

## CHAPTER II

### LITERATURE REVIEW

In the last chapter, Airfreight characteristics, main carriers in BKK, services offer and the reasons of a service quality concerning was discussed. This chapter will enhance our knowledge in service quality. Therefore a discussion in quality issues, service characteristics, service concept, service quality and airfreight service quality will be obtained in this chapter.

#### 2.1 Quality

An importance of quality has been recognized for centuries especially in a manufacturing sector. In the beginning, quality was based on self-inspection performed by masters and artisans on their own production, mainly in small quantities. The industrial revolution changed the way of manufactured products, with the birth of division and specialization of work, together with mass production. The foreman assumes the responsibility of product quality on a production line. Scientific aspects were only studied and developed in the beginning of the 20<sup>th</sup> Century, along with the specialization of work.

In the 1920's the quality control concept is introduced, the analysis of statistical variation of critical product variables, based on the pioneer studies performed by the Bell Laboratories. Shewhart published in 1931, *Economic Control of Quality of Manufactured Product*. It introduces a scientific footing on the quality discipline for the first time. Shewhart recognized that variability was a key concern in any production process.

After the World War II, quality starts evolving to quality assurance, when the focus shifts from detection to prevention of defects. Quality concepts need to be broadened to cover not only production and product conformance, but also to improve other aspects, such as understanding of customers' expectations, design and material procurement.

The concept of Total Quality Control (TQC)\* is introduced by Feigenbaum (1983) in the late 1950's, with the initiative idea of TQC concepts such as cost of quality (cost of poor quality), institution of aggressive goals (Zero defect), reliability engineering has been created.

According to Yong and Wilkinson (2002), quality, on obtain multiple dimensions; excellence, value, conformity to specifications, meeting and exceeding customer's expectations – was known and practiced over 4,000 years ago, with evidences found on the ancient Egyptian and Chinese civilizations.

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\* An effective system for integrating the quality development, quality maintenance, and quality improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels which allow for full customer satisfaction.

In this century, there are three key elements of quality: customer, process and employee. Everything business unit do to remain a world-class quality focus on these three essential elements.

Firstly, customer defines quality delightfully. They evaluate company's performance; reliability, competitive prices, on time delivery and so on.

Secondly, enterprise has to look at a company process from the customer's perspective. Understanding the transaction lifecycle from the customer's needs and processes, from this knowledge, companies can identify area where we can add significant value or improvement.

Finally, employee is a key of company who create a result. Therefore, on one hand company should commit to provide opportunities and incentives for employees to focus their talent and energies on satisfying customer. Every level of employee must be involved, motivated and knowledgeable then they will be able to convey this satisfied to customer.

## 2.2 Concept of Service

A popular definition described by Kotler in 1999 services as any act or performance that one party can offer to another 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. Every business is a service business.

Gronroos, 1990 observes that a service is an activity or series of activity that are more or less intangible. It is normally, but not necessarily, takes place in interactions and customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problem.

A company's offering to the marketplace often includes some services. The service component can be a minor or a major part of the total offering. Five categories of offering can be distinguished.<sup>1</sup>

1. Pure tangible goods, the offering consists primarily of tangible goods such as soap, toothpaste, or salt. No services accompany the product.
2. Tangible goods with accompanying services, the offering consists of a tangible goods accompanied by one or more services. Levitt observes that "the more technologically sophisticated the generic (e.g. cars and computers), the more dependent are its sales on the quality and availability of its accompanying customer services (e.g. display rooms, delivery, repairs and maintenance,

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<sup>1</sup> Kotler, P. Marketing management, The Millennium ed.(New Jersey: Prentice-Hall, 2000), pp.248-249.

application aids, operator training, installing advice, warranty fulfillment). In this sense, General Motors is probably more service intensive than manufacturing intensive. Without its services, its sales would shrivel.”

3. Hybrid, the offering consists of equal parts of goods and services. For example, people patronize restaurants for both food and service.
4. Major services accompanying with minor goods and services, the offering consists of a major service along with additional services or supporting goods. For example, airline passengers buy transportation service. The trip includes some tangibles, such as food and drinks, a ticket, and an airline magazine. The service requires capital-intensive goods for its realization, but the primary is a service.
5. Pure service; The offering consists primarily of a service. Examples include baby-sitting, psychotherapy, and massage.

