



Mobile Operator's Satisfaction on Care Service of  
Telecommunication Supplier Company in Thailand:  
A Case of NS Company

By  
Chatdao Payackapan

A Survey Research Report for  
MS 7000 Research Project  
Submitted in Partial Fulfillment of the Requirements for the Degree  
of  
Master of Science in Management

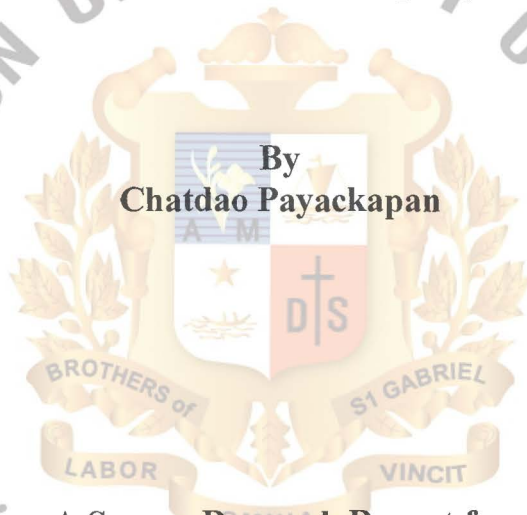
August 2008



**Assumption University  
COLLEGE OF INTERNET DISTANCE EDUCATION  
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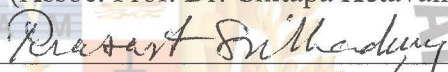
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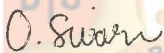
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**August 2008**

**Master Project/IS Title: MOBILE OPERATOR'S SATISFACTION ON CARE SERVICE OF TELECOMMUNICATION SUPPLIER COMPANY IN THAILAND**

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**ABSTRACT**

The objectives of this study were (1) to determine the current level of the mobile operators' satisfaction on the Care services, (2) to the mobile operators' perception on the quality of Care services, and (3) to identify the relationship of each dimension of service quality provided by NS Company and customer satisfaction.

Data were collected from permanent employees in service operation organization of DTAC in Thailand. Questionnaires were given to 250 DTAC operation staffs. A total of 223 complete and valid questionnaires were received. Data were analyzed using descriptive and correlation analyses. Most of the respondents in this study were male engineers from DTAC service operation organization who had 1-5 years experiences on Care service from the NS Company.

The findings from descriptive analysis showed that the respondents generally had favorable perceptions on four service dimensions including tangibles, responsiveness, assurance, and empathy of Care service. However, they had neutral perceptions on reliability of Care service. Moreover, the respondents were generally satisfied with Care services provided by NS Company. The findings from Pearson's correlation analysis showed that all five service quality dimensions were medium positively related to the mobile operator's satisfaction on Care service. Assurance dimension was strongest positively related to the mobile operator's satisfaction on Care service, followed by Empathy, Tangibles, Responsiveness and Reliability.

**Keywords:** Service quality, Tangibles, Reliability, Responsiveness, Assurance, Empathy, Customer satisfaction





## ACKNOWLEDGEMENT

I would like to express sincere appreciation to all people who contributed and supported me in the successful completion of this research project.

First of all, I gratefully express gratitude to Dr. Piyathida Praditbatuga, who contributed and gave great suggestions of my research project. I always receive her appropriate advises, valuable guidance and highly encouragement for completing my research project.

I would like to express my special thank to all instructors who provided me good knowledge on this management program. I was able to apply the knowledge in doing my research project properly.

My unforgettable acknowledgement to many persons in DTAC Company, who facilitated in distributing and collecting the questionnaires. I would like to express my special thank to all respondents who spent their time in filling up these questionnaires. Finally, I would like to thank the most important people in my life, my parents, my parents in law, my husband and my daughters who always love and support with strong hopes on my success in completing research project.

Chatdao Payackapan



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# CHAPTER 1

## INTRODUCTION

In this chapter an introduction of the chosen topic for the research project has been provided, the chapter begins with background of the problem followed by problem area discussion that is guiding the reader to the overall purpose of the research. The objectives of the research, the scope of research and the limitations are presented. At the end of this chapter, operational definitions of the constructs are recovered.

### 1. Background of the Research

Today businesses are realizing the importance of service, which plays in the future success. It is important not only to provide the quality products to customers, but also to render great service for customer satisfaction. Generally speaking, businesses that do not provide good services will not survive in the competitive market, which the firms can not reduce the price anymore. Thus, the firms need to differentiate from competitor by provide better services.

Service organizations ranging from small business owners to large corporations existing throughout the business world are constantly seeking unique ways of differentiating their offering. The willingness and ability of managers in service firms to respond to changes in the service economy will determine whether their own organizations survive and prosper. With so many changes occurring in Thai service industries, including an expansion and intensification of competition and increasing customer sensitivity, the issue of service quality has gained considerable currency (Johnson and Sirikit, 2002).

During the last decade of service quality research, Parasuraman (1985) have reported that excellent service is a profitable strategy because it results in more new customers, more business with existing customers, fewer lost customers, more insulation from price competition, and fewer mistakes requiring the re-performance of services. Profit impact of market strategy (PIMS) research has indicated that companies that offer superior service are able to charge 8 percent more for their product (Gale, 1992), while achieving higher than normal market share growth (Buzzell and Gale, 1987) and profitability (Phillips, 1983).

Thus, offering superior service quality can help firms become more profitable and help them sustain a competitive advantage in their served markets (Hampton, 1993). However, before service improvement program are introduced, current service quality levels needs to be addressed (Berry and Parasuraman, 1991). These assessments should identify the strengths and weaknesses of the service currently being delivered. Moreover, insights about how to differentiate through improved service quality, i.e. to gain a competitive advantage, require comparing quality assessments to those of competitors, (Parasuraman, 1988; Berry and Parasuraman, 1991). Such a comparison provides a strategic lens by helping to establish priorities for service quality improvement as well as identifying which service quality attributes to emphasize in differentiating the firm's service offer.

In today's competitive environment the pursuit of service quality is now considered an essential strategy. Today, offering a superior product is no longer sufficient, as firms in the new economy compete on a much broader platform. A world-class



product is no longer the ticket to global market dominance, but simply the admission price to compete. We are witnessing traditional business models being turned upside down, as companies and their customers connect in new and radically ways.

In addition, Customer Satisfaction is widely accepted among researchers as a strong predictor for behavioral variables such as repurchase intentions, word-of-mouth, or loyalty (Rovald and Groomroos, 1996, Liljander and Standvik, 1995). It is therefore relevant to research into the area of service quality and customer satisfaction.

When considering the current situation of Thailand's telecommunication market, it has very high competition, especially mobile phone operators. There are 3 major mobile operators: AIS, DTAC and Truemove. Due to the mobile phone business is now growing quite slow, thus these mobile operators have to work very hard to gain more market share, to get new customers and to retain existing customers. Price competition might be used from time to time but unable to apply all the time, because the mobile operators need to achieve their financial target in term of revenue and profit. Therefore the mobile operators focus to compete each other by providing the best service quality.

The delivery of service quality is considered as the critical success factor for these mobile operators. The mobile operators improve the service quality of their marketing, call centers and network operation centers. However the mobile operators need the support from their suppliers, who providing the network infrastructures (telecommunication equipments). Therefore the mobile operators are purchasing the services from their suppliers.

NS Company is one of telecommunication suppliers, who providing the network infrastructures to two major mobile operators, which are AIS and DTAC, in Thailand. But Truemove did not purchase network infrastructures from NS Company.

