table 4.2. Age.

		Count	Column %
Age	Under 20	9	4.5
	20 - 29	50	25.0
	30 - 39	63	31.5
	40 - 49	59	29.5
	50 years and more	19	9.5

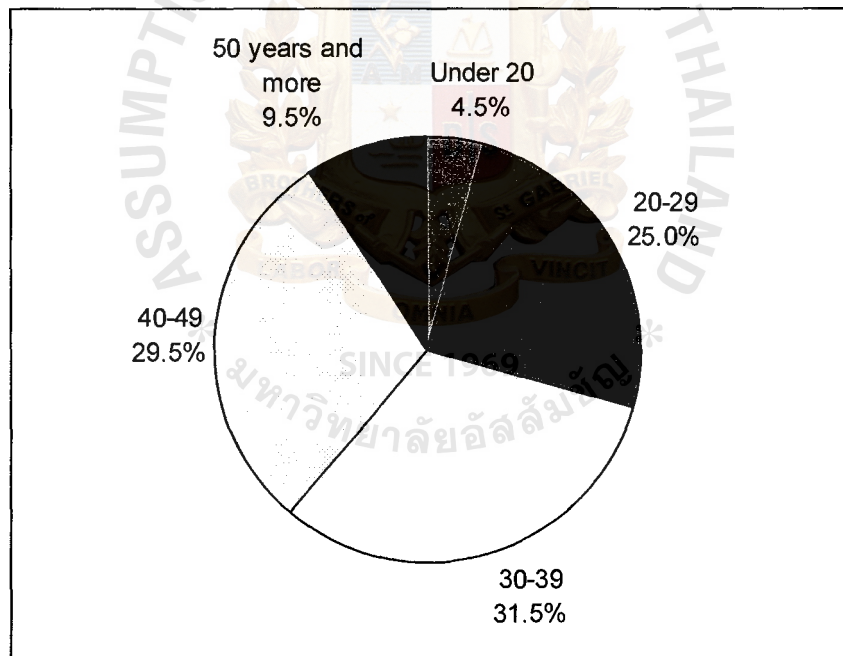


Figure 4.2. Age of the Respondents.

Table 4.2 shows the frequency distribution of 200 respondents. It explains that 63 or 31.5 percent represent age group of 30 - 39 years, 59 or 29.5 percent respondents



represent age group of 40-49 years, 50 or 25.0 percent respondents represent age group of 20 - 29 years, 19 or 9.5 percent represent age group of 50 years or more, and 9 or 4.5 percent respondents represent age group of under 20 years old.

From the result, the analysis suggests that largest group of respondents in this research represent age group of 30 - 39 years. Figure 4.2 shows the classification of respondents by their age groups.

Table 4.3. Marital Status.

	Count	Column %
Marital Status Single	82	41.0
Married	101	50.5
Widowed/Divorced	17	8.5

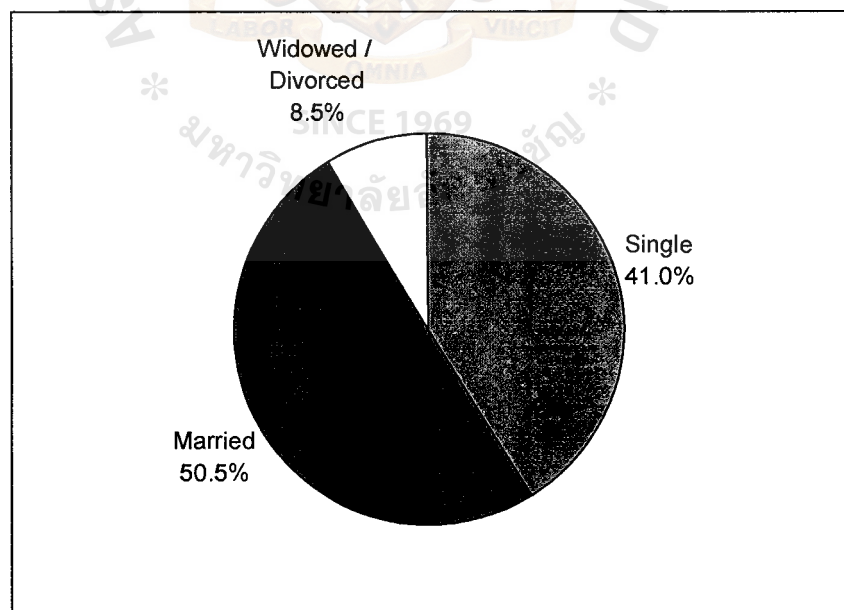


Figure 4.3. Marital Status of the Respondents.

Table 4.3 shows the frequency distribution of marital status of 200 respondents that presents 101 respondents or 50.5 percent married, 82 respondents or 41.0 percent with, and 17 respondents or 8.5 percent widowed or divorced respectively.

From the results, it indicates that the majority of all respondents in this research are married. Figure 4.3 highlights the marital status of respondents in pie chart.

Table 4.4. Highest/Present Level of Education.

		Count	Column %
Present level of education	Elementary school	2	1.0
	Secondary school	14	7.0
	Junior College	27	13.5
	Bachelor degree	113	56.5
	Master degree and above	42	21.0
	No formal education	2	1.0

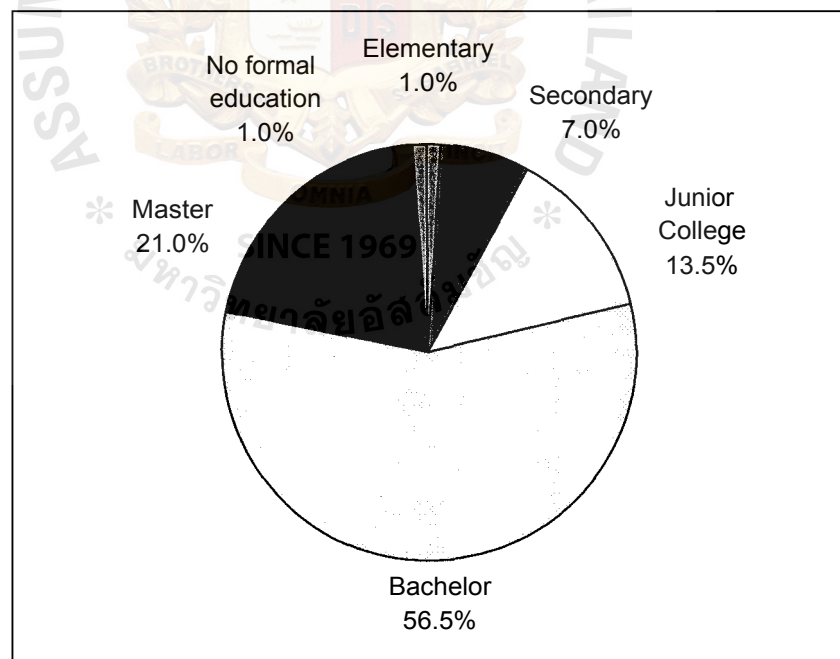


Figure 4.4. Education Level of the Respondents.

Table 4.4 shows the frequency distribution of education level of 200 respondents. It highlights that 113 or 56.5 percent with bachelor degree, 42 or 21.0 percent with Master degree or above, 27 or 13.5 Percent with junior college, 14 or 7.0 percent with secondary school and 2 or 1.0 percent with elementary school and no formal education 2 or 1.0 of respondents.

From the result, the analysis reveals that the majority of respondent education level in this research are bachelor degree. Figure 4.4 shows the education level of 200 respondents in pie chart.

Table 4.5. Occupation.

		Count	Column %
Occupation	Government or State enterprise	40	20.0
	Private Company's Employee	71	35.5
	Own business / entrepreneur	36	18.0
	Student	27	13.5
	Unemployed	26	13.0

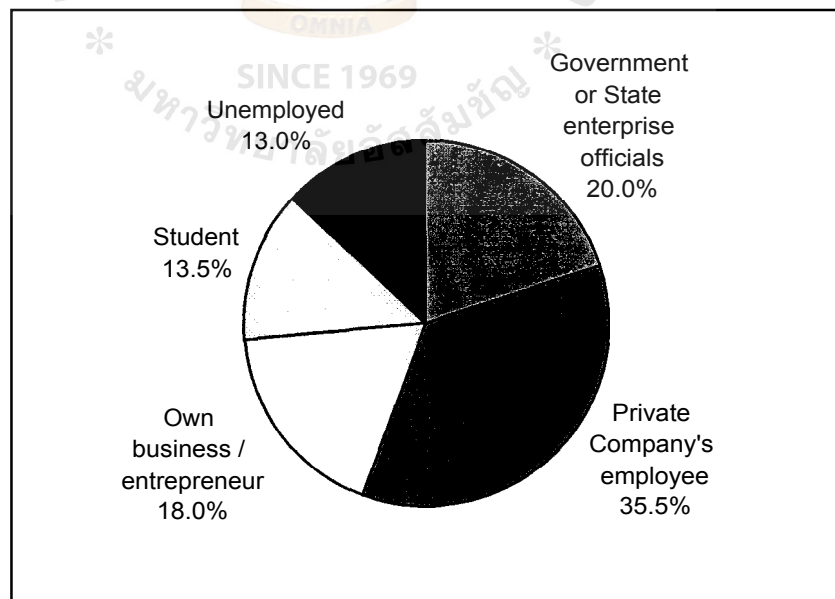


Figure 4.5. Occupation of the Respondents.

Table 4.5 shows the frequency distribution of occupation of 200 respondents. There are 71 respondents or 35.5 percent as private company's employees, 40 respondents or 20.0 percent with government or state enterprise officials, 36 respondents or 18.0 percent as own business entrepreneur, 27 respondents or 13.5 percent students, and 26 respondents or 13 percent unemployed.

From the result, the analysis suggests that the largest group of respondent in this research is private company's employees. Figure 4.5 shows the occupation of respondents in pie chart.

Table 4.6. Income.

		Count	Column %
level taxes	Under US\$ 5,000	46	23.0
	US\$ 5,000 - US\$ 10,000	18	9.0
	US\$ 10,001 - US\$15,000	37	18.5
	US\$ 15,001 - US\$20,000	51	25.5
	US\$ 20,001 or more	48	24.0

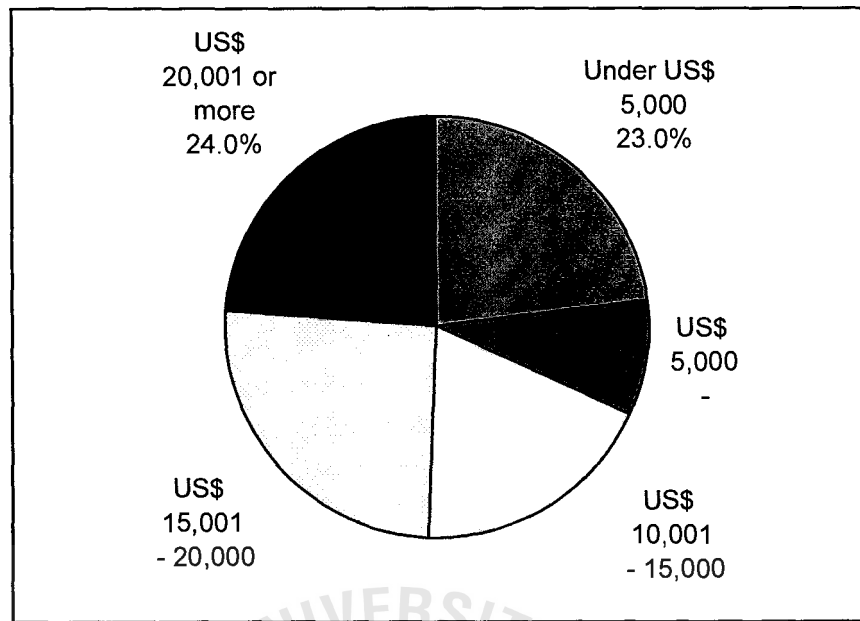


Figure 4.6. Income of the Respondents.

Table 4.6 shows the frequency distribution of income level before tax of 200 respondents. It projects that 51 or 25.5 percent of respondents represent income level of 15,001 - 20,000 US\$, 48 or 24 percent of respondents represents income level of 20,001 or more, 46 or 23.0 percent of respondent represents income level of under 5,000 US\$, 37 or 18.5 percent of respondents represents income level of 10,001 - 15,000 US\$, and 18 or 9 percent respondents represents income level of 5,000 - 10,000 US\$.

From the result, the analysis explains that the largest group of respondents in this research represents income level of 15,001 - 20,000 US\$. Figure 4.6 shows income of 200 respondents in pie chart.

Table 4.7. Nationality.

	Count	Column %
Thai	49	24.5
Nationality Japanese	32	16.0
Chinese / Taiwanese / Hong Kong	29	14.5
Others Asian countries	50	25.0
North American	9	4.5
Europea	19	9.5
Australian / New Zealander	12	6.0

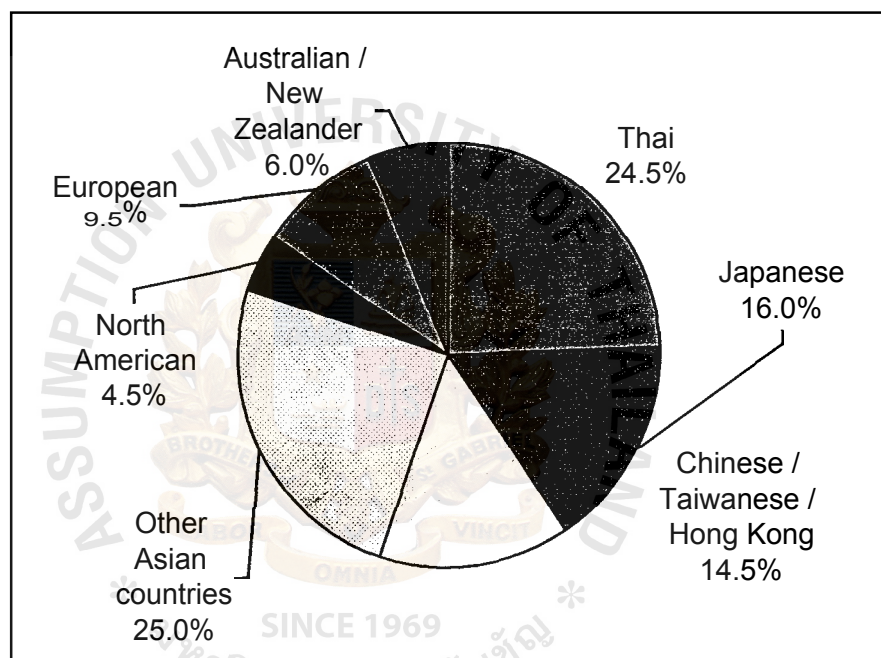


Figure 4.7. Nationality of the Respondents.