It is difficult to form a conclusion about services without further distinctions because of varying goods-to-service. The following show the way how to generate services as the difference type of services and it depends on the difference of the objective of the service also.

#### 1. Equipment based

Service varies as to whether they are equipment based (automated car washes, vending machines) or people based (window washing, accounting services). People base services vary by whether they are provided provide by unskilled, skilled, or professional workers.

#### 2. Client's present

Some services require the client's presence and some do not. Brain surgery involves the client's presence, but a car repair does not. If the client must be presented, the service provider has to be considerate of his or her needs. Thus the beauty shop operators will invest in their shop's decor, play background music, and engage in light conversation with the client.

#### 3. Personal need

Service differs as to whether they meet a personal need (person service) or a business need (business services). Physicians will price physical examinations differently for private patients versus employees on a prepaid company health plan. Service providers typically develop different marketing programs for personal and business markets.

#### 4. Objectives

Service providers differ in their objectives (profit or nonprofit) and ownership (private or public).

### 2.3 Characteristics of Service

Due to service has a unique characters from consumer product<sup>\*</sup> and they are effect to the design of marketing programs.

There are four major characteristics of service<sup>\*\*</sup>

#### 1. Intangibility

Services are intangible. They cannot be seen, tasted, felt, heard nor even smelled before they are bought, unlike physical product that can be created and be transferred. It has an existence over time and thus can be created and used later. To reduce uncertainty, buyers will look for signs and evidence of the service quality. They will draw inferences about service quality from the place, people, equipment, communication material, symbols and price that they see. Therefore, service provider's task is to manage the evidence, to *tangibilize the intangible*. Whereas the product marketers are challenged, physical evidence and imagery on their abstract offers must be presented.

#### 2. Variability

Services are highly variable, which depends on who provides and when they are provided. Service buyers are aware of these variables and frequently collect the data with the others before selecting a service provider. There are three steps concerned towards the quality control in the service enterprises

2.1 An investing in good human resource and training

2.2 Standardizing the service-performance process throughout the organization. This will help depict the service events and processing a flow chart, with recognizing potential service fail points.

2.3 Monitoring customer satisfaction through suggestions and complaint system, customer surveys, and comparison, so the poor services can be detected and corrected.

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\* Appendix 4

\*\* Ibid., p.6.

### 3. Inseparability

Services are typically produced and consumed simultaneously. This is not true for the physical goods, which are manufactured, put in inventories, distributed through multiple resellers and consumed later on. The provider is the part of service. The provider-client interaction is a special feature of services marketing. Both the provider and the client affect the service outcome.

### 4. Perishability

Service cannot be stored. The perishability of services is not a problem when demand is steady because it is easy to prepare services in advance. When demand fluctuates, service firms will face the difficult situations.

Bitner (1993) has stated that much research suggests that customers rely on a variety of clues or evidence of service in choosing alternatives and also judging quality. Traditionally, customer research has been applied mainly to map customer needs. Determining of service provider about what service to offer to customer based on the outcome of each research projects. Nowadays more and more organizations focus on customer-research to provide whether customers are satisfied with their service delivered. Evaluation of the service delivered can provide and collect a lot of information, e.g. whether to change the service delivery, if needed. In this way, it is possible to really improve quality. Important indicators to be investigated, for instant, brand loyalty, repeat purchase, cross selling, satisfaction, complaint received. Complaints and claims always receive a lot of attention in quality programs. In order to get those kinds of information, customers should express their perceptions, attitudes, satisfaction, and dissatisfaction. This knowledge must then be collected as on the experience.

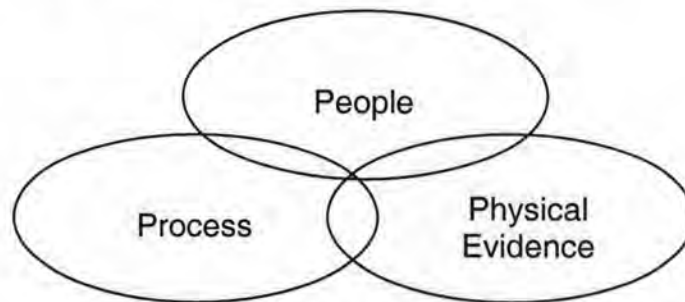


Chart 2-1 : Evidence of Service<sup>2</sup>

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<sup>2</sup> Bitner, and Joe, M. Managing the evidence of service, (New York, 1993), p.359.