NS Company provides both equipments and services to the mobile operators. About 60% of AIS' network infrastructures and 100% of DTAC's network infrastructures are provided by NS Company.

NS Company called its after-sales service as "Care service". NS Company understands that it is difficult for the mobile operators to operate, maintain and repair equipments themselves. Care service helps mobile operators to maintain availability and performance of their networks by providing them with efficient after-sales services, such as Hardware Support, Software Implementation, Helpdesk Support, Emergency Support and Operation Support. And Care service offers innovative business models, e.g. taking short - to long-term responsibilities for managing the operators' spare parts logistics on their behalf.

Therefore Care service is essential for mobile operators. And the mobile operators are looking good quality of Care service. This research thus aims to understand how the quality of Care services impact to the mobile operator's satisfaction and identify the level of mobile operator's satisfaction on the Care services providing by NS Company which would, in turn, assist in monitoring the quality of Care services, whether it meet the demands from the mobile operators.

## 2. Company Background

In business or economics a merger is a combination of two firms into one larger firm, and commonly the firms agree to combine their operations on a relatively equal basis (Ireland, 2006). Merger activity has been increasing in recent years, both in terms of frequency and strategic importance. The simultaneous popularity of merger and dissatisfaction with their performance indicates the need for greater attention to and a more sophisticated understanding of, the process of governing them (Madhok, 2006). Because of the involvement of two or more partners from different national backgrounds and cultures, therefore mergers are more difficult to manage than wholly foreign owned enterprises (Mohr and Puck, 2007).

The new merger company “NS Company” was targeted for the research. NS Company is a telecommunications solutions supplier which was created as the result of a merger between S-AG's Communications division (excluded its Enterprise business unit) and N's Network Business Group.

Historically, S Company's Communications was the communications and information business of German industrial conglomerate S-AG. It is the largest division of S Company and is divided into Mobile Networks, Fixed Networks and Enterprise business units. And N's Network Business Group was the part of the N Corporation which is multinational communications corporation, focused on the key growth areas of wired and wireless telecommunications.

On June 19, 2006, N Company and S Company announced that they intended to merge the Networks Business Group of N Company and the carrier-related operations of S Company into a new company, to be called NS Company. The 50-50 joint venture expected to create a global leader with strong positions in important growth segments of fixed and mobile network infrastructure and services.

The combined company was positioned to lead the development and implementation of revenue-generating and cost-saving products and services via its scale and global reach. NS Company planned to have one of the world's best research and development teams with the ability to invest in next generation fixed and mobile product platforms and services. The new company planned to have a world-class fixed-mobile convergence capability, a complementary global base of customers, a deep presence in both developed and emerging markets, and one of the industry's largest and most experienced service organizations.

On April 2, 2007, NS Company started operations with approximately 60,000 employees and EUR 17.1 billion in annual revenues (2006), NS Company maintains an organizational headquarters in Espoo, Finland and a regional headquarters in Munich, Germany.

Core capabilities of the new company have not changed. NS Company can start working on deals. NS Company can start actually merging portfolios. Basic assets remain the same and the new company does not enter into any new markets. When all is said and done, not much is different this week than last.



However celebrating day one is easy, but the core tasks needed to demonstrate execution excellence have not changed. Integrating product portfolios takes time and energy and melding disparate, highly competitive sales and marketing teams requires strong leadership and sustained effort. As the inevitable downside of rationalization hits, momentum can falter – potentially endangering customer relationships.

In the past, N Company and S Company Com aggressively pursued the market. Blending leadership teams is likely to stimulate internal rivalries given the high professional stakes. With substantial overlap, executives and product teams are fighting for supremacy. What's more, having competed fiercely in the past, employees from N Company and S Company are having strong, sometime differing opinions on appropriate market and product strategies – creating further friction with those employees on the outside. Combining two complex organizations and portfolios into a single effective organism is a big job; this might take few more years to complete with desired performance.

One of N Company's values was "Customer Satisfaction", it really focused on its customers. After merging, NS Company is still mainly focusing on its customer which presented as one of its values as "Focus on Customer". Since customer satisfaction survey is an integral part of the loyalty program, therefore the company implemented the customer satisfaction survey once a year. The survey has been conducted by external consultant company. The survey consists of two parts: 1) door-to-door personal interview 5 top-executives in the mobile operator company and 2) e-mail questionnaire survey 30 middle management in the mobile operator company. The survey has been designed to measure satisfaction on all equipments and all services

(e.g. Planning service, Implementation service, and Care service). The result of the survey was presented as CLI (Customer Loyalty Index). The CLI is calculated from 3 categories (1) the basis of overall satisfaction, (2) likelihood to recommend and (3) value perception.

Before merging (at the end of year 2006), the CLI of customer “DTAC” was 8.9 from 10. But after merging (at the end of year 2007), the CLI of DTAC reduced to 7.6 from 10. Most of NS Company’ staffs wondered that the reduction of CLI is mainly caused by merger. DTAC Customer team of NS Company has taken concrete actions to improve the CLI.

The management of NS Company has taken into account on the reduction of Customer Loyalty Index (CLI) seriously. The customer team has tried to find most of possible causes on the reduction of CLI. Then customer team has defined the concrete action plan to improve CLI.

### 3. Statement of the Problem

NS Company has concentrated on customer satisfaction. Due to NS Company has strongly believed if they can satisfied their customers by providing high performed products and good quality of services, their customer will repeat the purchasing. At the end NS Company will gain more customer loyalty.

Care service is one of services that NS Company has realized that it is required by the mobile operators; however the mobile operators might refuse to purchase Care

services or want to pay less for Care services. It will happen if the mobile operators are not satisfied with the Care services, especially the quality of the services.

This research is thus focused on how mobile operators' perception on the quality of Care services relate to the mobile operator's satisfaction.

#### **4. Significance of the Research**

This research aims to identify the level of mobile operator's satisfaction on the Care services providing by NS Company and to understand how the quality of Care services impact to the mobile operator's satisfaction. NS Company may use the results of this study to build upon existing service strengths and improve upon those Care services that may appear to fall short in meeting mobile operators' expectations which would, in turn, assist in monitoring the quality of Care services, whether it meet the demands from the mobile operators.

The management of NS Company may consider utilizing the result of this study to be a guideline to understand and improve the service quality in other services, and this is definitely influence the higher customer satisfaction on NS Company.

#### **5. Research Objectives**

The research was conducted to address the following specific research objectives:

1. To determine the current level of the mobile operators' satisfaction on the Care services.
2. To determine the mobile operators' perception on the quality of Care services.
3. To identify the relationship of each dimension of service quality provided by NS Company and customer satisfaction.

## **6. Research Questions**

The research questions are

1. What is the current level of the mobile operators' satisfaction on the Care services?
2. What is a relationship between the quality of Care services and the mobile operator's satisfaction?

## **7. Scope of the Research**

This research is conducted to study the quality of Care services providing by NS Company to the major mobile operator in Thailand who is DTAC, which NS Company is considered as a sole supplier for GSM network.

The research is performed during 1<sup>st</sup> July 2008 to 16<sup>th</sup> July 2008, which involved from service operation organization in DTAC. During the research period, DTAC has purchased a valid Care services' contract with NS Company.



## 8. Limitations

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There are two limitations associated with this study. First, the research focused only one mobile operator which is DTAC, because two main reasons which are the limited time for this research and different service delivery team for each mobile operator (it might lead to different result). Therefore the result might not be valid for the quality of Care services to other mobile operators.

Second, data was collected only one time during the specific period, therefore the result might not be represent the actual of the quality of Care services for the whole year or contract period.