Table 4.7 shows the frequency distribution of nationality of 200 respondents. It explains that 50 or 25.0 percent respondents holding other Asian countries, 49 or 24.5 percent respondents holding Thai nationality, 32 or 16 percent respondents holding Japanese nationality, 29 or 14.5 percent respondents holding Chinese, Taiwanese, and Hong Kong, 19 or 9.5 percent respondents holding European nationality, 12 or 6.0.

percent respondents holding Australian and New Zealander, and 9 or 4.5 percent respondents holding North American nationality.

From the result, the analysis highlights that the larger group of respondents are holding Thai, Japanese, and other Asian nationalities. Figure 4.7 shows the nationality of 200 respondents in pie chart.

## 4.2 The General Information of Passenger Behavior

This section identified the general information of the passengers in a small pattern of customer behavior. The results of the study are analyzed by descriptive statistics. The topics concerned are main purpose of this trip, first time using Thai Airways services, traveled with Thai Airways during the past one year, section of aircraft, and main reasons for choosing Thai Airways services. The results are shown in Tables 4.8 to 4.12.

Table 4.8. Main Purpose of This Trip.

		Count	Column %
What is your purpose of this trip?	Leisure	71	35.5
	Conference /	18	9.0
	Business	39	19.5
	Visit relatives /	8	4.0
	Study	16	8.0
	Others	48	24.0



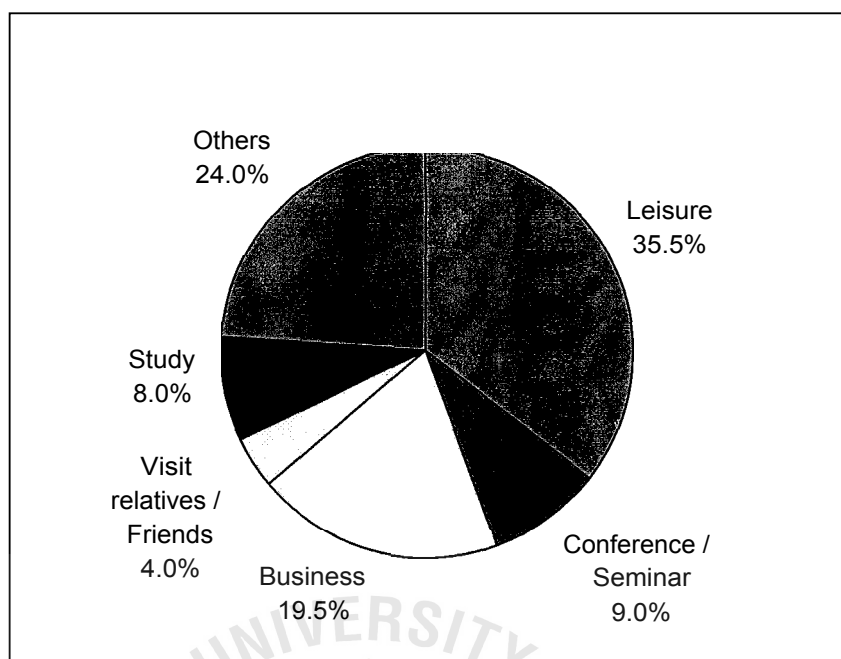


Figure 4.8. Main Purpose of the Trip.

Table 4.8 shows the main purpose of trip of 200 respondents. There are 71 respondents or 35.5 percent respondents for leisure, 39 or 19.5 percent respondents for business, 48 or 24.0 percent respondents for other purposes, 18 or 9.0 percent respondents for conference and seminar, 16 or 8 percent respondents for study, and 8 or 4.0 percent respondents for visiting relatives and friends.

From the result, the analysis identified that the main purpose of this trip is leisure. Moreover, Figure 4.8 shows the main purpose of this trip of 200 respondents in pie chart.

Table 4.9. First Time Using Thai Airways Services.

		Count	Column %
Is this your first time using our services	Yes	59	29.5
	No	141	70.5

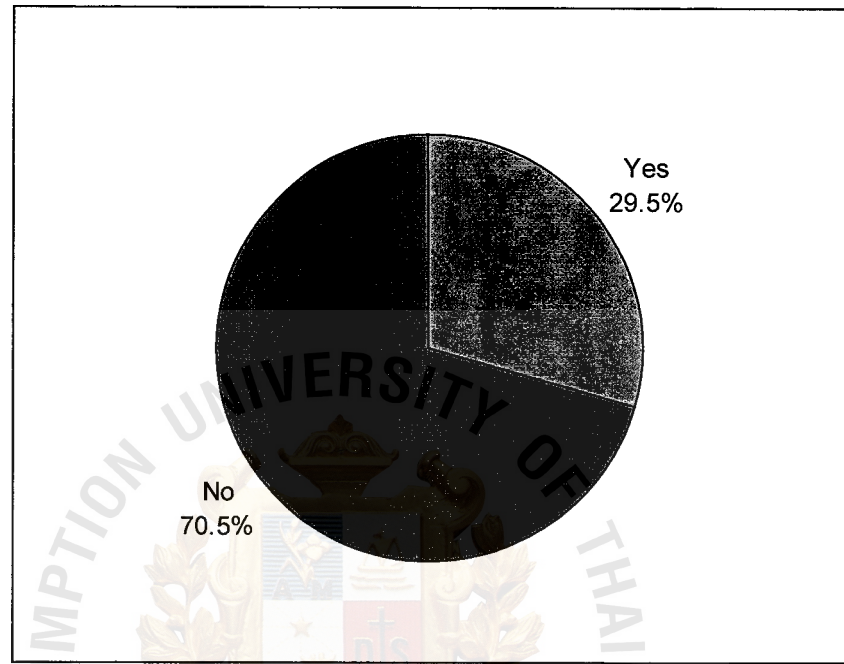


Figure 4.9. First Time Using Thai Airways Services.

Table 4.9 shows that there are 141 or 70.5 percent of respondents are not using Thai Airways service for the first time, and 59 or 29.5 percent of respondents are using for the first time.

From the result, it highlights that the majority of respondents are not using Thai Airways service for the first time. Moreover, Figure 4.9 shows the frequency distribution of first time using Thai Airways services in pie chart.

Table 4.10. Traveled with Thai Airways during Past One Year.

		Count	Column
Apart from this flight, have you ever traveled with us during the one year	Yes	101	71.6
	No	40	28.4

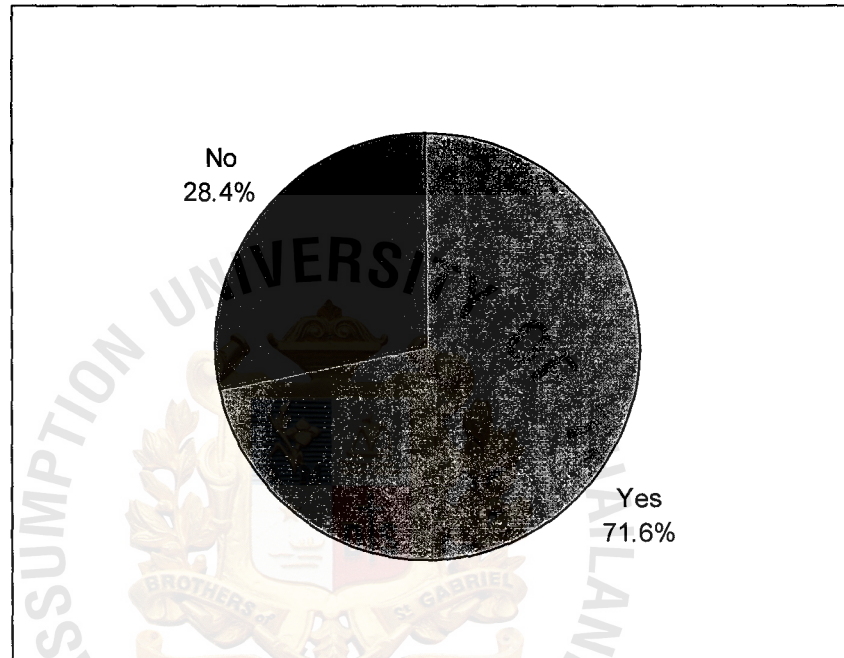


Figure 4.10. Traveled with Thai Airways during Past One Year.

Table 4.10 shows that 101 or 71.6 percent respondents traveled with Thai Airways during the past one year, whereas 40 respondents or 28.4 percent do not.

From the result, the analysis suggests that the majority of respondents in this research traveled with Thai Airways during the past one year. Moreover, Figure 4.10 shows the frequency distribution who traveled with Thai Airways during the past one year.

Table 4.11. Section of the Aircraft.

		Count	Column %
Today, in which section of the aircraft do you sit ?	Business	37	18.5
	Economy	163	81.5

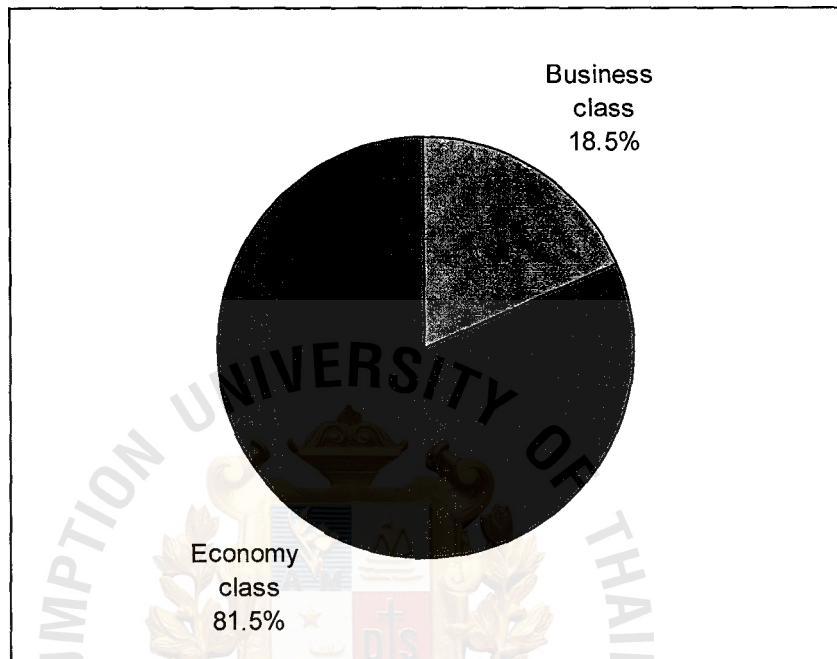


Figure 4.11. Section of the Aircraft.

Table 4.11 shows frequency distribution of 200 respondents. There are 163 respondents or 81.5 percent with economy class, and 37 respondents or 18.5 percent with Business class.

From the result, the analysis reveals that the majority of respondents in this research are using economy class. Moreover, Figure 4.11 shows the section of aircraft of 200 respondents.

Table 4.12. Main reasons for Choosing Thai Airways.

		Count	Column %
Main reasons for choosing	Main reason -Previous experience with us	87	14.9
	Main reason - In-flight service	114	19.5
	Main reason - Recommended by travel agent	69	11.8
	Main reason - Comfortable seats	3	.5
	Main reason - Recommended by friend / relatives	48	8.2
	Main reason - Reasonable air fares	25	4.3
	Main reason - Good food and drinks	56	9.6
	Main reason - Reputation	64	10.9
	Main reason - Arranged by company / organization	35	6.0
	Main reason - Punctual flight	14	2.4
	Main reason - Convenient schedule	66	11.3
	Main reason - Others	4	.7

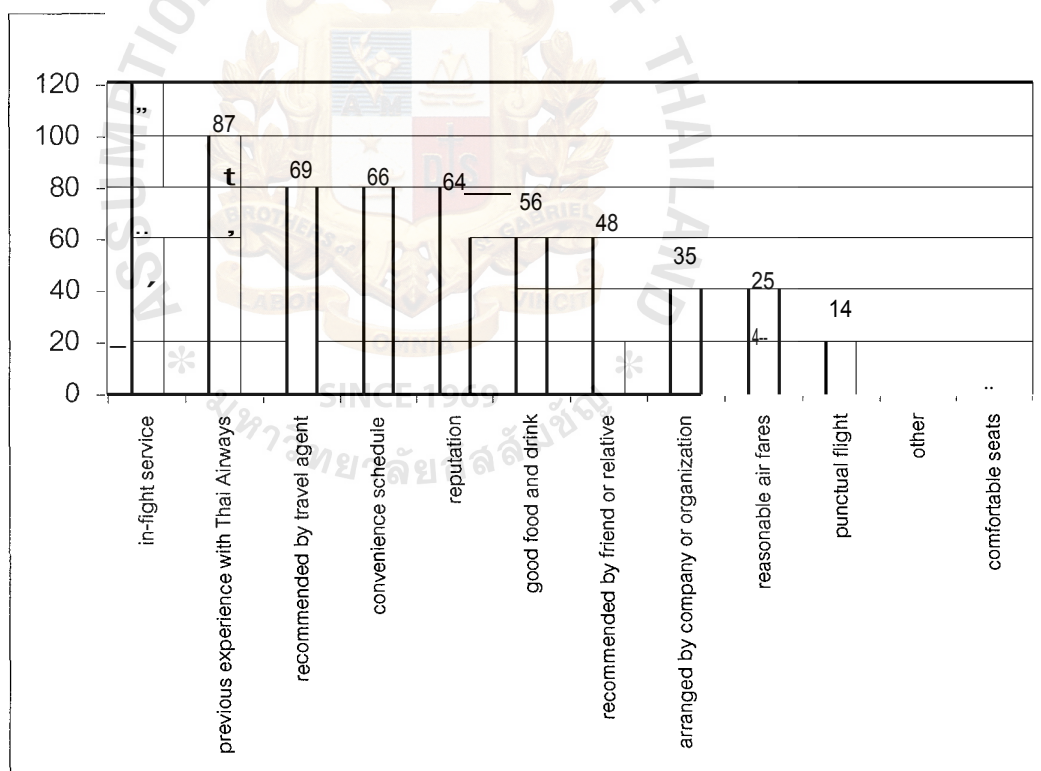


Figure 4.12. Main Reason for Choosing Thai Airways.