**People** : Employee and other customers' presence in the service environment provide clues to the customer regarding the nature of the service itself. Their dress, appearance, characteristic, attitude and behavior all affect and influence potential customer perception of the service. The observation of other customer presence can also influence the purchase decision of individuals where one would judge the type of customers patronizing a certain outlet.

**Process** : Process is steps to arrange the flexible operation flow of service.

**Physical Evidence** : Because service is naturally intangible, customer rely on tangible evidence of the service in measuring quality.

## 2.4 Service Quality

Fox R.J. and Ellen D. (1988), held the brand name. It is valuable assets; project an image of quality and reliability. However, there is evidence that this relationship may not hold from service firms (or for service activities of manufacturing firms) as brand names have not been found to be reliable indicators of service quality or customer behavior relating to perceive quality.

Zeithaml V.A. (1981) mentioned that service quality is looked upon as experience and credence qualities where may need to accept professional advice in good faith because services do not possess easily observed attributes such as colour or hardness.

Zeithaml V.A. and Bitner M.J. (1996) states that in an effort to be more precise about terminology, service quality means the delivery of excellent or superior service.

Important issues to decide what excellence or bad services quality depend upon the customers' satisfaction. An excellence service quality should meet or exceed the customers' expectation from the service itself. From this point of view, it was obviously that the customer judge the service quality by the customer perceived the service performance in the context of what they expected, higher, or lower than their expected. Therefore service quality, as perceived by customers' expectation or their desire and their perception.

Thomas (1978) describes services via strategic management needs, where observed that, generally, services businesses evolved along the spectrum from people-based such as professional services to equipment-based such as dry cleaning services. He illustrated his description of the nature of services.

### 1. User-base approach to service quality

Parasuraman et al. (1998) assumed that the user-based approach runs parallel to subjective perceived quality. Customers use basically similar criteria in assessing services regardless of the type of service. Garvin (1998) positioned the user approach clearly within the field of marketing theory.

Kordupleski et al. (1993), Trompeter R., and Neijzen A (1989) gave a suitable definition of quality as the extent to which the service, the service process and the service organization can satisfy the expectations of the user.

### 2. Managing service quality

The SERVQUAL gaps model is a conceptual model that positions' key concepts, strategies and decision in services marketing by interpreting the relationship between the external Gap 5 (Perceived quality) and internal Gaps 1-4 in chart 2-2.



Parasuraman et al. (1985) formulated a service-quality model that highlights the main requirements for delivering high service quality. The model, shown in figure below, identifies five gaps that cause unsuccessful delivery:

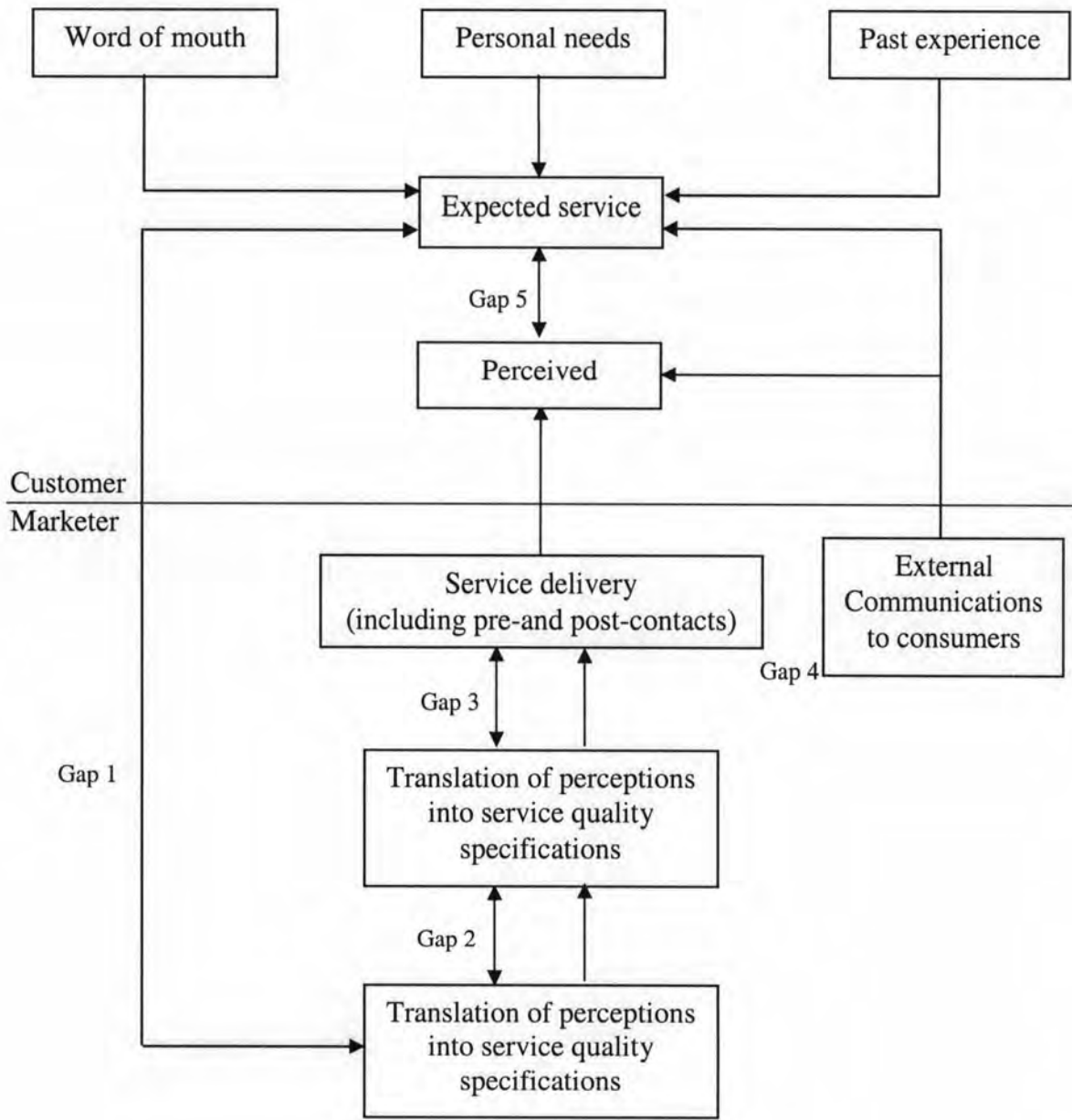


Chart 2-2 : Service-quality model \*

It is now useful to consider the cause of possible service quality evaluation. Therefore, not only users, customers and/ or buyers are asked to answer the questionnaires, but also employees and (top) managers as well. They are asked to answer the questionnaire from customer's point-of-view by putting themselves into customer's position and answer the

\* Parasuraman et al.



questions. The model assumes that differences between the desired service by the customer and the finally the delivered service by the service provider may be caused by the following four internal and one external gap.

Gap 1 : Gap between consumer expectation and management perception - Management does not always perceive correctly what customers want.

Gap 2 : Gap between management perception and service quality specification - management might correctly perceive the customer's want.

Gap 3 : Gap between service quality specifications and service delivery- Employees do not correctly translate rules and guidelines into action.

Gap 4 : Gap between service delivery and external communications - External communications provide by company's ads and promise but do not match with actual service delivery.

Gap 5 : Gap between perceived service and expected service - This gap occurs when the consumer misperceives the service quality.

To evaluate service quality, type of service is a significant index for the different of attributing to describe and analyze service. The result for the qualitative studied of Parasuraman, Zeithaml, and Berry (1998, 1990) conducted in researching service quality by depicting ten dimensions of service quality; tangibility, reliability, responsiveness, competence, courtesy, credibility, security, access, and communication and understanding. However, further quantitative research led these researchers to the dimensions to determine service quality.\*

**1. Reliability :** The ability to perform the promised service both dependably and accurately.

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

**3. Assurance :** The knowledge and courtesy of employees as well as their ability to convey trust and confidence. The assurance dimension includes the following features.