## 9. Operational Definitions of the Constructs

### 9.1 Definition of Independent Variables

The independent variables of the research are five dimensions of the quality of Care Services. Quality of Care Services refers to the operational staffs' (in the mobile operator who is DTAC) perception on the quality of after-sale services providing from NS Company to the mobile operator.

The research measures the quality of Care services in five dimensions: tangibles, reliability, responsiveness, assurance and empathy.

- 1) Tangibles - appearance of physical facilities, equipment, personnel, and communication materials
- 2) Reliability – the ability to perform the promised service dependably and accurately
- 3) Responsiveness – the willingness to help customers and to provide prompt service
- 4) Assurance – employees’ knowledge and courtesy and the ability of the firm and its employees to inspire trust and confidence
- 5) Empathy – as the caring, individualized attention that the firm provides its customers

## **9.2 Definition of Dependent Variable**

The dependent variable of the research is customer satisfaction of Care services. Customer Satisfaction of Care services refers to the satisfaction level perceived by DTAC’s operational staffs on Care services which provided by the NS Company.

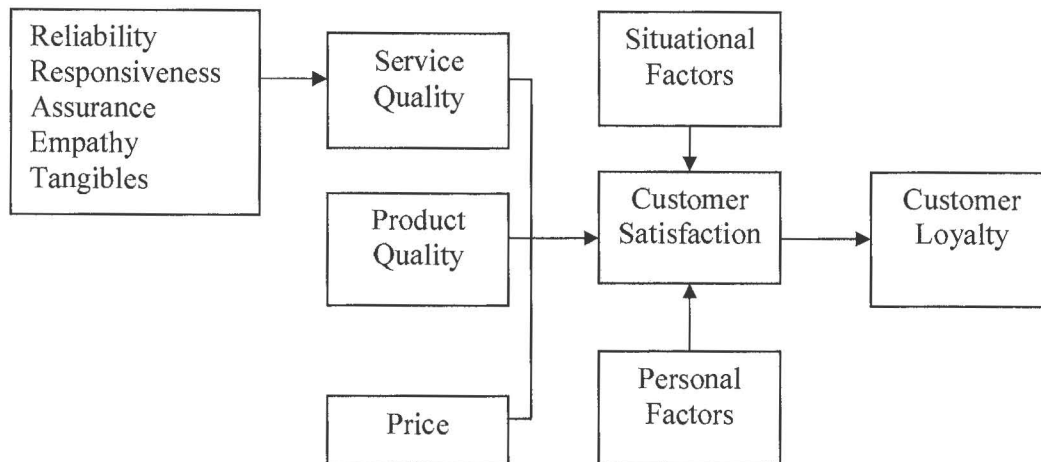
## CHAPTER 2

### LITERATURE REVIEW

In this chapter literature reviews related to the chosen topic for the research project has been covered, these tend to provide the reader for better understanding of the research problems. The research framework and operational definitions of the constructs are presented. At the end of this chapter, the research hypotheses are defined.

#### 1. Theoretical Framework

The theoretical framework used as a guideline for this study is the model of the relationship between customer perceptions of quality and customer satisfaction. Zeithaml, Bitner and Gremler (2006) mentioned practitioners and writers in the popular press tend to use the terms satisfaction and quality interchangeably, but researchers have attempted to be more precise about the meanings and measurement of the two concepts, resulting in considerable debate. Consensus is that the two concepts are fundamentally different in terms of their underlying causes and outcomes. Although they have certain things in common, satisfaction is generally viewed as a broader concept, whereas service quality focuses specifically on dimensions of service. Based on this view, perceived service quality is a component of customer satisfaction. Figure 2.1 graphically illustrates the relationships between the two concepts.



**Figure 2.1** Customer Perceptions of Quality and Customer Satisfaction

Source: Zeithaml, Bitner and Gremler (2006), *Service marketing*, p.107

As shown in Figure 1.1, service quality is a focused evaluation that reflects the customer's perception of: reliability, assurance, responsiveness, empathy and tangibles. Satisfaction, on the other hand, is more inclusive: it is influenced by perceptions of service quality, product quality and price as well as situational and personal factors.

## 2. Service Quality

Services are economics activities offered by one party to another, most commonly employing time-based performance to bring about desired results in recipients themselves or in objects or other assets for which purchasers have responsibility. In exchange for their money, time and effort, service customers expect to obtain value from access to goods, labor, professional skills, facilities, networks, and systems. The



most basic distinguishing characteristic of services is intangibility. Because services are performances or actions rather than objects, they cannot be seen, felt, tasted, or touched in the same manner that you can sense tangible goods. Services cannot be readily displayed or easily communicated to customers, so quality may be difficult for customers to assess (Zeithaml, Bitner and Gremler, 2006, Lovelock and Wirtz, 2007).

## 2.1 The Gaps Model of Service Quality

Zeithaml, Bitner and Gremler (2006) defined the gaps model of service quality for viewing service in a structured, integrated way. There are customer gap and provider gaps. Customer gap is the difference between customer expectations and perceptions. Customer expectations are standards or reference points that customers bring into the service experience, whereas customer perceptions are subjective assessments of actual service experiences. Customer expectations often consist of what a customer believes should or will happen. Closing the gap between what customers expect and what they perceive is critical to delivering quality service; it forms the basis for the gaps model.

Provider gaps are 4 gaps, which need to be closed

Gap 1: Not knowing what customers expect, is the different between customer expectations of service and company understanding of those expectations. Many reasons exist for managers not being aware of what customer expects: they may not interact directly with customers, they may be unwilling to ask about expectations are, or they may be unprepared to address them.

Gap 2: Not having the right service quality designs and standards, is the different between company understanding of customer expectations and development of customer-driven service designs and standards. A recurring theme in service companies is the difficulty experienced in translating customer expectations into service quality specifications that employees can understand and execute.

Gap 3: Not delivering to Service designs and standards, is the discrepancy between development of customers-driven service standards and actual service performance by company employees. Even when guidelines exist for performing services well and treating customer correctly, high-quality service performance is not a certainty.

Gap 4: Not Matching Performance to Promises is the different between service delivery and the service provider's external communications. Promises made by a service company through its media advertising, sale force and other communications may potentially raise customer expectations, the standards against which customer assess service quality.

The model conveys a clear message to managers wishing to improve quality of service: the key of closing the customer gap is to close provider gap 1 though 4 and keep them closed.

## 2.2 Measuring Service Quality

Baron and Harris (1995) and Lovelock and Wirtz (2006) mentioned that from the focus group research, Valarie Zeithaml, Leonard Berry, and A. Parasuraman identified 10 criteria used by consumers in evaluating service quality.

- 1) Reliability – this relates to the ability of the service provider to perform the promised service dependably and accurately.
- 2) Access – the service is accessible and delivered with little waiting.
- 3) Security – the service is free from danger, risk or doubt.
- 4) Credibility – trustworthy and honest that that service provider appears to be.
- 5) Understanding the customer – the effort that the organization makes to get to know its customers and understands their needs.
- 6) Responsiveness – the willingness that service employees help customers to deal with their specific problems.
- 7) Competence – staff possess the required skills and knowledge to perform the service.
- 8) Courtesy – staff are polite to considerate to customers.
- 9) Tangibles – the appearance of the physical facilities, equipment, personnel, and communication materials.
- 10) Communication – organization communicate effectively what is provided in the service and what role customers are expected to play.