Table 4.12 shows the frequency distribution of main reasons for choosing Thai Airways services of 200 respondents. It identifies that 114 or 19.5 percent respondents choose Thai Airway services because of in-flight service, 87 respondents or 14.9 percent choose because of previous experience with Thai Airways, 69 respondents or 11.8 percent choose because recommended by travel agent, 66 respondents or 11.3 percent choose because of convenient schedule, 64 respondents or 10.9 percent choose because of reputation, 56 respondents or 9.6 choose percent because of good food and drink, 48 respondents or 8.2 percent choose because recommended by friend or relative, 35 respondents or 6.0 percent choose because arranged by company or organization, 25 respondents or 4.3 percent choose because of reasonable air fares, 14 respondents or 2.4 percent choose because of punctual flights, 4 respondents or 0.7 percent choose because of others, and 3 respondents or 0.5 percent choose because of comfortable seats.

From the result, the analysis indicates that the main reasons for choosing Thai Airways services are in-flight service, previous experience, and recommended by travel agent. Figure 4.12 shows the frequency distribution of main reasons for choosing Thai Airways services.

#### **4.3 Profile of Passenger's Service Requirements.**

Table 4.13 shows the frequency and percentage distribution of passenger's service requirements, which is summarized from the SPSS results of Tables B.13-B.14 in Appendix B. It projects data about four variables and these include flight attendant's services, facilities, entertainment programs and devices and food and drinks. For all these variables, data have been classified on five points, including totally important, mostly important, somewhat important, mostly unimportant, and totally unimportant.

The frequency for each description was derived by the data from descriptive tables for each question. It projects perception of respondents for each variable as totally important, mostly important, somewhat important, mostly unimportant, and totally unimportant and the derived data is converted into percentage.





Table 4.13. Passenger's Requirement Service.

Passenger's Requirement Services	Flight attendant's services		Facilities		Entertainment Programs and Devices		Food & Drinks	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Totally unimportant	1	0.5	1	0.5	9	4.5	0	0
Mostly unimportant	7	3.5	17	8.5	22	11.0	5	2.5
Somewhat important	35	17.5	42	21.0	47	23.5	30	15.0
Mostly important	61	30.5	96	48.0	84	42.0	96	48.0
Totally important	96	48.0	44	22.0	38	19.0	69	34.5
Total	200	100.0	200	100	200	100.0	200	100.0
Mean	4.22		3.82		3.60		4.15	
SD	0.89		0.89		1.06		0.76	
Rank	1		3		4		2	

#### 4.3.1 Flight Attendant's Service

The sum total of "Totally important" responses for flight attendant's is 96 or 48.0 percent, and 61 or 30.5 percent for mostly important. This signifies that the largest group of respondents consider flight attendant's services as a totally important factor. The analysis of obtained mean score also confirms this analysis of frequency distribution. The mean score for flight attendant's is 4.22, which falls into the mean score of totally important on rating scale.

#### 4.3.2 Facilities

The sum total of "Mostly important" responses for facilities is 96 or 48.0 percent, and 44 or 22.0 percent for totally important. This signifies that the largest group of respondents consider facilities as mostly important factor. The analysis of obtained mean score also confirms this analysis of frequency distribution. The mean score for facilities is 3.82, which falls into the mean score of mostly important on rating scale.

#### 4.3.3 Entertainment Programs and Devices

The sum total of "Mostly important" responses for entertainment programs and devices is 84 or 42.0 percent, and 47 or 23.5 percent for somewhat important. This signifies that the largest group of respondents consider entertainment programs and devices as a mostly important factor. The analysis of obtained mean score also confirms this analysis of frequency distribution. The mean score for entertainment programs and devices is 3.60, which falls into the mean score of mostly important on rating scale.

#### 4.3.4 Food and Drinks

The sum total of "mostly important" responses for food and drinks is 96 or 48.0 percent, and 69 or 34.5 percent for totally important. This signifies that the largest group of respondents considers food and drinks as mostly important factor. The

analysis of obtained mean score also confirm this analysis. The mean score for food and drink is 4.15, which falls into mean score of mostly important on rating scale.

The obtained mean score of five factors of passenger's requirement services can also rank from number 1 to 4, in order to find out which one tends to be the passenger's requirement service the most and the less. The first one is flight attendant's services (4.22), and then food and drinks (4.15) facilities (3.82), and entertainment programs, and devices (3.60) respectively.

#### 4.4 Passenger's Satisfaction toward Overall In-flight Services

This section shows the descriptive statistical results of passenger's satisfaction toward overall in-flight service. There are four types of airplane considered in this research, which are AB7, 777-200, 333-300, and 777-300. Each type of airplane is classified into two sections of seats, which are business class and economy class. Therefore, to find out the passenger's satisfaction toward overall in-flight services, we have to classify respondents' satisfaction according to their seat section in different types of airplanes.

Table 4.14. Overall Satisfaction of Business Class Passengers.

Seat	Airplane Type	Mean	N	Std.
Business Class	AB7	4.00	10	.00
	777-200	3.89	9	.60
	333-300	4.25	8	.46
	777-300	4.30	10	.67
	Total	4.11	37	.52

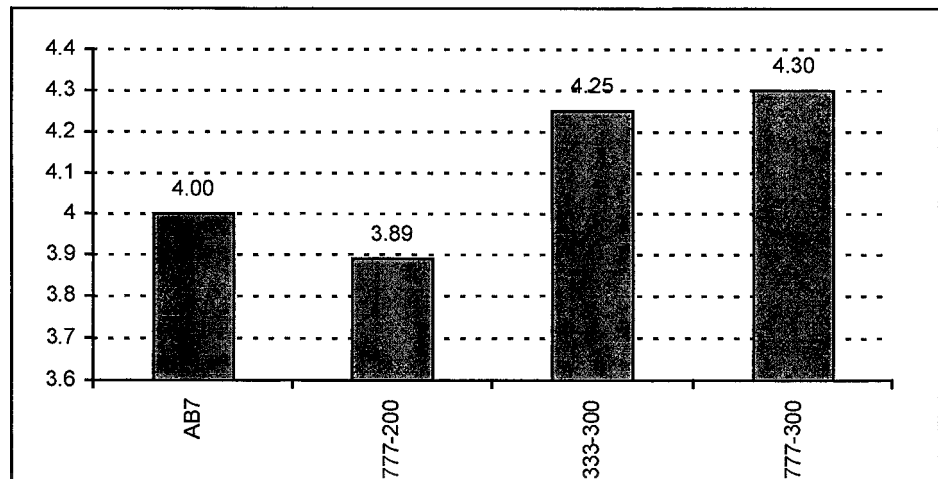


Figure 4.13. Overall satisfaction of Business Class Passengers.

Table 4.14 shows that the respondents in business class of airplane type AB7 are mostly satisfied. According to the obtained mean score 4.00, which falls into mostly satisfied on rating scale. For respondents in business class of airplane type 777-200 are also mostly satisfied (3.89), for airplane type 333-200 are totally satisfied (4.25), and type 777-300 are also totally satisfied (4.30). The obtained mean score of all types of airplane identifies that respondents in business class are mostly satisfied toward overall in-flight services of Thai Airway. The mean score 4.11 fall into mostly satisfied on rating scale.

In business class, airplane type 777-300 is the first rank of respondents' satisfaction. According to the obtained mean score of 4.30. Then it is followed by airplane type 333-300 (4.25), airplane type AB7 (4.00), and airplane type 777-200 (3.89) respectively.

Table 4.15. Overall Satisfaction of Economy Class Passengers.

Seat	Airplane Type	Mean	N	Std.
Economy Class	AB7	3.65	4	.48
	777-200	3.27	4	.63
	333-300	3.43	4	.55
	777-300	3.45	4	.55
	Total	3.45	16	.67

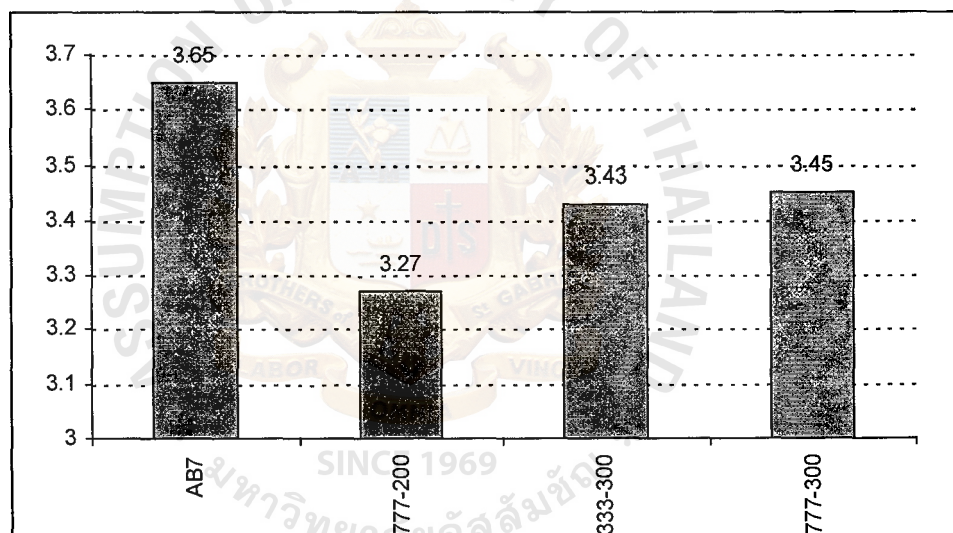


Figure 4.14. Overall Satisfaction of Economy Class Passengers.

Table 4.15 shows that the respondents in economy class of airplane type AB7 are mostly satisfied. According to the obtained mean score 3.65, which is fall into mostly satisfied on rating scale. For respondents in economy class of airplane type 777-200 are somewhat satisfied (3.27), for airplane type 333-200 are mostly satisfied (3.43), and airplane type 777-300 are also mostly satisfied (3.45). The obtained mean score of all type of airplane reveals that respondents in economy class are mostly satisfied toward overall in-flight services of Thai Airway. The mean score 3.45 falls into mostly satisfied on rating scale.

In economy class, airplane type AB7 is the first rank of respondents' satisfaction, according to the obtained mean score of 3.65. Then it is followed by airplane type 777-300 (3.45), airplane type 333-300 (3.43), and airplane type 777-200 (3.27) respectively.

#### **4.5 Hypothesis Testing**

In this research, there are ten hypotheses have been developed to test. The hypothesis are designed to test the significant difference between business and economy class passengers' satisfaction toward Thai Airways services with different types of airplanes.

- (1) Hypothesis 1-5 have been developed to determine the significant difference in business class passenger's satisfaction toward Thai Airways services with different types of airplanes. The results of hypothesis testing are shown in Tables 4.16 to 4.22.
- (2) Hypothesis 6-10 have been developed to identify the significant difference in economy class passenger's satisfaction toward Thai Airways services with different type of airplanes. The results of hypothesis testing are shown in table 4.23 to 4.28.







#### 4.5.1 Business Class Passenger Satisfaction Group According to Their Type of

##### Airplane

Table 4.16 summarizes the data about business class passengers' satisfaction group according to their type of airplane, which are the statistical results of hypothesis 1-5. The data are summarized from Tables B.18-B.22 in Appendix B.

Airplane type AB7 respondents are mostly satisfied in all five factors and satisfied with responsiveness factor the most, according the obtained mean score 4.0400. Then it is followed by reliability (4.000), Assurance (3.9000), Empathy (3.8000) and Tangible (3.7968) respectively.

Airplane type 777-200 respondents are totally satisfied in tangible factor, whereas mostly satisfied to other factors (including reliability, responsiveness, empathy, and assurance). The respondents are satisfied with tangible factor the most (4.3118), then it is followed by assurance (4.000), empathy (4.000), responsiveness (3.8667), and reliability (3.7778) respectively.

For airplane type 333-300 respondents are totally satisfied in reliability, responsiveness, and assurance, when mostly satisfied to tangible as well as empathy factors. The respondents are satisfied with assurance the most, according to the obtained mean score of 4.4167. It is followed by reliability (4.375), responsiveness (4.2750), tangible (4.0887), and empathy (3.6250) respectively.

Airplane type 777-300 respondents are mostly satisfied with tangible factors, whereas total satisfaction with other factors. Respondent are satisfied with reliability the most.

Then it is followed by assurance (4.3000), empathy (4.3000), responsiveness (4.2400), and tangible (4.0871) respectively.

### Hypothesis 1

H<sub>0</sub>: There is no significant difference in Business class of passenger's satisfaction for tangible factor with different types of airplanes.

H<sub>1</sub> a: There is significant difference in Business class of passenger's satisfaction for tangible factor with different types of airplanes.

Table 4.17. Analysis of Variance (ANOVA) for Business Class Passenger's Satisfaction toward Tangible Factor.