3.1 Competence to perform the service

3.2 Politeness and respect for the customer

3.3 Effective communication with the customer

3.4 The general attitude that the server has the customer's best interests at Heart

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\* Appendix 5

**4. Empathy :** The provision of caring, individualized attention to customers. It includes:

- 4.1 Approachability
- 4.2 Sensitivity
- 4.3 Effort to understand the customer's needs

**5. Tangibles :** An appearance of physical facilities, equipment, personnel and communication materials. The condition of the physical surroundings is tangible evidence of the care and attention to detail that are exhibited by the service provider.

Parasuman, et al. (1995) stressed that it is crucial to detect how important each of the five dimensions is to the customer in general or specific target groups. This affects the decision on which dimensions a service provider should concentrate its efforts in various market segments. The total service quality can be measured, using the five dimensions mentioned in previous paragraph. These five dimensions have been accepted and referenced as service quality.

Treasury Board of Canada secretariat (2001) published a how to guide for the service improvement initiative. In this study refer to five key drives of service quality based on the citizens' first survey in 1998. Those elements are;

1. Timeliness; how satisfied are customer with the time it took to get the service?
2. Knowledge, competence; service providers are knowledgeable and competent.
3. Courtesy and comfort; service provider are courteous and made you feel comfortable.
4. Fair treatment; were customer treated fairly?
5. Outcome; at the end, if customer gets what they need.

## 2.5 Airfreight Quality

Air transport has a unique characters and its service quality is impacted by other influences, for example, on ground service and airport service. A quality of service of airline industry can be analyzed in three aspects.<sup>3</sup>

1. An aspect of airline by using the quality of services as a competitive tool that they intend to keep existing and attracting new demand.
2. An aspect of the users who choose an airline to satisfy their needs.
3. An aspect of society due to the public may indirectly be affected from properly distributed services among the airlines and their users.

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<sup>3</sup> Janić, M. Air transport system analysis and modeling, (Amsterdam: Gordon and Breach Science Publishers, 2000).

The quality of air carrier service can be defined as passenger satisfaction or as continuity in satisfaction of customer requirements.

There are two dimensions of service quality of airline; external and internal dimensions.

1. The external dimension.

1.1 The airline's static capacity. This dimension is reflex to airline's supply abilities which can define by the number, type and age of aircraft in the fleet. In addition, a size of the reservation network and accessibility to agencies who sell airline's capacity indirectly reflects to the capacity.

1.2 The size of airline network. The number of airports included in the networks, the number of flights schedule, travel time and duration of intermediate stops, load factors.

1.3 Service punctuality. It reflects the airline ability to perform consistently dependably and accurately in promised service.

1.4 Commercial measures which are intended to hold an existing and instigate a new demand.

2. The internal dimension.

2.1 The ground attributes of the quality of service for example a friendliness and kindness of the personal serving the clients.

2.2 In-vehicle attributes for example a quality of on ground service.

From all above discussion, airfreight business is a mixture between people-based of skilled staffs who deal with customer and equipment-based due to it is heavily rely on ground service and aircraft is playing a main role for this service.

Held W. (2000) studied in an efficiency of airport operation and airlines efficiency. He mentioned about LCAG products in his study that verification makes LCAG's services more complicate and there is too much procedure and information for both customer and employee to know. He claimed that there are only two kinds of services required in airfreight industry, an economic one and premium service. He applied as a so called "Rope Theory" for a procedure of acceptance cargo. A Rope Theory is a simply idea, but will be an effective method to select cargo onboard and at the same time generate more revenue to service providers by using a bidding price from customer which expected to reflect to a demand of each transportation. Service provider has to mark all aircraft position on the ground and put the cargo behind the row. If the flights get filled up or latest time for pallet loading elapsed, then air carrier would ask customer if he willing to pay more in order to get his cargo from the last rope line up position to the front position

till all aircraft space is sold. This will be a revolution for a whole working procedure within the company and airfreight industry.

Hsu T. (2001) studied Taiwan domestic airlines as an example and using a fuzzy evaluation model with PZB model (developed from Parasuraman, Zeithaml and Berry) for measuring airlines service quality.