In subsequent research, they found a high degree of correlation between several of these variables and so consolidated them into five broad dimensions:

- 1) Tangibles - appearance of physical element
- 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 understanding

These five dimensions constitute the skeleton of SERVQUAL, probably the best-known, universal scale designed to measure the perceived service quality (Bahia and Nantel, 2000).

### 2.3 SERVPERF

Cronin and Taylor (1992) examined the research of measuring service quality: a reexamination and extension. Cronin and Taylor (1992) suggested that the current conceptualization and operationlization of service quality (SERVQUAL) is inadequate. The SERVQUAL scale is based on Parasuraman, Zeithaml and Berry's (1985) gap theory, which suggests that the difference between consumers' expectations about the performance of a general class of service providers and their assessment of actual performance of specific firm within that class drives perception of service quality. However, little if any theoretical or empirical evidence supports the relevance of the expectations-performance gap as the basis for measuring service quality. In fact, the marketing literature appears to offer considerable support for the superiority of simple performance-based measures of service quality. Therefore Cronin and Taylor (1992) developed and tested a performance-based alternative to the SERVQUAL measure.



Cronin and Taylor (1992) developed the research model as shown in Figure 2.2. Figure 2.2 identifies the two models used to further comparison of performance – based and disconfirmation-based measures of service quality (SERVPERF) and SERVQUAL, respectively). Model 1 and 2 are identical with the exception that SERVQUAL is used to measure service quality in model 1 whereas SERPERF is used in model 2.

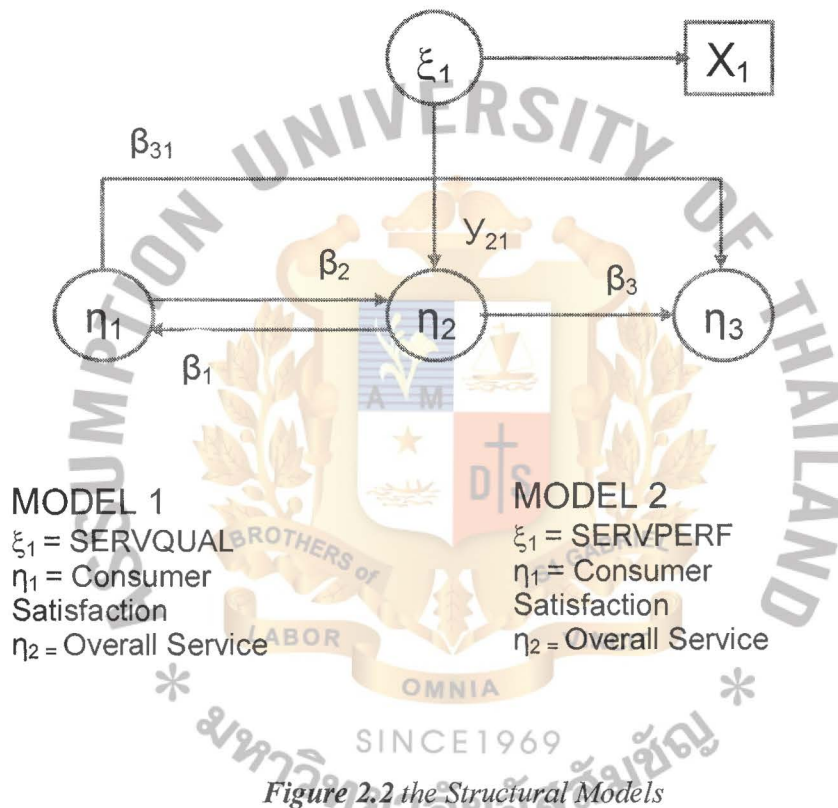


Figure 2.2 the Structural Models

Source: Cronin and Taylor (1992), *Measuring Service Quality: A Reexamination and Extension*, *Journal of Marketing* Vol56 (July 1992), p.59

The major conclusion from Cronin and Taylor's study is that marketing's current conceptualization and measurement of service quality are based on a flawed paradigm. Cronin and Taylor (1992) presented empirical and literature support

suggesting that service quality should be measured as an attitude. The performance-based scale developed (SERVPERF) is efficient in comparison with the SERVQUAL scale; it reduces by 50% the number of items that must be measured. The analysis of structural model also supports the theoretical superiority of the SERVPERF scale; only the model 2 that uses the SERVPERF scale consistently confirmed. These factors support the use of a performance-based measure of service quality.

As a result, the researcher will apply a performance-based measure of service quality for this research.

#### **2.4 Service Quality Dimensions**

Zeithaml, Bitner and Gremler (2006) have explained about each of service quality dimensions.

##### **Tangibles**

Tangibles are defined as the appearance of physical facilities, equipment, personnel, and communication materials. Tangibles provide physical representations or images of the service that customers, particularly new customers, will use to evaluate quality. Service industries that emphasize tangibles in their strategies include hospitality services in which the customer visits the establishment to receive the service, such as restaurants and hotels, retail stores, and entertainment companies. NS Company is also in service industry should thus emphasize tangibles in its strategies of after-sale services.

Although tangibles are often used by service companies to enhance their image, provide continuity, and signal quality to customers, most companies combine tangibles with another dimension to create a service quality strategy for the firm. In contrast, firms that do not pay attention to the tangibles dimension of the service strategy can confuse and even destroy an otherwise good strategy.

### **Reliability**

Reliability is defined as the ability to perform the promised service dependably and accurately. In its broadest sense, reliability means that the company delivers on its promises – promises about delivery, service provision, problem resolution, and pricing. Customers want to do business about the service outcomes and core service attributes.

All firms need to be aware of customer expectations of reliability. Reliability has been consistently shown to be the most important determinant of perceptions of service quality among U.S. customers.

### **Responsiveness**

Responsiveness is the willingness to help customers and to provide prompt service. This dimension emphasizes attentiveness and promptness in dealing with customer requests, questions, complaints, and problems. Responsiveness is communicated to customers by the length of time they have to wait for assistance, answer to questions, or attention to problems. Responsiveness also captures the notion of flexibility and ability to customize the service to customer needs.

To excel on the dimension of responsiveness, a company must view the process of service delivery and the handling of requests from the customer's point of view rather than the company's point of view. Standards for speed and promptness that reflect the company's view of internal process requirements may be very different from the customer's requirements for speed and promptness. To truly distinguish themselves on responsiveness, companies need well-staffed customer service department as well as responsive front-line people in all contact positions. Responsiveness perceptions dimensions diminish when customers wait to get through to a company by telephone, are put on hold, are put through to a complex voice mail system, or have trouble accessing the firm's website.

### **Assurance**

Assurance is defined as employees' knowledge and courtesy and the ability of the firm and its employees to inspire trust and confidence. This dimension is likely to be particularly important for services that customers perceive as high risk or for services of which they feel uncertain about their ability to evaluate outcomes. NS Company should also build trusts in services to its customers.

Trust and confidence may be embodied in the person who links the customer to the company. In such service contexts the company seeks to build trust and loyalty between key contact people and individual customers.

In other situations, trust and confidence are embodied in the organization itself. Those companies illustrate efforts to create trusting relationships between customers and the company as a whole.



### **Empathy**

Empathy is defined as the caring, individualized attention that the firm provides its customers. The essence of empathy is conveying, through personalized or customized service, that customers are unique and special and that their needs are understood. Customers want to feel understood by and important to firms that provide service to them. Personnel at small service firms often know customers by name and build relationships that reflect their personal knowledge of customer requirements and preferences. When such a small firm competes with larger firms, the ability to be empathetic may give the small firm a clear advantage.