Descriptives									
Tangible									
	N	Mean	Std.	Std.	95% Confidence Interval for Mean				
					Lower	Upper	Minimum	Maximum	
AB7	10	3.7968	.5698	.180	3.3892	4.2044	2.97	4.68	
777-200	9	4.3118	.2571	8.568E-02	4.1142	4.5094	3.97	4.65	
333-300	8	4.0887	.3112	.1100	3.8285	4.3489	3.68	4.52	
777-300	10	4.0871	.4991	.1578	3.7301	4.4441	3.03	4.55	
Total	37	4.0636	.4609	7.577E-02	3.9100	4.2173	2.97	4.68	

ANOVA					
Tangible					
	Sum Square	df	Mean Square	F	Sig.
between uroups	1.277	3	.426	2.205	.106
Within Groups	6.370	33	.193		
Total	7.647	36			

Table 4.17 shows the results from the analysis of variance (ANOVA) that there is no significant difference in business class of passenger's satisfaction for tangible factor with different types of airplanes. According to the significant value of 0.106, which is more than 0.05 (at 95 percent confidence). Therefore, the null hypothesis H<sub>0</sub> is accepted. It means that there is no significant difference in business class of

passenger's satisfaction for tangible factor with different types of airplanes at 95 percent confidence.

## Hypothesis 2

H2o: There is no significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes.

H2a: There is significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes.

Table 4.18. Analysis of Variance (ANOVA) for Business Class Passengers Satisfaction toward Reliability Factor.

Descriptives								
Reliability								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
AB7	10	4.0000	.5000	.1581	3.6423	4.3577	3.50	5.00
777-200	9	3.7778	.7750	.2583	3.1820	4.3735	2.75	5.00
333-300	8	4.3750	.3273	.1157	4.1013	4.6487	4.00	4.75
777-300	10	4.5250	.6503	.2056	4.0598	4.9902	2.75	5.00
Total	37	4.1689	.6429	.1057	3.9545	4.3833	2.75	5.00

ANOVA					
Reliability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.270	3	1.090	3.098	.040
Within Groups	11.612	33	.352		
Total	14.882	36			

The hypothesis testing result of the difference in business class passenger's satisfaction toward reliability factor in Table 4.18 is examined by using the analysis of variance (ANOVA). From the above table, it shows the significant value of 0.040, which is less than 0.05 ( $0.040 < 0.05$ ). Therefore, the null hypothesis of H2o is rejected. It means that there is significant difference in business class of passenger's satisfaction

for reliability factor with different types of airplanes. The obtained mean score for reliability factor also shows the significant difference. The obtained mean score of airplane type AB7 and 777-200 falls into the mean score of mostly satisfied, whereas airplane type 333-300 as well as 777-300 are totally satisfied.

### Hypothesis 3

H3 o : There is no significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes.

H3a: There is significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes.

Table 4.19. Analysis of Variance (ANOVA) for Business Class Passenger's Satisfaction toward Responsiveness Factor.

Descriptives								
Responsiveness								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AB7	10	4.0400	.3978	.1258	3.7555	4.3245	3.60	4.80
777-200	9	3.8667	.4583	.1528	3.5144	4.2189	3.20	4.60
333-300	8	4.2750	.3991	.1411	3.9413	4.6087	3.80	4.80
777-300	10	4.2400	.6096	.1928	3.8040	4.6760	2.80	4.80
Total	37	4.1027	.4868	8.002E-02	3.9404	4.2650	2.80	4.80

ANOVA					
Responsiveness					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.967	3	.322	1.406	.258
Within Groups	7.563	33	.229		
Total	8.530	36			

At level of 95 percent confidence, there is no significant difference in business class of passenger's satisfaction for responsiveness factor with different types of airplanes. Based on the significant value, shows in Table 4.19, responsiveness factor is

0.258. The significant value is more than 0.05 ( $0.258 > 0.05$ ). Therefore, the null hypothesis of H3o is accepted.

#### Hypothesis 4

H4o: There is no significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes.

H4a: There is significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes.

Table 4.20. Analysis of Variance (ANOVA) for Business Class Passenger's Satisfaction toward Empathy Factor.

Descriptives									
Empathy									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean				
					Lower Bound	Upper Bound	Minimum	Maximum	
AB7	10	3.8000	.6325	.2000	3.3476	4.2524	3.00	5.00	
777-200	9	4.0000	.7071	.2357	3.4565	4.5435	3.00	5.00	
333-300	8	3.6250	.9161	.3239	2.8591	4.3909	3.00	5.00	
777-300	10	4.3000	.6749	.2134	3.8172	4.7828	3.00	5.00	
Total	37	3.9459	.7433	.1222	3.6981	4.1938	3.00	5.00	

#### ANOVA

Empathy					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.317	3	.772	1.450	.246
Within Groups	17.575	33	.533		
Total	19.892	36			

In order to investigate the difference in business class passenger's satisfaction for empathy factor, the analysis of variance in Table 4.20 indicates that there is no significant difference in business class passenger's satisfaction for empathy factor with different types of airplanes. With the significant value at 0.246, which is more than 0.05 ( $0.246 > 0.05$ ). Accordingly, the null hypothesis is accepted which means that there

is no significant difference in business class of passenger's satisfaction for empathy factor at the 0.05 level of significance.

#### Hypothesis 5

H5o: There is no significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

H5a: There is significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

Table 4.21. Analysis of Variance for Business Class of Passenger's Satisfaction toward Assurance Factor.

Descriptives

Assurance								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AB7	10	3.9000	.3162	1.000E-01	3.6738	4.1262	3.33	4.33
777-200	9	4.0000	.6009	.2003	3.5381	4.4619	3.00	4.67
333-300	8	4.4167	.4629	.1637	4.0297	4.8037	3.67	5.00
777-300	10	4.3000	.4568	.1444	3.9732	4.6268	3.33	5.00
Total	37	4.1441	.4940	8.122E-02	3.9794	4.3089	3.00	5.00

ANOVA

Assurance					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.620	3	.540	2.487	.078
Within Groups	7.167	33	.217		
Total	8.787	36			

Table 4.21 shows the hypothesis testing results of Hypothesis 5. It identifies that there is no significant difference in business class of passenger's satisfaction for assurance factor. The significant value of assurance factor is 0.078, which is more than 0.05 ( $0.078 > 0.05$ ). Therefore, the null hypothesis of H5 is accepted. This confirmed that there is no significant difference in business class of passenger's satisfaction for assurance factor at 95 percent confidence.



Type of Airplane									
Factor	AB7	Rank	777-200	Rank	333-300	Rank	777-300	Rank	F-Ratio
<b>Tangible</b> Mean SD Description	3.2266 0.2532 Somewhat satisfaction	5	2.5987 0.4454 Mostly unsatisfaction	5	3.1774 0.3734 Somewhat satisfaction	5	3.2161 0.2859 Somewhat satisfaction	5	31.184 (p=0.000) significant
<b>Reliability</b> Mean SD Description	3.8438 0.4518 Mostly satisfaction	1	3.6524 0.8079 Mostly satisfaction	2	3.7679 0.4396 Mostly satisfaction	2	3.6813 0.4702 Mostly satisfaction	2	0.956 (p=0.415) not significant
<b>Responsiveness</b> Mean SD Description	3.7500 0.3994 Mostly satisfaction	3	3.6000 0.6899 Mostly satisfaction	4	3.4714 0.6054 Mostly satisfaction	4	3.6200 0.4746 Mostly satisfaction	4	1.726 (p=0.164) not significant
<b>Empathy</b> Mean SD Description	3.6500 0.5796 Mostly satisfaction	4	3.6098 0.9455 Mostly satisfaction	3	3.5714 0.8007 Mostly satisfaction	3	3.6250 0.7742 Mostly satisfaction	3	0.072 (p=0.975) not significant
<b>Assurance</b> Mean SD Description	3.8083 0.4195 Mostly satisfaction	2	3.8211 0.7345 Mostly satisfaction	1	3.7857 0.5978 Mostly satisfaction	1	3.8083 0.5487 Mostly satisfaction	1	0.026 (p=0.994) not significant
Predominant mode	Reliability	Assurance		Assurance		Assurance			



#### 4.5.2 Economy Class Passenger Satisfaction Group According to Their Type of Airplane

Table 4.22 summarizes the data about economy class passengers' satisfaction group according to their type of airplane, which are the statistical results of hypothesis 6-10. The data are summarized from table 28-30 in Appendix B.

Respondents of airplane type AB7 are somewhat satisfied with tangible factor, and mostly satisfied with other factors. The respondents are satisfied with reliability the most (3.8438) then it is followed by assurance (3.8083), responsiveness (3.7500), empathy (3.65000), and tangible (3.2266) respectively.

Respondents of airplane type 777-200 are mostly dissatisfied with tangible factors, whereas mostly satisfied with other factors. The respondents are satisfied with assurance factors the most, according to the obtained mean score of 3.8211. Then it is followed by reliability (3.6524), empathy (3.6098), responsiveness (3.6000), and tangible (2.5987) respectively.

Airplane type 333-300 respondents are mostly satisfied with reliability, responsiveness, empathy, and assurance, whereas somewhat satisfied with tangible factor. The respondents are satisfied with assurance the most then it is followed by reliability (3.7679), empathy (3.5714), responsiveness (3.4714), and tangible (3.1774) respectively.

For Airplane type 777-300 respondents, they are somewhat satisfied with tangible factor and mostly satisfied with other four factors. Assurance is the most satisfactory factor of airplane type 777-300 respondents, according to the obtained mean score of 3.8083. Then it is followed by reliability (3.6813), empathy (3.6250), responsiveness (3.6200), and tangible (3.2161) respectively.

From the above analysis, it shows that the respondents in airplane type 777-200, 333-300, and 777-300 are satisfied with assurance the most, whereas airplane type AB7 respondents satisfies with reliability the most. However all types of airplane respondents least satisfies with tangible factor, especially airplane type 777-200 which reaches to mostly dissatisfied.

### Hypothesis 6

H6o: There is no significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes.

H6a: There is significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes.

Table 4.23. Analysis of Variance (ANOVA) for Economy Class of Passenger's Satisfaction toward Tangible Factor.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AB7	40	3.2266	.2532	4.004E-02	3.1456	3.3076	2.74	3.81
777-200	41	2.5987	.4454	6.956E-02	2.4582	2.7393	1.97	3.77
333-300	42	3.1774	.3734	5.762E-02	3.0611	3.2938	2.71	4.00
777-300	40	3.2161	.2859	4.521E-02	3.1247	3.3076	2.61	3.94
Total	163	3.0534	.4355	3.411E-02	2.9861	3.1208	1.97	4.00

### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.381	3	3.794	31.184	.000
Within Groups	19.342	159	.122		
Total	30.723	162			

At 95 percent confidence, there is significant difference in economy class of passenger's satisfaction for tangible factor with different types of airplane. According to the significant value of tangible factor is 0.000, which is less than 0.05 ( $0.000 < 0.05$ ). Therefore, the null hypothesis of H6o is rejected. The analysis of obtained mean scores also confirmed the significant difference. The mean score of airplane type AB7, 333-300 and 777-300 respondents are somewhat satisfied with tangible factor, whereas airplane type 777-200 respondents are mostly dissatisfied.

### Hypothesis 7

H7o: There is no significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes.

H7a: There is significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes.

Table 4.24. Analysis of Variance of Economy Class of Passenger's Satisfaction toward Reliability Factor.

Reliability	Descriptives							
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AB7	40	3.8438	.4518	7.144E-02	3.6993	3.9882	3.00	5.00
777-200	41	3.6524	.8079	.1262	3.3974	3.9075	1.25	5.00
333-300	42	3.7679	.4396	6.784E-02	3.6309	3.9049	3.00	5.00
777-300	40	3.6813	.4702	7.435E-02	3.5309	3.8316	3.00	4.75
Total	163	3.7362	.5640	4.418E-02	3.6490	3.8234	1.25	5.00

### ANOVA

Reliability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.913	3	.304	.956	.415
Within Groups	50.618	159	.318		
Total	51.531	162			

Table 4.24 shows the significant value of reliability factor is 0.415, which is more than 0.05 ( $0.415 > 0.05$ ). Therefore, the null hypothesis of H7o is accepted. This

analysis signifies that there is no significant difference in economy class of passenger's satisfaction for reliability factor with different types of airplane at 95 percent confidence.

### Hypothesis 8

H8o: There is no significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

H8a: There is significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

Table 4.25. Analysis of Variance (ANOVA) for Economy Class of Passenger's Satisfaction toward Responsiveness Factor.

Descriptives								
Responsiveness								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AB7	40	3.7500	.3994	6.314E-02	3.6223	3.8777	3.00	4.60
777-200	41	3.6000	.6899	.1077	3.3822	3.8178	2.00	5.00
333-300	42	3.4714	.6054	9.341E-02	3.2828	3.6601	2.20	4.80
777-300	40	3.6200	.4746	7.504E-02	3.4682	3.7718	2.80	4.60
Total	163	3.6086	.5593	4.380E-02	3.5221	3.6951	2.00	5.00

### ANOVA

Responsiveness					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.598	3	.533	1.726	.164
Within Groups	49.070	159	.309		
Total	50.668	162			

The hypothesis testing results of hypothesis 8 show the insignificant difference in economy class passenger's satisfaction for responsiveness factor with different types of airplane at 95 percent confidence. The significant value of responsive factor is 0.164,

which is more than 0.05 ( $0.164 > 0.05$ ). Therefore the null hypothesis of H8o is accepted.

### Hypothesis 9

H9o: There is no significant difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes.

H9a: There is significant difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes.

Table 4.26. Analysis of Variance (ANOVA) for Economy Class of Passenger's Satisfaction toward Empathy Factor.

Descriptives									
Empathy									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
					Lower Bound	Upper Bound			
AB7	40	3.6500	.5796	9.164E-02	3.4646	3.8354	3.00	5.00	
777-200	41	3.6098	.9455	.1477	3.3113	3.9082	1.00	5.00	
333-300	42	3.5714	.8007	.1236	3.3219	3.8209	2.00	5.00	
777-300	40	3.6250	.7742	.1224	3.3774	3.8726	2.00	5.00	
Total	163	3.6135	.7804	6.112E-02	3.4928	3.7342	1.00	5.00	

### ANOVA

Em ath					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.133	3	4.450E-02	.072	.975
Within Groups	98.517	159	.620		
Total	98.650	162			

Table 4.26 shows the hypothesis testing results of hypothesis 9 to identify the significant difference in economy class of passenger's satisfaction for empathy factor. The significant value of 0.975 shows that there is significant difference in economy class of passenger's satisfaction for empathy factor with different types of airplane.