PZB model is an equation between conceptualization of the service quality and the customer's perspective while the SERVQUAL scale was designed to measure the gap between customers' expectations of services and their perceptions of the actual service delivered. For each attribute a difference score Q (representing perceived quality along that item) was defined as

$$Q = P - E$$

P and E are the ratings on the corresponding perception and expectation statements, this is a so called PZB model. For a performance model, created by Cronin and Taylor (1992) use perceived service performance to measure service quality.

$$Q = \text{Performance}$$

PZB model is suitable for service quality operation definition while a performance model is easier to use. Somehow, PZB model has 2 obstacles. Firstly the larger (P-E) is, the better service quality, but from the economic resource viewpoint and consumer behavior standpoint, an upper bound of satisfaction (UBS) level and a low bound of dissatisfaction (LBD) level exists. If  $(P-E) > \text{UBS}$  or  $(P-E) < \text{LBD}$ , the customers fail to tell the difference of these two levels. Secondly, P is consumer's mental evaluation for each factors, E is viewed as desires or wants of consumers. Olshavsky (1985) views the quality as a form of overall evaluation of product, similar in many ways to attitude. So, P and E are the fuzzy rating. It is difficult to present them by precision rating.

The following factors have been brought up into Hsu's study.

<b>Factor</b>	<b>Relative weight</b>
Flight safety	0.118
Manner and service attitude of flight attendants	0.116
Service attitude of ground employee	0.115
On-time flight	0.101
Comfort of in-flight seat	8.087
Convenience choice of flight schedule	0.085
Simplicity of making reservation	0.082
In-flight air circulation and air conditioning	0.078
Simplicity of purchasing the ticket	0.075
In-flight cleanliness and layout	0.073
Convenience of entering and exiting the airplane	0.070

Table 2-1 : Service Quality item and relative weight<sup>4</sup>

After gathering data from passenger (Experimental group), analysis will be based on Entropy method and Fuzzy cluster analysis, which are mentioned that there are two significant disadvantages for using these methodologies. Firstly, it requires a lot of historical data that is not easy to collect. Secondly, an external environment changes fast and the exterior factors of the decision changes accordingly.

Beier F. J. (2002) under Professor Emeritus's supervision studied in the feasibility of shipper panel to measure transportation service. The study was examined the value associated with a standing panel of shippers, who contribute carrier evaluation data to a central pool that would be available for wider distribution. A goal of this study is to be improved the quality of evaluation data available to shipper. They referred to information on the performance of carrier from <http://www.carrierranking.com>. Those criteria are

1. Operating personnel
2. Administration (including billing accuracy)
3. Information Technology
4. Equipment
5. On-time performance
6. Safety and compliance

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<sup>4</sup> Hsu, T. H. Applying fuzzy set theory to measuring air transportation service quality [Online]. 2001 Available from: <http://www.IEEE.com>[2005, March 13]



The International Logistics Quality Institute, an independent, non-profit organization of cargo industry-related groups, conducted a survey of more than 800 shippers who use intercontinental air freight services in 2003. Six aspects have been raised to evaluate.

1. Service Reliability
2. Transit Time
3. Rate
4. Customer Service
5. Network Coverage
6. Technology and Administration

Results show that international air freight shippers are looking for three key attributes; service reliability, competitive rate and fast transit times. Other attributes, such as customer service, network coverage and the use of technology were not found to be significant decision drivers for shippers.

Air Cargo World Air Cargo Excellence Air Cargo Excellence Survey launched a survey in 2003, and found the top rated airlines and airport in responses from customers on a wide range of performance measures. Criteria for airlines' services quality evaluate in this survey are

1. Customer Service : claim handled expeditiously, problems solved in a prompt and courteous manner, professional and knowledgeable sales force
2. Performance : fulfills promises and contractual agreements, dependable, accomplishes scheduled transit times
3. Value : competitive rate commensurate with service levels, value-added programs
4. Information Technology : tracking and tracing, internet/electronic commerce capabilities

## **2.6 Conclusion**

We discuss about what an airfreight market is, in order to define what are the problems, and their root cause. These processes of study are generated by using interview methods as well as literature review and exploratory research. Knowledge of these stages has been used for defining the questions which has been more focused.

Quality issues, service quality and airfreight service quality have been explained in many dimensions whereas a major study has been conducted by quantitative research. Those tools will describe in Chapter III. Researcher will enhance in studied methodologies, design of airfreight service quality, detail of each applied statistical tools will be explained including a period of study and questionnaire design will also be discussed. Furthermore, a target group for this study will be identified. Procedure of thesis will be designed and data collection will be then generated.