In business-to-business services, customers want supplier firms to understand their industries and issues. Many small computer consulting firms successfully compete with large vendors by positioning themselves as specialists in particular industries. Even though larger firms have superior resources, the small firms are perceived as more knowledgeable about customers' issues and needs and are able to offer more customized services.

### **3. Customer Satisfaction**

Richard L. Oliver defined that satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption related fulfillment (Zeithaml, Bitner and Gremler, 2006).

Zeithaml, Bitner and Gremler (2006) interpreted this definition to mean that “satisfaction” is the customer’s evaluation of a product or service in term of whether that product or service has met the customer’s needs and expectations. Failure to meet needs and expectations is assumed to result in “dissatisfaction” with the product or service.

Parasuraman (1988) mentioned that customer satisfaction research is mainly influence by the disconfirmation paradigm; this paradigm states that the customers’ feeling of satisfaction is a result of comparison standard, such as expectations. The customers are satisfied when they feel that product’s performance is equal to what was expected (confirming). If the product’s performance exceeds expectation, the customers are very satisfied (positively disconfirming), if it remains below expectation, the customer will be dissatisfied (negatively disconfirming).

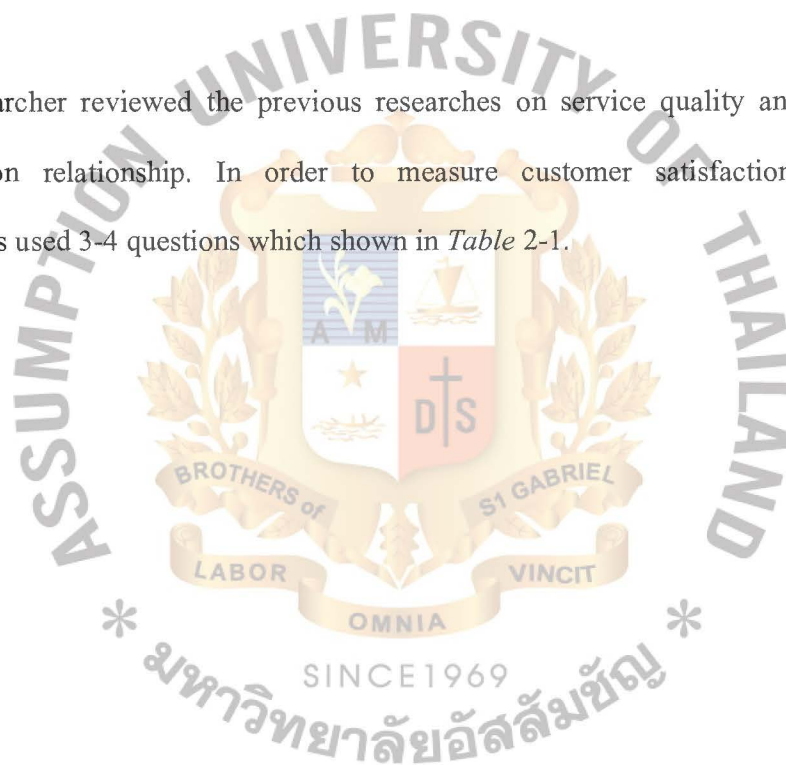
### **3.1 Measuring Customer Satisfaction**

Measuring customer satisfaction has become increasingly popular in the last two decades and today represents an important source of revenue of market research firm (Oliver, 1993, Perkins 1997). The satisfaction construct has gained an important role in the market literature. It is widely accepted among researchers as a strong predictor for behavioral variables such as repurchase intentions, word-of-mouth, or loyalty (Rovald and Groonroos, 1996, Liljander and Standvik, 1995).

Customer satisfaction tends to be measured at a particular point of time as if it were static; satisfaction is a dynamic, moving target that may evolve over time, influenced by a variety of factors. Particularly when product usage or the service experience

takes place over time, satisfaction may be highly variable depending on which point in the usage or experience cycle one is focusing on. Similarly, in the case of very new services or a service not previously experienced, customer expectations may be barely forming at the point of initial purchase, these expectations will solidify as the process unfolds and the consumer begins to form his/her perceptions. Through the service cycle the consumer may have a variety of different experiences, some good, some not good, and each will ultimately impact satisfaction (Zeithaml, Bitner and Gremler, 2006).

The researcher reviewed the previous researches on service quality and customer satisfaction relationship. In order to measure customer satisfaction, previous researches used 3-4 questions which shown in *Table 2-1*.



**Table 2-1: Questionnaire Measured Customer Satisfaction**

Research Title	Researchers	Question Scaling	Questions measured Customer satisfaction
The determinants of perceived service quality and its relationship with satisfaction	Haksik Lee, Yongki Lee and Dongkeun Yoo (2000)	Likert Scale	1) I am satisfied with my decision to use this institution
		Likert Scale	2) My feeling towards this institution's services can best be described as:
		Likert Scale	3) I feel _____ with this institution's services:
Service quality, customer satisfaction, and behavioral intentions in the service factory	Festus Olorunniwo, Maxwell K. Hsu and Godwin T. Udo (2006)	Likert Scale	1) Would you agree to say "I am satisfied with my decision to visit this hotel"?
		Likert Scale	2) Would you agree to say "My choice to stay at this hotel was a wise one"?
		Likert Scale	3) Would you agree to say "I think I did the right thing when I choose to stay in this hotel"?
		Likert Scale	4) Would you agree to say "I feel that my experience with this hotel has been enjoyable"?

As a result, the researcher will apply three questions based on these related previous studies to measure customer satisfaction. These three questions are:

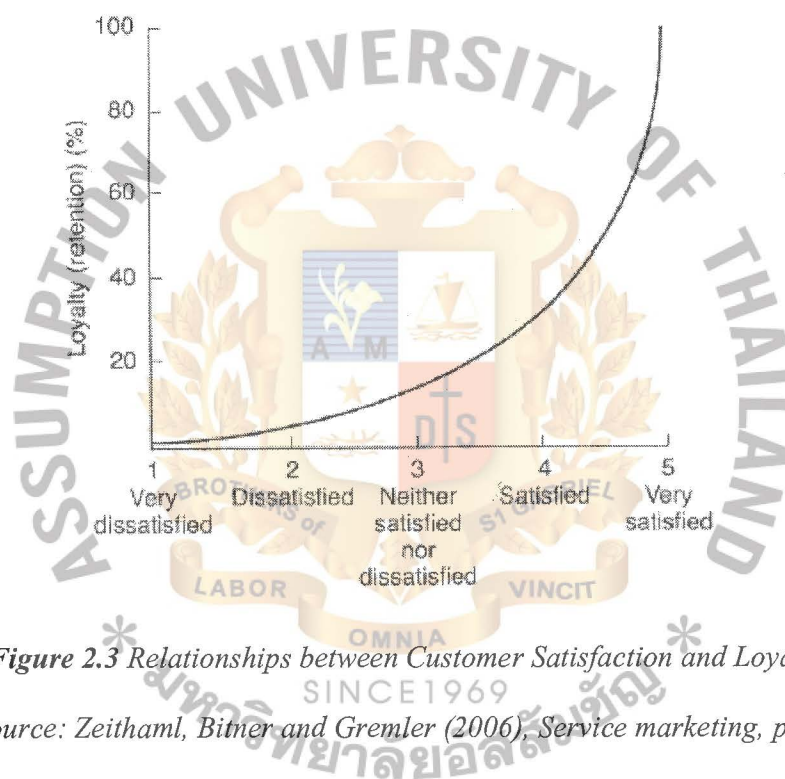
- 1) I am satisfied with DTAC's decision to use Care services
- 2) I am satisfied with Care service
- 3) I feel that my experience with Care service has been preferable

### 3.2 Consequences of Customer Satisfaction/Dissatisfaction

Zeithaml, Bitner and Gremler (2006) mentioned because of the importance of customer satisfaction to firms and overall quality of life, many countries have a



national index that measures and tracks customer satisfaction at a macro level. Many public policymakers believe that these measures could and should be used as tools for evaluating the health of the nation's economy, along with traditional measures of productivity and price. Customer satisfaction indexes begin to get at the quality of economic output, whereas more traditional economic indicators tend to focus only on quantity.