According to the significant value 0.975 is more than 0.05 ( $0.975 > 0.05$ ). Therefore the null hypothesis of H<sub>0</sub> is accepted.

### Hypothesis 10

H<sub>1 0o</sub>: There is no significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes.

H<sub>10a</sub>: There is significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes.

Table 4.27. Analysis of Variance (ANOVA) for Economy Class of Passenger's Satisfaction toward Assurance Factor.

Descriptives									
Assurance									
	N	Mean	Std.	Std.	95% Confidence Interval for Mean			Minimum	Maximum
					Lower	Upper			
AB7	40	3.8083	.4195	6.633E-02	3.6742	3.9425	3.00	4.67	
777-200	41	3.8211	.7345	.1147	3.5893	4.0530	1.67	5.00	
333-300	42	3.7857	.5973	9.216E-02	3.5996	3.9718	2.67	5.00	
777-300	40	3.8083	.5437	8.597E-02	3.6344	3.9822	3.00	5.00	
Total	163	3.8057	.5807	4.548E-02	3.7159	3.8955	1.67	5.00	

### ANOVA

Assurance					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.710E-02	3	9.034E-03	.026	.994
Within Groups	54.599	159	.343		
Total	54.626	162			

Table 4.27 shows the significant value of assurance factor is equal to 0.994, which is more than 0.05 ( $0.994 > 0.05$ ). Therefore, the null hypothesis of H<sub>1 0o</sub> is accepted. This shows that there is no significant difference in economy class of passenger's satisfaction for assurance factor with different types of airplane.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

This chapter includes four major sections. The first section will be explaining the summary of findings of research question and hypothesis testing. The second section will be related to the conclusion of the research. The third section will highlight the recommendation. The last section will suggest some further studies.

### **5.1 Summary of Finding**

This chapter includes five major sections. The first section will be explaining the respondent characteristics. The second section will be identifying the general information of customer behavior. The third section will explore the profile of passenger's service requirements. The fourth section will explain passenger's satisfaction toward overall airline service. And the last section will show the results of hypothesis testing.

The survey method has been used as instrument in this study, which is questionnaire. The questionnaire was divided into four parts. The first part is related to the general information of customer behavior. The second part explains passenger's service requirements. The third part is to find out passenger's satisfaction toward airline services, which consists of tangible, reliability, responsiveness, empathy, and assurance. And the last part identifies demographic characteristics such as age, gender, marital status, education level, occupation, income and nationality. In all 200 respondents have been surveyed.

#### **5.1.1 Summary of Findings Based on Demographic Characteristics**

The demographic characteristics (including gender, age, marital status, education level, occupation, income, and nationality) of the majority or largest group of



respondents, identified from 200 surveyed respondents are highlighted in the following Table 5.1.

Table 5.1. Majority or Largest Group of Respondents Classified by Demographic Characteristics.

Demographic characteristic	Majority or largest group of respondents	Number of respondents	Percent
Gender	Male	122	61
Age	30 - 39 years old	63	31.5
Marital status	Married	101	50.5
Education level	Bachelor degree	113	56.5
Occupation	Private company employee	71	35.5
Income	15,001 - 20,000 US\$	51	25.5
Nationality	Other Asian Countries	50	25

Table 5.1 shows that the majority of respondents in this research are male. The largest group of respondents classified by their age groups is between 30-39 years (31.5%). The majority of respondents classified by their marital status are married (50.5%). The majority of respondents classified by their education level are bachelor

degree (56.5%). The largest group of respondents classified by their occupation is those who are private company employees (35.5%). The largest group of respondents classified by their income belongs to those who have between 15,001 - 20,000 US\$ (25.5%). The largest group of respondents classified by their nationality is those who are holding other Asian countries (25%).

#### 5.1.2 Summary of Findings Based on the General Information

The largest groups of respondents' general information (including main purpose of trip, first time using Thai Airways services, traveled with Thai Airways during the past one year, section of aircraft, and main reasons for choosing) from 200 respondents are identified in the following Table 5.2.

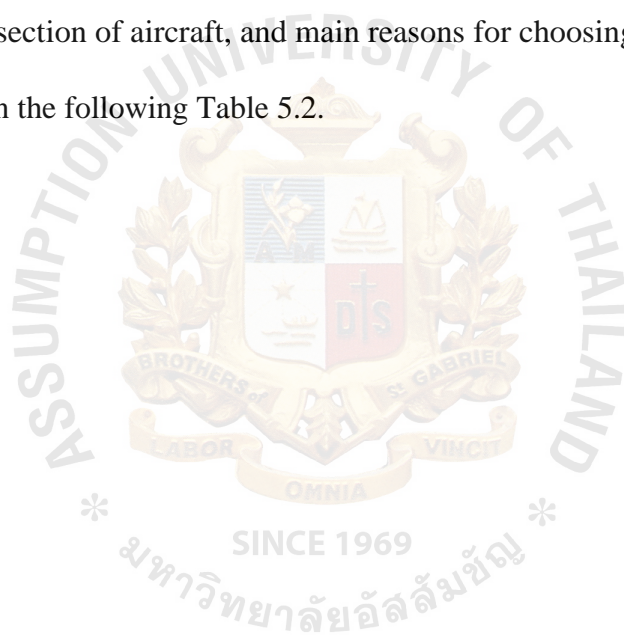


Table 5.2. Summary of the General Information of Thai Airways Passengers.

The general information	Majority or largest group of respondents	Number of respondents	Percent
Main purpose of trip	Leisure	71	35.5
First time using Thai Airways services	No	141	70.5
Traveled with Thai Airways during past one year	Yes	101	71.6
Section of aircraft	Economy class	163	81.5
Main reasons for choosing	1. In-flight service 2. Previous experience 3. Recommended by travel agent	114 87 69	19.5 14.9 11.8

Table 5.2 shows the general information of 200 respondents, who are using Thai Airways services. From the results, it identifies that the main purpose of respondents trip is leisure (35.5%). The majority of respondents (70.5%) are not using Thai Airways service for the first time, moreover 101 respondents or 71.6 percent traveled with Thai Airways during the past one year. Based on this research, the majority of respondents (81.5%) are using economy class. The main reasons for choosing Thai Airways are in-

flight service (19.5%), previous experience (14.9%), and recommended by travel agent (11.8%) respectively.

### 5.1.3 Summary of Findings Based on the Passenger's Service Requirement

From the results of descriptive analysis, It identifies Thai Airways passenger's service requirements. There are four major factors for service requirements, which includes flight attendant's services, facilities, entertainment programs and devices and food and drinks.

Table 5.3. Summary of Passenger's Service Requirements.

Passenger's service requirements	Level of importance	Percent	Rank
Flight attendant's services	Totally important	48	1
Facilities	Mostly important	48	3
Entertainment programs and devices	Mostly important	42	4
Food and Drinks	Mostly important	48	2

Table 5.3 shows the passenger's service requirements of 200 respondents. The results highlight that 48 percent of respondent consider flight attendant's services as a totally important factor. Moreover, flight attendant's services factor is considered to be the first rank of passenger service requirements. For other factors, the respondents

consider them as mostly important factor. The second factor of the respondent service requirement is food and drinks. The third factor of respondent service requirement is facilities. And the last factor of respondent service requirement is entertainment programs and devices.

#### 5.1.4 Summary of Findings Based on Passenger's Satisfaction toward Overall In-flight Service

This part focuses on comparing the passenger's satisfaction toward overall in-flight service when classified by their section of aircraft. There are two sections, which are business and economy class. Based on this research there are four types of airplanes considered, which are AB7, 777-200, 33-300 and 777-300. The summaries of findings are discussed in the following Table 5.4.

Table 5.4. Summary of Passenger's Satisfaction toward Overall In-flight Services.

Type of Airplane	Business Class		Economy Class	
	Level of satisfaction	Mean score	Level of satisfaction	Mean score
AB7	Mostly satisfaction	4.00	Mostly satisfaction	3.65
777-200	Mostly satisfaction	3.89	Somewhat satisfaction	3.27
333-300	Totally satisfaction	4.25	Mostly satisfaction	3.43
777-300	Totally satisfaction	4.30	Mostly satisfaction	3.45

Table 5.4 shows the passenger's satisfaction toward overall in-flight services for both business class and economy class. For Business class, overall in-flight services passenger's satisfaction in Airplane type AB7 and 777-200 is mostly satisfied, whereas airplane type 333-300 and 777-300 is totally satisfied. In the economy class, the passenger's satisfaction toward overall in-flight services for airplane type AB7, 333-300, and 777-300 are mostly satisfied, where airplane type 777-200 is somewhat satisfied.

#### 5.1.5 Summary of Findings Based on Hypothesis Testing

The ten hypothesis developed to achieve the objectives of study have been classified into the following two main groups of research hypothesis.

- (1) Hypothesis 1-5 have been developed to determine the significant difference in business class passenger's satisfaction toward Thai Airways services with different types of airplanes.
- (2) Hypothesis 6-10 have been developed to identify the significant difference in economy class passenger's satisfaction toward Thai Airways services with different types of airplanes.

Table 5.5. Summary of the Results of Hypothesis Testing by Using Analysis of Variance (ANOVA).

Hypothesis	Statistical Test	Significant Level	Result
1	Analysis of Variance (ANOVA)	0.106	Accept Ho
2	Analysis of Variance (ANOVA)	0.040	Reject Ho
3	Analysis of Variance (ANOVA)	0.258	Accept Ho
4	Analysis of Variance (ANOVA)	0.246	Accept Ho
5	Analysis of Variance (ANOVA)	0.078	Accept Ho
6	Analysis of Variance (ANOVA)	0.000	Reject Ho
7	Analysis of Variance (ANOVA)	0.415	Accept Ho
8	Analysis of Variance (ANOVA)	0.164	Accept Ho
9	Analysis of Variance (ANOVA)	0.975	Accept Ho
10	Analysis of Variance (ANOVA)	0.994	Accept Ho

Table 5.5 summarizes the result of hypothesis testing by using Analysis of Variance (ANOVA). There are two hypotheses that include H2 and H6 that have been rejected as significant value of their null hypothesis is less than 0.05, whereas the other hypotheses have been accepted as significant value of their null hypothesis is more than 0.05 at 95 percent confidence interval.

### Hypothesis 1

There is no significant difference in Business class of passenger's satisfaction for tangible factor with different types of airplanes.



The analysis of data related to hypothesis 1 by using Analysis of Variance (ANOVA), it can conclude that the difference in business class of passenger's satisfaction for tangible factor with different types of airplanes is insignificant. According to the significant value (0.106) is more than 0.05 at 95 percent confidence.

### **Hypothesis 2**

There is significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes.

From the results of hypothesis testing of hypothesis 2 examined by using Analysis of Variance (ANOVA), the significant value is equal to 0.040, which is less than 0.05 at 95 percent confidence. This signifies that there is significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes. The obtained mean score for reliability factor also shows the significant difference. The obtained mean score of airplane type AB7 and 777-200 fall into the mean score of mostly satisfied, whereas airplane type 333-300 as well as 777-300 are totally satisfied.

### **Hypothesis 3**

There is no significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes.

The analysis of results related to hypothesis 3 signifies that there is no significant difference in Business class of passenger's satisfaction for responsiveness factor with different types of airplanes. The significant value of responsiveness factor (0.258) is more than 0.05 at 95 percent confidence. Therefore, the null hypothesis of H3 is accepted.

#### **Hypothesis 4**

There is no significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes.

The results obtained from statistical testing shows that there is no significant difference in Business class of passenger's satisfaction for empathy factor with different types of airplanes. The significant value of empathy factor (0.246) is more than 0.05 at 95 percent confident. Therefore, the null hypothesis of H4 is accepted. It means that the difference is insignificant.

#### **Hypothesis 5**

There is no significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

At 95 percent confidence, the significance value of assurance factor (0.078) is more than 0.05 at 95 percent confidence. Therefore, the null hypothesis of H5 is accepted. This identifies that there is no significant difference in Business class of passenger's satisfaction for assurance factor with different types of airplanes.

#### **Hypothesis 6**

There is significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes.

By using Analysis of Variance (ANOVA), the results show that the significant value is equal to 0.000, which is less than 0.05 at 95 percent confident. This highlights that there is significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes. The analysis of obtained mean score also confirmed the significant difference. The mean score of airplane type AB7, 333-300 and 777-300 respondents are somewhat satisfied with tangible factor, whereas airplane type 777-200 respondents are mostly dissatisfied.

### **Hypothesis 7**

There is no significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes.

The analysis of results related to hypothesis 7 signifies that there is no significant difference in Economy class of passenger's satisfaction for reliability factor with different types of airplanes. Based on 95 percent confident, the null hypothesis of H7 is accepted. According to the significant value of reliability factor (0.415) which is more than 0.05.

### **Hypothesis 8**

There is no significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

The hypothesis testing results of hypothesis 8 examined by using Analysis of Variance (ANOVA) shows the significant value (0.164) more than 0.05 at 95 percent confidence. Therefore, the null hypothesis of H8 is accepted. It explains that there is no significant difference in Economy class of passenger's satisfaction for responsiveness factor with different types of airplanes.

### **Hypothesis 9**

There is no significant difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes.

In order to explore the significant difference in Economy class of passenger's satisfaction for empathy factor, the analysis of variance (ANOVA) is applied to analyze the data. The statistical results show the significant value (0.975) more than 0.05 at 95 percent confidence. This shows that the difference in Economy class of passenger's satisfaction for empathy factor with different types of airplanes is insignificant.

## **Hypothesis 10**

There is no significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes.

The hypothesis testing results of hypothesis 10, which is examined by using Analysis of Variance (ANOVA) shows that there is no significant difference in Economy class of passenger's satisfaction for assurance factor with different types of airplanes. According to the significant value (0.994) more than 0.05 at 95 percent confidence. Therefore, the null hypothesis of H10 is accepted.