Beyond these macroeconomic implications, however, individual firm have discovered that increasing levels of customer satisfaction can be linked to customer loyalty and profits.

As shown in Figure 2.3, there is an important relationship between customer satisfaction and customer loyalty. This relationship is particularly strong when customers are very satisfied. Thus firms that simply aim to satisfy customers may not be doing enough to engender loyalty – they must instead aim to more than satisfy or even delight their customers.

Xerox Corporation was one of the first companies to pinpoint this relationship. In the 1980s Xerox discovered through its extensive customer research that customers giving Xerox a 5 (very satisfied) on a satisfaction scale were six times more likely to repurchase Xerox equipment than were those giving the company a 4 (somewhat satisfied). Many other companies have drawn similar conclusion.

At the opposite end of the satisfaction spectrum, researchers have also found that there is a strong link between dissatisfaction and disloyalty – or defection. Customer loyalty can fall off precipitously when customers reach particular level of dissatisfaction or when they are dissatisfied with critically important service attributes. There are clear linkages between customer satisfaction, loyalty and firm profitability. Thus, many companies are spending more time and money understanding the underpinning of customer satisfaction and ways that they can improve.

#### **4. Customer Satisfaction and Service Quality**

Baron and Harris (1995) mentioned within the services marketing literature there still appears to be some confusion over the relationship between service quality and

customer satisfaction. While customer satisfaction and service quality are clearly related, researchers do not share common definitions of the terms, nor is there clear understanding expressed in the literature of how the two relate. The most common explanation of the difference between service quality and customer satisfaction is highlighted. Quality is generally conceptualized as an attitude, the customer's comprehensive evaluation of a service offering. It is built up from a series of evaluated experiences and hence is less dynamic than satisfaction. Satisfaction is the outcome of the evaluation a consumer makes of any specific transaction. The customer's level of satisfaction with that particular transaction will relate to the level of disconfirmation between the prior expectations of the service and the actual outcome. If the disconfirmation was relatively small, or if the outcome exceeded expectations, then customer will be satisfied or even delighted.

Valarie Zeithaml, Leonard Berry, and A. Parasuraman (1988) are quite clear about the fact that the SERVQUAL instrument, in its present form, is intended to ascertain customers' global perceptions of firm's service quality. They maintain that customer satisfaction is distinct from service quality. Satisfaction is thought to result from the comparison between predicted service and perceived service, whereas service quality refers to the comparison between desired service and perceived service. However, they make the point, in the current state of the debate, that both service quality and customer satisfaction can be examined meaningfully from both transactions – specific as well as global perspectives (Baron and Harris, 1995).

In the past ten years, there were many researches to examine the relationship between service quality and customer satisfaction.

1) Haksik, Yongki and Dongkeun (2000) investigated the customer satisfaction – perceived service quality relationship. The result of their study provides empirical support for the notion that perceived service quality in fact leads to satisfaction. The result suggests that service quality is an antecedent of customer satisfaction and that customer satisfaction exerts a stronger influence on purchase intention than does service quality. They also indicates tangible is a more important factor in the facility/equipment-based industries and responsiveness is a more important factor in the people-based industries.

2) Sureshchandar, Rajendran and Anantharaman (2002) investigated the link between perceived service quality and customer satisfaction. The study investigated the distinctiveness of the constructs of perceived service quality and customer satisfaction, and the relationships between them. The study adopts a different approach by operationalizing customer satisfaction on the same grounds as done for perceived service quality. The results reveal that perceived service quality and customer satisfaction do exhibit independence and are indeed different constructs from the customer's point of view. It is also observed that these two are closely related as can be seen from the high correlations between them.

3) Yonggui and Hing-Po (2002) studied the relationship between service quality and customer satisfaction, evidence from China's telecommunication industry. They investigated that all the six service quality related factors (tangibles, reliability, responsiveness, assurance, empathy and network quality) have significantly positive influence on customer satisfaction or not. The result shows no evidence of the relationship between empathy and customer satisfaction while the influence of



reliability, assurance, tangibles, network quality and customer satisfaction is found to be significant.

4) Olorunniwo, Maxwell and Godwin (2006) investigated the nature of the service quality and its relationship to customer satisfaction and behavioral intentions in the service factory. The result is that the standardized coefficients from service quality to customer satisfaction and from customer satisfaction to behavioral intentions are 0.72 and 0.89, respectively. This highlights the important role of customer satisfaction in the context of the service factory. On the other hand, a statistically significant but relatively smaller standardized regression coefficient is observed between service quality and behavioral intentions. This implies that, though the direct effect of service quality on behavioral intentions is significant, the indirect effect of service quality on behavioral intentions (via the channel of customer satisfaction) appears to be a stronger driver for customer behavioral intentions in the service factory.

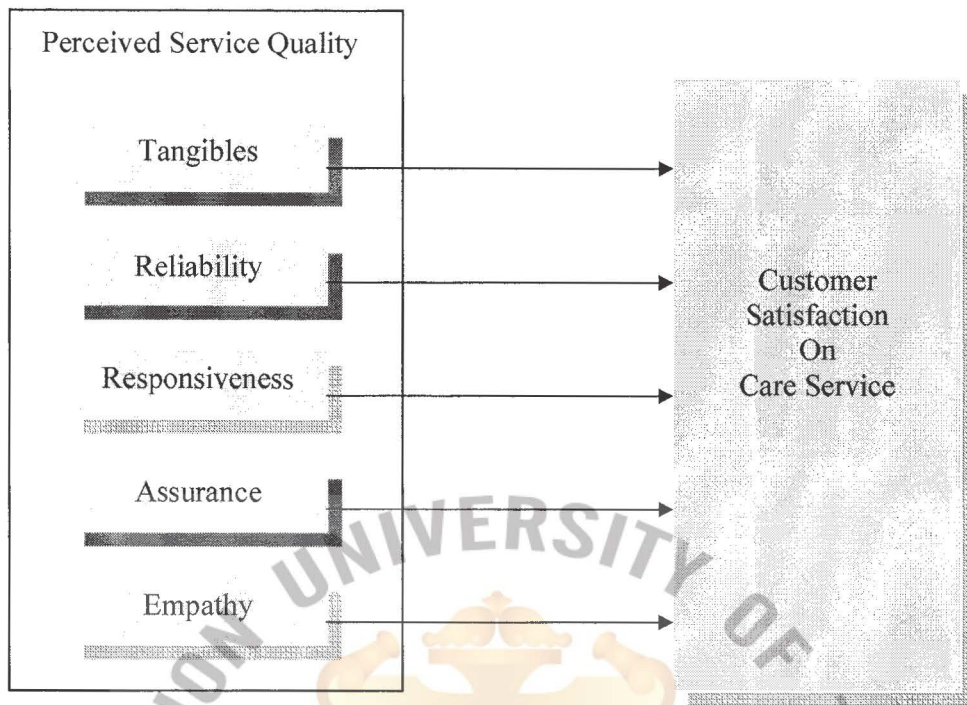
5) Yoo and Park (2007) developed valid and reliable instruments to measure employee training, a shared understanding, perceived service quality, customer satisfaction and financial performance. They investigated that firms with a high level of perceived service quality will have a high level of customer satisfaction. Statistical results supported the hypothesis because the path coefficient was 0.91 ( $t=9.0$ ,  $p>0.01$ ). Another finding from the research is that customer satisfaction mediates between perceived service quality and financial performance. Perceived service quality and customer satisfaction are critical indicators of a firm's effectiveness because they are closely related to financial performance.

6) Maddern, Maull, Smart and Baker (2007) analyzed the relationship between service quality (functional service quality and technical service quality) and customer satisfaction in UK financial services. The regression result shows the lack of correlation and the subsequent significance of functional service quality and customer satisfaction. In other word, they are both significant but independent of one another. Another finding suggests that effective management of processes is critical to technical service quality, which in turn contributes significantly to customer satisfaction.

According to Model of Customer Perceptions of Quality and Customer Satisfaction (Zeithaml, Bitner and Gremler, 2006) and previous studies, this research is aimed to determine the link between perceived service quality and customer satisfaction toward Service Care of NS Company.

## **5. Conceptual Framework**

In order to achieve the purpose of the research which is to find the relationship between perceived service quality and customer satisfaction of newly merged company (which is NS Company.), the research framework as shown in figure 2.4 has been developed.



*Figure 2.4: Conceptual Framework*

As shown in Figure 2.4, the conceptual framework was developed to study in details, concerning the relationship between five dimensions of the quality of Care service and the satisfaction on Care services from mobile operator's perspective.

## 6. Research Hypotheses

Based around the foregoing discussion on the research framework and literature review, the following hypotheses are proposed:

H<sub>01</sub>: There is no relationship between Tangibles and the mobile operator's satisfaction of the Care service.

- Ho2: There is no relationship between Reliability and the mobile operator's satisfaction of the Care service.
- Ho3: There is no relationship between Responsiveness and the mobile operator's satisfaction of the Care service.
- Ho4: There is no relationship between Assurance and the mobile operator's satisfaction of the Care service.
- Ho5: There is no relationship between Empathy and the mobile operator's satisfaction of the Care service.
- Ho6: There is no relationship between the quality of Care service and the mobile operator's satisfaction of Care Service.





## CHAPTER 3

### RESEARCH METHODOLOGY

In this chapter research methodology of the chosen topic for the research project has been covered, these tend to provide the reader for details of the research design. Target population, sampling procedure and research tool development are presented. At the end of this chapter, data collection method and proposed data analysis are defined.

#### 1. Research Design

Research methodology is the method of examination in order to answer the research questions. The research was conducted the descriptive research using questionnaire survey to gain further insight into the relationship between perceived quality of Care service and Customer satisfaction of Care service provided by NS Company from the potential respondents. Questionnaire was containing close-ended questions in order to collect quantitative data.

#### 2. Target Population, Sampling Procedure and Sample Size

Target populations of this research were about 500 permanent employees in service operation organization of DTAC in Thailand.

The sampling procedure of this research was Convenience sampling, which also called haphazard or accidental sampling. The researcher obtained employees, who were conveniently available and working as the current permanent employees in service operation organization of DTAC in Thailand.

Johnson and Christensen (2000) mentioned that the larger the sample size is the better because larger samples result in smaller sampling errors, which means that sample values (the statistics) will be closer to the true population values (the parameters). They have provided a table with recommend sample sizes in Figure 3.1.

$N$  stands for the size of the population.  $n$  stands for the size of the recommended sample. The sample sizes are based on the .05 confidence level.

$N$	$n$	$N$	$n$	$N$	$n$	$N$	$n$	$N$	$n$
10	10	110	86	300	169	950	274	4,500	354
15	14	120	92	320	175	1,000	278	5,000	357
20	19	130	97	340	181	1,100	285	6,000	361
25	24	140	103	360	186	1,200	291	7,000	364
30	28	150	108	380	191	1,300	297	8,000	367
35	32	160	113	400	196	1,400	302	9,000	368
40	36	170	118	420	201	1,500	306	10,000	370
45	40	180	123	440	205	1,600	310	15,000	375
50	44	190	127	460	210	1,700	313	20,000	377
55	48	200	132	480	214	1,800	317	30,000	379
60	52	210	136	500	217	1,900	320	40,000	380
65	56	220	140	550	226	2,000	322	50,000	381
70	59	230	144	600	234	2,200	327	75,000	382
75	63	240	148	650	242	2,400	331	100,000	384
80	66	250	152	700	248	2,600	335	250,000	384
85	70	260	155	750	254	2,800	338	500,000	384
90	73	270	159	800	260	3,000	341	1,000,000	384
95	76	280	162	850	265	3,500	346	10,000,000	384
100	80	290	165	900	269	4,000	351	50,000,000	384

**Figure 3.1** Sample Sizes for Various Populations of Size 10 to 50 million.

Source: Johnson and Christensen (2000), *Educational research*, p.178

Based on recommended sample size by Johnson and Christensen (2000), the sample size of this research was equal to 217.

### 3. Questionnaire Development

A set of questionnaires was the research tool that the researcher used to gather the primary data from samples. The objective is to gain further insight from the respondents about the relationship between perceived quality of Care service and Customer satisfaction of Care service provided by NS Company.

Thus, fixed alternative questions were designed to convince respondents to complete data. The questions were easy to understand and closed ended questions. The questionnaires were available in English. Estimated time to fill survey for each respondent was about fifteen minute.

The questionnaire consists of two parts as presented in *Appendix-B*:

- a. Part 1 – Demographic data. The respondents response their own personal data.
- b. Part 2 – Five dimensions of service quality. Questionnaire was developed based on the study of Wang and Lo (2002) on service quality and customer satisfaction in China's telecommunication industry, and the study of Johnson and Sirikit (2002) on service quality in the Thai telecommunication industry.

For this part of questionnaire, the respondents indicate their own attitudes by checking how strongly they agree or disagree with statements.

- c. Part 3 – Customer satisfaction. The respondents indicate their own attitudes by checking how strongly they agree or disagree with statements.

In order to understand the research instrument clearly, see *Table 3-1* which shown the arrangement of questionnaire.

**Table 3-1:** Arrangement of Questionnaire

Variables	Part	Question No.	Question Scaling	Level Measurement
Demographic Data	1	1-5	Category Scale	Nominal Scale
Tangibles		6-9	Likert Scale	Interval Scale
Reliability		10-13	Likert Scale	Interval Scale
Responsiveness	2	14-17	Likert Scale	Interval Scale
Assurance		18-21	Likert Scale	Interval Scale
Empathy		22-25	Likert Scale	Interval Scale
Customer Satisfaction	3	26-28	Likert Scale	Interval Scale

#### 4. Reliability of Questionnaire

The reliability of a measure was an indication of the stability to ensure consistent measurement without bias across time and across the various items in the instrument. Thus, the ability of a measure to remain the same over time was indicates of its stability and low vulnerability to change in the situation. The most popular test of consistency reliability was the Cronbach's coefficient alpha. The reliability less than 0.6 was poor and the reliability was estimated of 0.6 or over was acceptable (Sekaran, 2003).



The researcher decided to conduct a pretest survey by distributing 30 questionnaires to target population. Then the researcher verified the Coefficient alpha of each variable. The Coefficient alpha of each variable is shown in *Table 3-2*.