## **5.2 Conclusions**

The main purpose of this research is evaluating the passenger's satisfaction towards the current airline services of Thai Airways International Public Co., Ltd., and enhancing the passenger's opportunity for improving or making better services for the benefit of the airlines. The major conclusion of this study can be summarized as follow:

To accomplish the purposes of the study, statistical treatment was applied to analyze the data. The Descriptive Analysis (frequency distributions and percentages) was used to determine demographic characteristics, the general information of Thai Airways passengers, and the factor related to passenger's service requirements. Crosstabulation was applied to explore the passenger's satisfaction toward overall in-flight service. Analysis of Variance (ANOVA) was used to examine the significant difference in passenger's satisfaction toward Thai Airways services with different types of airplanes.

The examination of the demographic characteristic showed all of 200 respondents, the majority of respondents are male. The largest percentages of age of respondents are 30 - 39 years. The majority of respondents were married and the education level is bachelor. The largest group of respondent occupation is private

company employee and income between 15,001 - 20,000 US\$. The largest group of respondent's nationality is Thai, Japanese, and other Asian countries.

The analysis shows the general information about Thai Airways passenger's behavior. Based on this research, the main purpose of Thai Airways passengers trip is leisure. Most of Thai Airways passengers, based on this study, are not using Thai Airways services for the first time, and 71.6 percent traveled with Thai Airways during the past one year. The analysis identifies that the majority of passengers are using economy class services. And the main reasons for choosing Thai Airways services are in-flight service, previous experience with Thai Airways, and recommended by traveled agent respectively.

The service requirements of Thai Airway passengers include 4 factors, which are flight attendant's services, facilities, entertainment programs and devices and food and drinks. From the results, flight attendant's service is the most important factor that passengers consider first, and then food and drink, facilities, and the last one is entertainment programs and devices respectively. The analysis also identifies that the largest group of respondent consider flight attendant's services as the totally important factor, whereas other three factors are mostly important.

The descriptive analysis of passenger's satisfaction toward overall in-flight services of Thai Airways. In this research, there are four types of airplanes considered including AB7, 777-200, 333-300, and 777-300. Airplane type can rank from the smallest one to the biggest one according to their capacity or number of seats available for services. Airplane type AB7 or A300-600 is the smallest one based on this research and then it is followed by 333-300, 777-200, and the biggest one is airplane type 777-300.

The overall satisfaction toward overall in-flight services of business class passengers is mostly satisfied. For airplane type AB7, 777-200, and 333-300 passengers are mostly satisfied toward overall in-flight service of their type of airplane, whereas airplane type 777-300 passengers are totally satisfied toward overall in-flight services. Based on the business class passenger's satisfaction, airplane type 777-300 is the first rank of passenger's satisfaction then it is followed by airplane type 333-300, airplane type AB7, and 777-200 respectively.

The overall satisfaction toward overall in-flight services of economy class passengers is also mostly satisfied. For airplane type AB7, 333-300, and 777-300 passengers are mostly satisfied toward overall in-flight service of their type of airplane, whereas airplane type 777-200 passengers are somewhat satisfied toward overall in-flight services of airplane type 777-200. The analysis identifies that on the economy class airplane type AB7 is the first rank of passenger's satisfaction then it is followed by airplane type 777-300, airplane type 333-300, and 777-200 respectively.

In this research, ten hypotheses are designed to test the significant difference between business and economy class of passenger's satisfaction toward Thai Airways services with different types of airplanes, Hypothesis 1-5 have been developed to determine the significant difference in business class passenger's satisfaction toward Thai Airways services with different types of airplanes. Hypothesis 6-10 have been developed to identify the significant difference in economy class passenger's satisfaction toward Thai Airways services with different types of airplanes.

From the results of hypothesis testing, two hypotheses showed the significant difference in passenger's satisfaction. The other hypotheses accepted the null hypothesis such as  $H_1$ ,  $H_3$ ,  $H_4$ , and  $H_5$  show that there are no significant differences in business class passenger's satisfaction toward Thai Airways services with different types of



airplanes. For hypothesis H7, 1-18, H<sub>9</sub>, and H10, there are also insignificant difference in economy class passenger's satisfaction toward Thai Airways services with different types of airplanes.

Two hypotheses that show the significant difference in passenger's satisfaction are hypothesis 2 and hypothesis 6. Hypothesis 2 shows that there is significant difference in Business class of passenger's satisfaction for reliability factor with different types of airplanes. The obtained mean score for reliability factor also shows the significant difference. The obtained mean score of airplane type AB7 and 777-200 falls into the mean score of mostly satisfied, whereas airplane type 333-300 as well as 777-300 are totally satisfied.

Hypothesis 6 shows that there is significant difference in Economy class of passenger's satisfaction for tangible factor with different types of airplanes. The analysis of obtained mean score also confirmed the significant difference. The mean score of airplane types AB7, 333-300 and 777-300 respondents are somewhat satisfied with tangible factor, whereas airplane type 777-200 respondents are mostly dissatisfied.

### **5.3 Recommendations**

Air transport is now a big and high growth industry. Nowadays, the industry caters for around 1.5 billion passengers a year and it is the key element in the 'world's largest industry', travel and tourism. Altogether there are approximately 1,200-scheduled airlines in the world, of which some 300 operate on international routes. Although the rate of growth is slowing down as the industry gets larger and becomes mature, world passenger traffic still increased at an average annual rate of 5 percent over the decade 1985-1995.

One forecast, from the International Civil Aviation Organization, predicts growth of 5.5 percent up to 2005. At this rate of growth, world air traffic will almost



triple in the next 20 years. Especially Asia / Pacific, the rate of growth is highest comparing to other regions in the world. The average annual growth rate will be 8.5%, whereas other regions will be around 5%. Therefore, it is very interesting to study the passengers' satisfaction in such a high growth region.

Airline service is involved in a service industry, which provides various kinds of services to the number of passengers around the world. Therefore, delivering the best quality service to the passengers is the central issue and significant for the airlines to take advantage over the competitors. The analyses of research findings have revealed significant aspect of Thai Airways passenger's satisfaction and their service requirements. In view of these findings some recommendations are offered so that Thai Airways can effectively eliminate their weak points and increase passenger's satisfaction in order to compete with others in the competitive world.

According to the general information of Thai Airways passengers, it indicated that most passengers are satisfied with Thai Airways services because more than 70 percent of passengers who used Thai Airways services will use Thai Airways services again within one year. One of the most important reasons for choosing is in-flight service. Therefore, Thai Airways should improve their services in order to gain more passengers and passenger's satisfaction.

From the results of passenger's services requirement, it signifies that Thai Airways should focus on flight attendant's service the most including willingness / attractiveness in providing services, give required information, ability to help and solve problems for the passengers. The second factor that Thai Airways should focus on is food and drinks including quantity and quality of food and providing varieties of drinks.

The third factor is facilities such as the cleanliness, seat comfort, and carry-on luggage storage. The last one is entertainment programs and devices. The entertainment

programs and devices may be the last important one for the passenger's requirement but it also important and we should focus on it. It is one strategy to attract more passengers and passenger's satisfaction who fly frequently.

Furthermore, the study shows that the largest group of Thai Airways passengers comes from middle income with age range between 30-39 years old and married. Therefore, Thai Airways should penetrate or increase the market share on this group of middle-income level. Thai Airways should promote tourists who want to spend their vacation or travel in Thailand use Thai Airways services and provide more information to travel agent which is one of the reason for most passengers choosing Thai Airways services.

Most Thai Airways passengers are holding Asian nationalities especially Thai, Japanese, and other Asian countries, whereas other nationalities such as European, Australian, New Zealander, and North American are quite low. Therefore, Thai Airways should penetrate these countries via travel agents and provide more information of Thailand, especially in North America, which reflects very low percentage of passengers using Thai Airways services.

#### 5.3.1 Business Class In-flight Services

The overall in-flight services of Thai Airways in the business class satisfy most of Thai Airway passengers especially in the airplanes types 777-300 and 333-300 where passengers show total satisfaction.

##### Airplane 777-300

Looking in the details of airplane type 777-300, it provided the most satisfaction for business class passengers compared with the other 3 types of airplanes. The highest mean score of this airplane is Reliability including Welcome passengers onto the plane, Locate the seat to the passengers, Help handle the carry-on items, Look for a pillow or

blanket, Offer newspaper or magazine and Serve drinks and meals. Airplane 777-300 should try to maintain these current-well factors

On the opposite side, the lowest mean score is Tangible which airplane type 777-300 should consider the most. Based on the researcher's experience with this type of airplane, Entertainment programs and equipment should be mostly improved as follows:

- (a) In-flight newspaper and magazines

Very often when the business class is full, there are insufficient supplies of newspapers and magazines. Thus larger quantities of the reading materials should be uploaded. There should also be more varieties, especially the magazines.

- (b) Varieties of in-flight entertainment programs such as movies and music, etc.

In case of the business class of the aircraft type 777-300 which mainly flies to Japan, Korea and Hong Kong routes, as there are portable video and television sets available to lend to the passengers, there should be video cassettes of good movies of those countries available in addition to American movies.

- (c) Attractiveness of the in-flight entertainment programs

Several other airlines have now begun to provide Internet service in the aircrafts, which enables the passengers to keep in communications during the flights. Thai Airways should try to catch up with the trend.

Provision of video games equipment is also a good idea for long flights.

(d) Usability of the in-flight entertainment equipment

There are a lot of complaints about improper functioning of equipment such as channel selection knobs, sound volume adjustment knobs, and especially the headphones, with the main problem of sound coming out of only one side. Quality inspection should be improved.

Airplane Type 333-300

The highest mean score is Assurance factor including Perform service professionally, Sincere concern on passenger comfort, Courtesy, friendliness and Ability to help and to solve problems for the passengers. Airplane type 333-300 should try to maintain this good standard of service quality.

On the opposite side, empathy factor (Give required information) is the least in passenger's satisfaction. Therefore, airplane type 333-300 should improve this factor.

Sometimes during the flights, the passengers require helps such as inquiring about flight connections, baggage claims at the destination, frequent flier miles accumulation program, filling of immigration and customs forms. Although these are not difficult problems, the flight attendants should be constantly trained to be ready to help the passengers.

For airplane type 777-200 and AB7, passengers show mostly satisfaction. These identify that these two types of airplanes should immediately improve their services. Especially in airplane type 777-200, which is the large one can contain more passengers than airplane type 333-300 but which provided less passenger's satisfaction.

Airplane Type 777-200

Airplane type 777-200 provided less passenger's satisfaction toward the overall in-flight services than the other types of airplanes. The highest mean score of 777-200

is Tangible factors and the lowest mean score is Reliability. Therefore, it is the most important factor that airplane type 777-200 should consider.

The following additional trainings are relevant:

- (a) Welcome passengers onto the plane

Thai cultures should be highlighted such as "Wai" and saying "Sawasdee Krub (Ka)" everytime with a smiling face, to welcome passengers onto the aircrafts.

- (b) Locate the seat to passengers

Flight attendant should gently guide the passengers to their seats.

- (c) Help handle the carry-on items

Flight attendants should anxiously help passengers find cabin luggage storage.

- (d) Look for a pillow or blanket

Flight attendants should quickly provide pillows and blankets to passengers when requested. If there is a shortage of blankets, the attendants should explain nicely with apologies and should take care to adjust the right cabin temperature.

- (e) Offer newspaper or magazine

Cabin attendants should try to see that all passengers are provided with the requested publication.

- (f) Serve drinks

Thai airways' flight attendants have been doing well in attending needs of the passengers for additional drinks with unique Thai smiles. This quality should be maintained.

- (g) Serve meal

Flight attendants should explain clearly to the passengers about selection of foods and attend to additional needs for foods, wines and spirits, etc.

- (h) Ability to help and solve problems for the passengers

Apart from regular services, passengers may need other supplies such as medicines, slumber shade (eye mask), earplug, toothpastes, and shaver. In some circumstances, some passengers may need oxygen. Flight attendants should be prepared to attend to their immediate needs.

#### Airplane Type AB7

Airplane type AB 7 is the smallest airplane based on this research. There is mostly satisfaction toward the overall in-flight services in business class. The highest mean score is Responsiveness and the lowest mean score is Tangible. Therefore, Thai Airways should try to maintain the current good standard and improve the tangible factor the same as airplane 777-300.

#### 5.3.2 Economy Class In-flight Services

The level of satisfaction toward the overall in-flight services of economy class passenger's satisfaction of airplane types AB7, 777-300, 333-300 show mostly satisfied whereas airplane type 777-200 show only somewhat satisfied.

#### Airplane Type AB7

Looking at the details of airplane type AB7, it provided the most satisfaction of economy class passengers compared with the other 3 types of airplanes. There is mostly satisfaction toward the overall in-flight services in the economy class the same as the business class. Passenger's satisfaction toward all five factors is mostly satisfied, which is the same as the business class except the tangible factor. This signifies that



airplane type AB7 should focus more on tangible factor in both business class and economy class. Airplane type AB7 should also maintain the good standard of the other 4 factors as well. Based on the researcher's experience with this type of airplane, In-flight facilities which is one factor of tangible should be mostly improved as follows:

(a) Quality of the air

As this type of aircraft is quite old, i.e. having been in service for no less than 12 years, there is often the problem of the air-conditioner not giving sufficiently cool air while waiting to take-off. This problem should be remedied.

(b) Cleanliness of toilets

For the same reason of age, toilets become filthy and smelling quickly. Regular cleaning is needed, with deodorizing sprays.

(c) Carry-on luggage storage

The limited storage space is the weak point of this type of aircraft. Not much can be done.

Airplane Type 777-300

The highest mean score of this type of airplane is Assurance and the lowest mean score is Tangible factor which shown only somewhat satisfaction. The recommendation regarding Tangible factors will be mentioned together with airplane type 777-200.

Airplane Type 333-300

Airplane type 333-300 should immediately improve their tangible factor, which show very low passenger's satisfaction.



## Airplane Type 777-200

Looking in the detail of economy class passenger's satisfaction, tangible factor is the most important one that should be considered improving immediately. Most passengers show mostly dissatisfaction toward tangible factor where as the other types of airlines show somewhat satisfaction. However, tangible factors still are the most important factor that all types of airplane should consider first.

For airplane type 777-200 and 777-300, seat accommodation, which is one factor of tangible factors, should be mainly concerned.

There have been a lot of discussions about the need for improvement of the economy class seats of the aircraft type 777-200 regarding roominess (the seat being too narrow), insufficient inclination of the seat back, and the headrest protrude too much to the front, causing fatigue to passengers. For this reason, the Australian passengers turn away from the Thai Airways, forcing it to use other types of aircrafts for the Australian routes.

It is time now to change all the economy class seats with new seats that have been carefully tested. Although it will cost several billion of Baht and take as long as 20 months, it is crucial for improvement of service quality.

Service quality improvement is a continuous and dynamic process. A good quality for today may be unsatisfactory for tomorrow and even bad service the day after. So the factors should be checked often.

### **5.4 Suggestions for Further Study**

The results of this research summarize the information underwriting service required by Thai Airways passengers and their satisfaction toward Thai Airways services. The passenger's service requirements and their satisfaction toward Thai Airways services are specified clearly in each service category. This summary could be

used by any airline company as a guideline of service development specifically for underwriting service and enhancing the opportunity for them to develop different and/or better services as a competitive tool in the airline market.

There are some suggestions as following:

- (1) It is suggested that further study may be conducted to identify passenger's satisfaction and also passenger service requirements of other airlines in Asia.
- (2) It is suggested that further study may be conducted to compare passenger's satisfaction toward Airline services between Thai Airways and other airlines in Asia.
- (3) It is suggested that further study may be conducted to explore the difference in passenger's service requirements with different passengers demographic characteristics such as age, gender, occupation, income, nationality.
- (4) It is suggested that further study may be conducted to find out passenger attitude toward different airline services.
- (5) It is suggested that further study may be conducted to examine passenger expectation toward airline services and compare it to after using airline services.



**APPENDIX A**  
**QUESTIONNAIRE**

## QUESTIONNAIRE

**Dear Passenger,**

This is a special request for your kind favor. We will appreciate if you kindly spend a few minutes going through this questionnaire and answer it. It will help a student completing his research project for the master degree program in "Computer and Engineering Management" of the Assumption University in Bangkok, Thailand. You will not receive anything in return except the good feeling of satisfaction in contributing to education.

Please note that:

1. The objective of this questionnaire is to study passengers' satisfaction towards the airline' service.
2. There are no right or wrong answers because this questionnaire is subjective and involves personal opinions and attitudes. Please choose the answer that best matches your opinion.
3. Your name and identity are not required here thus protection of your privacy is assured.
4. Please answer every question.

Your kind cooperation would be much appreciated. Thank you for your help and have a pleasant trip.

**Part 1:** Please answer the following questions by marking X in front of your selected answer or fill in the blank.

1. What is your main purpose of this trip? (CHECK ONLY ONE PLEASE)  
☐ Leisure                      ☐ Conference / Seminar                      ☐ Business  
☐ Visit relatives / Friends                      ☐ Study  
☐ Others, specify \_\_\_\_\_
2. Is this your first time using our services?  
☐ Yes (Go to Question No. 4.)                      ☐ No
3. Apart from this flight, have you ever traveled with us during the past one year?  
☐ Yes                      ☐ No
4. Today, in which section of the aircraft do you sit?  
☐ First Class                      ☐ Business Class                      ☐ Economy Class
5. Please state 3 main reasons for choosing us? ( Please mark 3 answers only)  
☐ Previous experience with us                      ☐ In-flight service  
☐ Recommended by travel agent                      ☐ Comfortable seats  
☐ Recommended by friend / relatives                      ☐ Reasonable air fares  
☐ Good food and drinks                      ☐ Reputation  
☐ Arranged by company / organization                      ☐ Punctual flight  
☐ Convenient schedule                      ☐ Others, specify \_\_\_\_\_

**Part 2:** Please rate the level of importance for each of the following topics. Mark X for each element.

6. How important is each of the following services to you?

5 = Totally important

4 = Mostly important

3 = Somewhat important

2 = Mostly unimportant

1 = Totally unimportant

	1	2	3	4	5
a. Flight attendant's services					
b. Facilities					
c. Entertainment programs and devices					
d. Food and drinks					
e. Overall In-flight services					



**Part 3:** Please rate your levels of satisfaction with our services on this trip. Mark X for each element of services.

5 = Totally satisfied

4 = Mostly satisfied

3 = Somewhat satisfied

2 = Mostly dissatisfied

1 = Totally dissatisfied

7. In-flight facilities

	1	2	3	4	5
a. Seat Comfort					
b. Quality of the air					
c. Cleanliness of toilets					
d. Attractiveness of the aircraft / interior					
e. Cleanliness of the aircraft / interior					
f. Leg room					
g. Seat width					
h. Carry-on luggage storage					
i. Overall satisfaction on this aspect					



8. Entertainment programs and equipment:

	1	2	3	4	5
a. In-flight newspaper and magazines					
b. Varieties of in-flight entertainment programs such as Movies, music.					
c. Attractiveness of the in-flight entertainment programs.					
d. Usability of the in-flight entertainment equipment					
e. Overall Satisfaction on this aspect					

9. Food and drinks:

	1	2	3	4	5
a. Varieties of drinks					
b. Quantity of food					
c. Quality of food					
d. Overall satisfaction on this aspect					

10. Seat accommodations:

	1	2	3	4	5
a. Roominess of seat					
b. Comfort when seat back is upright					
c. Comfort when seat back is reclined					
d. Comfort when seat in front is reclined					
e. Comfort during your meal					
f. Ease of access to seat					
g. Seat cushion width					
h. Comfort of seat cushion					
i. Seat width at the shoulder					
j. Elbow room					
k. Back support					
l. Head rest					
m. Overall satisfaction on this aspect					

11. Flight Attendant:

	1	2	3	4	5
a. Welcome passengers onto the plane					
b. Locate the seat to passengers					
c. Help handle the carry-on items					
d. Look for a pillow or blanket					
e. Offer newspaper or magazine					
f. Serve drinks					
g. Serve meal					
h. Give required information					
i. Perform service professionally					
j. Sincere concern on passenger comfort					
k. Courtesy, friendliness					
l. Willingness / Attractiveness in providing services					
m. Ability to help and to solve problems for the passengers					
n. Neat and well-groomed					
o. Overall satisfaction on this aspect					

12. Your satisfaction with overall in-flight services

	1	2	3	4	5
Overall satisfaction					

13. Please state your top three airlines with the most favorable in-flight services? ( 3 ranks)

1<sup>st</sup> \_\_\_\_\_

2<sup>nd</sup> \_\_\_\_\_

3<sup>rd</sup> \_\_\_\_\_



#### Part 4: Personal Data

14. Gender

☐ Male

☐ Female

15. Age

☐ Under 20 years old

☐ 20 — 29 years old

☐ 30 — 39 years old

☐ 40 — 49 years old

☐ 50 years old or more

16. Marital Status

☐ Single

☐ Married

☐ Widowed / Divorced

17. Highest / present level of education

☐ Elementary school

☐ Secondary school

☐ Junior College

☐ Bachelor degree

☐ Master degree and above

☐ No formal education

18. Occupation

☐ Government or State Enterprise Officials ☐ Private Company's Employee

☐ Own Business / Entrepreneur ☐ Student

☐ Unemployed

☐ Others, \_\_\_\_\_

19. Income level before taxes: (Per year and US\$ equivalent)

☐ Under US\$ 5,000

☐ US\$ 5,000 — US\$ 10,000

☐ US\$ 10,001 — US\$ 15,000

☐ US\$ 15,001 — US\$ 20,000

☐ US\$ 20,001 or more

20. Nationality

☐ Thai

☐ Japanese

☐ Chinese/Taiwanese/Hong Kong

☐ Other Asian Countries

☐ North American

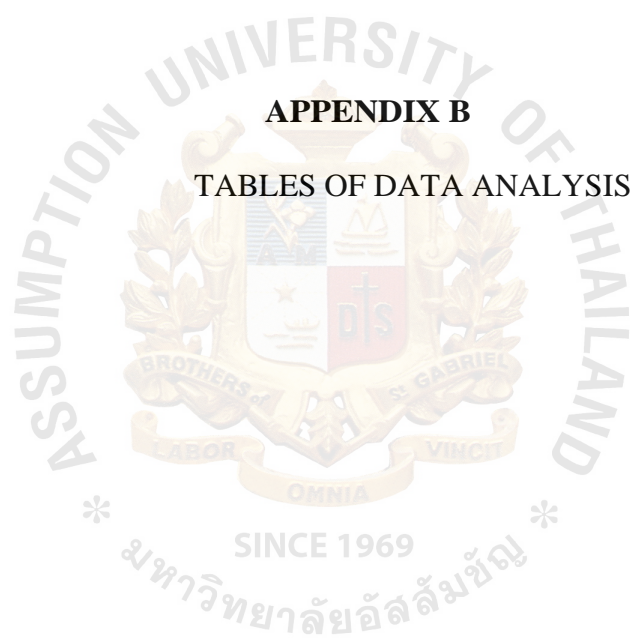
☐ European

☐ Australian / New Zealander

☐ Others, specify \_\_\_\_\_

THANK YOU VERY MUCH FOR YOUR COOPERATION





## **APPENDIX B**

### **TABLES OF DATA ANALYSIS**



## DATA ANALYSIS

Table B.1. Airplane Type.

	Count	Column %
Airplane AB7	50	25.0
type 777-200	50	25.0
333-300	50	25.0
777-300	50	25.0

Table B.2. Gender of Respondents.

	Count	Column %
14. Gender Male	122	61.0
Female	78	39.0

Table B.3. Age of Respondents.

	Count	Column
15. Under 20	9	4.5
Age 20 - 29	50	25.0
30 - 39	63	31.5
40 - 49	59	29.5
50 years and more	19	9.5

Table B.4. Marital Status of Respondents.

	Count	Column %
16. Marital Single	82	41.0
Status Married	101	50.5
Widowed / Divorced	17	8.5

Table B.S. Education Level of Respondents.

		Count	Column %
17. Highest / Present level of education	Elementary school	2	1.0
	Secondary school	14	7.0
	Junior College	27	13.5
	Bachelor degree	113	56.5
	Master degree and above	42	21.0
	No formal education	2	1.0

Table B.6. Occupation of Respondents.

		Count	Column %
18. Occupation	Government or State enterprise officials	40	20.0
	Private Company's Employee	71	35.5
	Own business / entrepreneur	36	18.0
	Student	27	13.5
	Unemployed	26	13.0

Table B.7. Income of Respondents.

		Count	Column %
19. Income level before taxes	Under US\$ 5,000	46	23.0
	US\$ 5,000 - US\$ 10,000	18	9.0
	US\$ 10,001 - US\$15,000	37	18.5
	US\$ 15,001 - US\$20,000	51	25.5
	US\$ 20,001 or more	48	24.0

Table B.B. Nationality of Respondents.

	Count	Column %
20. Thai	49	24.5
Nationality Japanese	32	16.0
Chinese / Taiwanese / Hong Kong	29	14.5
Others Asian countries	50	25.0
North American	9	4.5
European	19	9.5
Australian / New Zealander	12	6.0

Table B.9. Main Purpose of This Trip.

	Count	Column %
1. What is Leisure	71	35.5
you main Conference / Seminar	18	9.0
purpose of Business	39	19.5
this trip ? Visit relatives / Friends	8	4.0
Study	16	8.0
Others	48	24.0

Table B.10. First Time Using Thai Airways Services.

	Count	Column %
2. Is this your first time Yes	59	29.5
using our services ? No	141	70.5

Table B.11. Traveled with Thai Airways During Past One Year.

	Count	Column
3. Apart from this flight, have Yes	101	71.6
ever traveled with us during the No	40	28.4
past one year		

Table B.12. Section of Aircraft.

	Count	Column %
4. Today, in which section Business class	37	18.5
of the aircraft do you sit ? Economy class	163	81.5

Table B.13. Main Reasons for Choosing Thai Airways.

	Count	Column %
5. Main reason - Previous experience with us	87	14.9
5. Main reason - In-flight service	114	19.5
5. Main reason - Recommended by travel agent	69	11.8
5. Main reason - Comfortable seats	3	.5
5. Main reason - Recommended by friend / relative	48	8.2
5. Main reason - Reasonable air fares	25	4.3
5. Main reason - Good food and drinks	56	9.6
5. Main reason - Reputation	64	10.9
5. Main reason - Arranged by company / organization	35	6.0
5. Main reason - Punctual flight	14	2.4
5. Main reason - Convenient schedule	66	11.3
5. Main reason - Others	4	.7

Table B.14. Passenger's Requirement Service.

		Count	Column %
6. Flight attendant's services	1 - Totally unimportant	1	.5
	2 - Mostly unimportant	7	3.5
	3 - Somewhat important	35	17.5
	4 - Mostly important	61	30.5
	5 - Totally important	96	48.0
6. Facilities	1 - Totally unimportant	1	.5
	2 - Mostly unimportant	17	8.5
	3 - Somewhat important	42	21.0
	4 - Mostly important	96	48.0
	5 - Totally important	44	22.0
6. Entertainment programs and devices	1 - Totally unimportant	9	4.5
	2 - Mostly unimportant	22	11.0
	3 - Somewhat important	47	23.5
	4 - Mostly important	84	42.0
	5 - Totally important	38	19.0
6. Food and drinks	2 - Mostly unimportant	5	2.5
	3 - Somewhat important	30	15.0
	4 - Mostly important	96	48.0
	5 - Totally important	69	34.5
6. Overall In-flight services	2 - Mostly unimportant	3	1.5
	3 - Somewhat important	44	22.0
	4 - Mostly important	93	46.5
	5 - Totally important	60	30.0

Table B.15. Passenger's Requirement Service (Descriptive Statistics).

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
6. Flight attendant's services	200	1	5	4.22	.89
6. Facilities	200	1	5	3.82	.89
6. Entertainment programs and devices	200	1	5	3.60	1.06
6. Food and drinks	200	2	5	4.15	.76
6. Overall In-flight services	200	2	5	4.05	.76
Valid N (listwise)	200				

Table B.16. Overall Satisfaction of Thai Airways.

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
12. Overall satisfaction	200	2	5	3.57	.61
Valid N (listwise)	200				

Table B.17. Overall Satisfaction of Thai Airways (Business Class, Economy Class and All Classes).

**Report**

12. Overall satisfaction

4. Today, in which section of the	Airplane type	Mean	N	Std. Deviation
Business class	AB7	4.00	10	.00
	777-200	3.89	9	.60
	333-300	4.25	8	.46
	777-300	4.30	10	.67
	Total	4.11	37	.52
Economy class	AB7	3.65	40	.48
	777-200	3.27	41	.63
	333-300	3.43	42	.55
	777-300	3.45	40	.55
	Total	3.45	163	.57
Total	AB7	3.72	50	.45
	777-200	3.38	50	.67
	333-300	3.56	50	.61
	777-300	3.62	50	.67
	Total	3.57	200	.61



Table B.18.

Descriptives

I	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean			Minimum	Maximum
					Lower Bound	Upper Bound			
1	4	2.00	.41	.19	1.61	2.39	4	0	4
2	4	1.00	.41	.19	.61	1.39	4	0	4
3	4	1.00	.41	.19	.61	1.39	4	0	4
4	4	1.00	.41	.19	.61	1.39	4	0	4
5	4	1.00	.41	.19	.61	1.39	4	0	4

I		C		S		D	
Between Groups	1.00	4.00	1.00	4.00	1.00	4.00	1.00
Within Groups	1.00	4.00	1.00	4.00	1.00	4.00	1.00
Total	2.00	8.00	2.00	8.00	2.00	8.00	2.00

Table B.19.

Descriptives

	N	Std. Deviation	Std. Error	95% Confidence Interval for Mean		
				Lower Bound	Upper Bound	Maximum
Z	4	.3003	.00	.17	.43	.00
Z Z	9	.1730	.00	.02	.32	.00
Z Z	4	.0279	.00	.01	.04	.00
Z Z	4	.0509	.00	.01	.09	.00
T <sub>ad</sub>	4	.0111	.00	.01	.01	.00

	Sum of Squares	df	Mean Square	F	p
Between Groups	3.270	3	1.090	4.4	.00
Within Groups	11.612	25	.464		
Total	14.882	28			

Table B.20.

Descriptives

Responsiveness		95% Confidence Interval for Mean				j	
N		Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
1	1	0.00000	.00000	0.00000	0.00000	0.00000	0.00000
2	2	0.00000	.00000	0.00000	0.00000	0.00000	0.00000
3	3	0.00000	.00000	0.00000	0.00000	0.00000	0.00000
4	4	0.00000	.00000	0.00000	0.00000	0.00000	0.00000
5	5	0.00000	.00000	0.00000	0.00000	0.00000	0.00000

ANOVA

Responsiveness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.000	4	.000	.000	.999
Within Groups	2.500	16	.156	1.000	.444
Total	2.500	20			

## Descriptives

	N	Std. Deviation	Std. Error	95% Confidence Interval for Mean		O	g
				Lower Bound	Upper Bound		
1	10	1.00	.316	1.68	2.32	CD	vi
2	10	1.00	.316	1.68	2.32	CD	vi
3	10	1.00	.316	1.68	2.32	CD	tri
4	10	1.00	.316	1.68	2.32	CD	iri
5	10	1.00	.316	1.68	2.32	CD	iri

	Sum of Squares	df	Mean Square	F	Significance
Between Groups	2.317	4	.579	1.10	.371
Within Groups	17.575	45	.391		
Total	19.892	49			

Table B.22. Descriptives

Descriptives

	N	Std. Deviation	Std. Error	95% Confidence Interval for Mean		
				Lower Bound	Upper Bound	
1. 00	400	1.00	.01	3.99	4.01	4.00
2. 00	400	1.00	.01	3.99	4.01	4.00
3. 00	400	1.00	.01	3.99	4.01	4.00
4. 00	400	1.00	.01	3.99	4.01	4.00
5. 00	400	1.00	.01	3.99	4.01	4.00
6. 00	400	1.00	.01	3.99	4.01	4.00
7. 00	400	1.00	.01	3.99	4.01	4.00
8. 00	400	1.00	.01	3.99	4.01	4.00
9. 00	400	1.00	.01	3.99	4.01	4.00
10. 00	400	1.00	.01	3.99	4.01	4.00
11. 00	400	1.00	.01	3.99	4.01	4.00
12. 00	400	1.00	.01	3.99	4.01	4.00
13. 00	400	1.00	.01	3.99	4.01	4.00
14. 00	400	1.00	.01	3.99	4.01	4.00
15. 00	400	1.00	.01	3.99	4.01	4.00
16. 00	400	1.00	.01	3.99	4.01	4.00
17. 00	400	1.00	.01	3.99	4.01	4.00
18. 00	400	1.00	.01	3.99	4.01	4.00
19. 00	400	1.00	.01	3.99	4.01	4.00
20. 00	400	1.00	.01	3.99	4.01	4.00
21. 00	400	1.00	.01	3.99	4.01	4.00
22. 00	400	1.00	.01	3.99	4.01	4.00
23. 00	400	1.00	.01	3.99	4.01	4.00
24. 00	400	1.00	.01	3.99	4.01	4.00
25. 00	400	1.00	.01	3.99	4.01	4.00
26. 00	400	1.00	.01	3.99	4.01	4.00
27. 00	400	1.00	.01	3.99	4.01	4.00
28. 00	400	1.00	.01	3.99	4.01	4.00
29. 00	400	1.00	.01	3.99	4.01	4.00
30. 00	400	1.00	.01	3.99	4.01	4.00
31. 00	400	1.00	.01	3.99	4.01	4.00
32. 00	400	1.00	.01	3.99	4.01	4.00
33. 00	400	1.00	.01	3.99	4.01	4.00
34. 00	400	1.00	.01	3.99	4.01	4.00
35. 00	400	1.00	.01	3.99	4.01	4.00
36. 00	400	1.00	.01	3.99	4.01	4.00
37. 00	400	1.00	.01	3.99	4.01	4.00
38. 00	400	1.00	.01	3.99	4.01	4.00
39. 00	400	1.00	.01	3.99	4.01	4.00
40. 00	400	1.00	.01	3.99	4.01	4.00
41. 00	400	1.00	.01	3.99	4.01	4.00
42. 00	400	1.00	.01	3.99	4.01	4.00
43. 00	400	1.00	.01	3.99	4.01	4.00
44. 00	400	1.00	.01	3.99	4.01	4.00
45. 00	400	1.00	.01	3.99	4.01	4.00
46. 00	400	1.00	.01	3.99	4.01	4.00
47. 00	400	1.00	.01	3.99	4.01	4.00
48. 00	400	1.00	.01	3.99	4.01	4.00
49. 00	400	1.00	.01	3.99	4.01	4.00
50. 00	400	1.00	.01	3.99	4.01	4.00
51. 00	400	1.00	.01	3.99	4.01	4.00
52. 00	400	1.00	.01	3.99	4.01	4.00
53. 00	400	1.00	.01	3.99	4.01	4.00
54. 00	400	1.00	.01	3.99	4.01	4.00
55. 00	400	1.00	.01	3.99	4.01	4.00
56. 00	400	1.00	.01	3.99	4.01	4.00
57. 00	400	1.00	.01	3.99	4.01	4.00
58. 00	400	1.00	.01	3.99	4.01	4.00
59. 00	400	1.00	.01	3.99	4.01	4.00
60. 00	400	1.00	.01	3.99	4.01	4.00
61. 00	400	1.00	.01	3.99	4.01	4.00
62. 00	400	1.00	.01	3.99	4.01	4.00
63. 00	400	1.00	.01	3.99	4.01	4.00
64. 00	400	1.00	.01	3.99	4.01	4.00
65. 00	400	1.00	.01	3.99	4.01	4.00
66. 00	400	1.00	.01	3.99	4.01	4.00
67. 00	400	1.00	.01	3.99	4.01	4.00
68. 00	400	1.00	.01	3.99	4.01	4.00
69. 00	400	1.00	.01	3.99	4.01	4.00
70. 00	400	1.00	.01	3.99	4.01	4.00
71. 00	400	1.00	.01	3.99	4.01	4.00
72. 00	400	1.00	.01	3.99	4.01	4.00
73. 00	400	1.00	.01	3.99	4.01	4.00
74. 00	400	1.00	.01	3.99	4.01	4.00
75. 00	400	1.00	.01	3.99	4.01	4.00
76. 00	400	1.00	.01	3.99	4.01	4.00
77. 00	400	1.00	.01	3.99	4.01	4.00
78. 00	400	1.00	.01	3.99	4.01	4.00
79. 00	400	1.00	.01	3.99	4.01	4.00
80. 00	400	1.00	.01	3.99	4.01	4.00
81. 00	400	1.00	.01	3.99	4.01	4.00
82. 00	400	1.00	.01	3.99	4.01	4.00
83. 00	400	1.00	.01	3.99	4.01	4.00
84. 00	400	1.00	.01	3.99	4.01	4.00
85. 00	400	1.00	.01	3.99	4.01	4.00
86. 00	400	1.00	.01	3.99	4.01	4.00
87. 00	400	1.00	.01	3.99	4.01	4.00
88. 00	400	1.00	.01	3.99	4.01	4.00
89. 00	400	1.00	.01	3.99	4.01	4.00
90. 00	400	1.00	.01	3.99	4.01	4.00
91. 00	400	1.00	.01	3.99	4.01	4.00
92. 00	400	1.00	.01	3.99	4.01	4.00
93. 00	400	1.00	.01	3.99	4.01	4.00
94. 00	400	1.00	.01	3.99	4.01	4.00
95. 00	400	1.00	.01	3.99	4.01	4.00
96. 00	400	1.00	.01	3.99	4.01	4.00
97. 00	400	1.00	.01	3.99	4.01	4.00
98. 00	400	1.00	.01	3.99	4.01	4.00
99. 00	400	1.00	.01	3.99	4.01	4.00
100. 00	400	1.00	.01	3.99	4.01	4.00

	Sum of Squares	Mean Square	df	Significance
Between Groups	1.00	.01	44	.028
Within Groups	1.00	.01	44	
Total	2.00			

Table B.23. Analysis of Variance for Economy Class of Passenger's Satisfaction toward Tangible Factor  
Oneway - Economy class.

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1. Economy	71	3.24	1.00	.12	2.99	3.49	2.00	4.00
2. Economy	71	3.24	1.00	.12	2.99	3.49	2.00	4.00
3. Economy	71	3.24	1.00	.12	2.99	3.49	2.00	4.00
4. Economy	71	3.24	1.00	.12	2.99	3.49	2.00	4.00
Total	284							

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.381	3	3.794	1.184	.000
Within Groups	19.342	280	.069		
Total	30.723	283			

Table B.24. Descriptive statistics for the dependent variable, *g*, and the independent variables, *iri*, *wi*, *vi*, and *h*. The sample size is *N* = 4. The mean, standard deviation, and 95% confidence interval for the mean are reported for each variable.

### Descriptives

	<i>N</i>		Std. Deviation	Std. Error	95% Confidence Interval for Mean		<i>g</i>	
					Lower Bound	Upper Bound		
<i>iri</i>	4	cri	.00	.00	.00	.00	cri	cri
<i>wi</i>	4	cei	.00	.00	.00	.00	cei	cei
<i>vi</i>	4	cri	.00	.00	.00	.00	cri	cri
<i>h</i>	4	cri	.00	.00	.00	.00	cri	cri

	Sum of Squares				
Between Groups	1.4	m	7r	00	VD
Within Groups	1.4	r.1	CT	MM	kr)
Total	2.8	—	N		(:).



Table B.25. Analysis of Variance for Economy Class of Passenger’s Satisfaction toward Responsiveness – Economy Class.

Descriptives

Responsiveness	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Coefficients	Sig.
					Lower Bound	Upper Bound		
Between Groups	1	4.44	.44	.44	3.56	5.32	1.00	.000
Within Groups	4	4.44	.44	.44	3.56	5.32	1.00	.000
Total	5	4.44	.44	.44	3.56	5.32	1.00	.000

Responsiveness

	Sum of Squares	Mean Square	F	Sig.
Between Groups	1.598	.399	1.598	.211
Within Groups	49.070	12.268	1.598	.211
Total	50.668			

Table B.26. Analysis of Variance for Economy Class of Passenger’s Satisfaction toward Empathy Factor.  
Oneway – Economy.

Descriptives

	N	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mean	Std. Deviation
2	10	1.00	.316	Lower Bound	Upper Bound	1.00	1.00
2-200	10	1.00	.316	Lower Bound	Upper Bound	1.00	1.00
3-300	10	1.00	.316	Lower Bound	Upper Bound	1.00	1.00
4-400	10	1.00	.316	Lower Bound	Upper Bound	1.00	1.00
5-500	10	1.00	.316	Lower Bound	Upper Bound	1.00	1.00

5

Sum of Squares	Between Groups	Within Groups	Total
1.133	98.517	98.650	

Table B.27. Descriptives

Descriptives

	N	Std. Deviation	Std. Error	95% Confidence Interval for Mean			Maximum
				Lower Bound	Upper Bound		
rs	10	.000	.000	.000	.000	4	4
rs	10	.000	.000	.000	.000	4	4
rs	10	.000	.000	.000	.000	4	4
rs	10	.000	.000	.000	.000	4	4
rs	10	.000	.000	.000	.000	4	4

	Sum of Squares	df	Mean Square		Chi-Square
Between Groups	2.7E-02	9	.000	2.7E-02	71.000
Within Groups	54.599	90	.606		
Total	54.626	99			

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