**Table 3-2:** Reliability Measures

Variables	Coefficient Alpha
Tangibles	0.853
Reliability	0.805
Responsiveness	0.786
Assurance	0.808
Empathy	0.841
Customer Satisfaction	0.820

The values of Coefficient alpha showed that all five dimensions of service quality and customer satisfaction questionnaire were higher than 0.6, therefore they were reliable thus the researcher used these questionnaire items with none of questions modified.

## **5. Data Collection Method**

Primary data collection was performed for mainly quantitative data. Quantitative data were collected from paper questionnaires: in-person drop off, the researcher visited DTAC's service operation offices and asked DTAC operation staffs, who were conveniently available and currently working in the office, to answer the questionnaires. Researcher chose this data collection method because needed fast speed of data collection and high response rate. Researcher distributed 250 questionnaires with estimated response rate more than 87% which was slightly more than recommended sample size of this research. The research expected high response rate due to the researcher collected questionnaire right after the respondents complete the questionnaire.

Quantitative data was described the research problem and manipulated numerically. Therefore the data collection was targeted from the respondents in the all levels who were the permanent employees in service operation organization of DTAC, who had the details understanding of Care services.

## **6. Proposed Data Analysis**

In order to analyze the data collected from respondents of the paper questionnaires, at the beginning the researcher edited the data for consistency, completeness, adjusting of questions answered out of order and readying them for coding and storage.

Next, the researcher interpreted, classified and recorded data in the coding process. The coding is shown in *Appendix-A*.

Then the data were inputted in to the computer. To analyze data, Statistical package Social Science (SPSS) program was used. The researcher analyzed the data by following method:

- a. Frequency table and Percentages were used to summarize and interpret the demographic data from question 1 to 5 of the questionnaire.
- b. Descriptive data analysis – Mean evaluation was used to analyze service quality dimensions and customer satisfaction level from question 6-26 of the questionnaire.
- c. Hypothesis testing using Pearson's Correlation because the data were developed in interval scale. The correlation between two variables reflects the degree to which the variables are related (Malhotra, 1999). The most common measure of correlation is the Pearson's Correlation. Pearson's correlation coefficient is an index to determine whether a linear or straight-line relationship exists between X and Y. It indicates how the variation in one variable (X) is related to the variation in another variable (Y) (Malhotra, 1999). According to Malhotra (1999), Pearson's correlation coefficient (r) is a parametric technique, which gives a measure of the strength of association between two variables. This technique requires that the data be interval or ratio scale and normally distributed.

The hypothesis testing techniques for this study are shown in *Table 3-3*.

**Table 3-3:** Hypothesis Testing Technique

Hypothesis Statement	Hypothesis Testing Technique
Ho1: There is no relationship between Tangibles and the mobile operator's satisfaction of the Care service	Pearson's Correlation
Ho2: There is no relationship between Reliability and the mobile operator's satisfaction of the Care service	Pearson's Correlation
Ho3: There is no relationship between Responsiveness and the mobile operator's satisfaction of the Care service	Pearson's Correlation
Ho4: There is no relationship between Assurance and the mobile operator's satisfaction of the Care service	Pearson's Correlation
Ho5: There is no relationship between Empathy and the mobile operator's satisfaction of the Care service	Pearson's Correlation
Ho6: There is no relationship between the quality of Care service and the mobile operator's satisfaction of Care Service	Pearson's Correlation



## CHAPTER 4

### DATA ANALYSIS AND RESULTS

This chapter presents the research findings of the questionnaire survey based on the recommended sample size of 217 respondents. The first section displays the analysis of descriptive statistics which includes the respondents' demographic profile. In addition, customers' perceptions on each service quality dimension and customer satisfaction on Care Service are analyzed in this section. The second part presents the results of hypotheses testing using Pearson's correlation coefficient. The final section reveals the summary of data analysis and results.

Two hundred and fifty questionnaires were distributed to employees in service operation organization of DTAC. A total of 223 complete and valid questionnaires were received, which accounted for 89 percent of the total distribution. The researcher was satisfied with high response rate and good quality of data, this eliminated all the sampling error and invalidity to a certain extent.

To assure the reliability of the survey instrument, Cronbach's coefficient alpha was calculated for internal consistency based on the data from 223 copies of the complete and correct questionnaire.

The Coefficient alpha of each variable is shown in *Table 4-1*.

**Table 4-1:** Reliability Measures

Variables	Coefficient Alpha
Tangibles	0.835
Reliability	0.822
Responsiveness	0.839
Assurance	0.841
Empathy	0.856
Customer Satisfaction	0.870

The values of Coefficient alpha showed that all five dimensions of service quality and customer satisfaction questionnaire were higher than 0.6, therefore they were reliable.

## **1. Analysis of Descriptive Statistics**

### **1.1 The Demographic Characteristics of Respondents**

The respondents' demographic characteristics include gender, age, current position, years of experiences on Care services, and most experiences on which part of network infrastructure. The result of each demographic characteristic is presented and interpreted in details as follows.

#### **Gender**

As shown in *Table 4.2*, most of respondents were male, comprising 164 respondents or 73.5% of the total respondents and the rest were female, comprising 59 respondents or 26.5% of the total respondents.

**Table 4-2:** Frequency Distribution of Gender

Gender	Frequency	Percent
Male	164	73.5
Female	59	26.5
Total	223	100

### Age

As shown in *Table 4.2*, most of respondents were in the range of 26-35 years old, comprising 139 respondents or 62.3% of the total respondents. There were 38 respondents or 17% whose ages were in the range of 36-45 years old. And a total of 37 respondents or 16.6% were in 25 years old or below range. And followed by 9 respondents whose ages were over 45 years old, amounting 4% which was the minority group of respondents.

**Table 4-3:** Frequency Distribution of Age

Age	Frequency	Percent
25 years old and below	37	16.6
26-35 years old	139	62.3
36-45 years old	38	17.0
46 years old and above	9	4.0
Total	223	100

### Current Position

As shown in *Table 4.4*, most of respondents were engineers or specialists, comprising 174 respondents or 78% of the total respondents. There were 28 respondents or 12.6% who were managers. And followed by 21 respondents or 9.4% whose positions were senior management, which was the minority group of respondents.

**Table 4-4:** Frequency Distribution of Current Position

Current Position	Frequency	Percent
Engineer or Specialist	174	78.0
Manager	28	12.6
Senior Management	21	9.4
Total	223	100

### **Years of Experiences on Care Services**

As shown in *Table 4.5*, most of respondents had 1-5 years of experiences on Care services, comprising 74 respondents or 33.2% of the total respondents. A total of 55 respondents or 24.7% were in less than 1 year range. There were also 55 respondents or 24.7% whose experiences were in the range of 6-10 years. And followed by 39 respondents or 17.5% whose experiences over 10 years, which was the minority group of respondents.

**Table 4-5:** Frequency Distribution of Years of Experiences

Years of Experiences	Frequency	Percent
Less than 1 year	55	24.7
1-5 years	74	33.2
6-10 years	55	24.7
more than 10 years	39	17.5
Total	223	100



### The Part of Network Infrastructure with the Most Experience

As shown in *Table 4.6*, most of respondents had most experiences on radio network, comprising 47 respondents or 21.1% of the total respondents. A total of 44 respondents or 19.7% had most experiences on circuit core network. There were also 34 respondents or 15.2% who had most experiences on intelligent network. And followed by 20 respondents or 9% had most experiences on Packet core network, which was the minority group of respondents.

**Table 4-6:** Frequency Distribution of Experiences on Part of Network Infrastructure

Part of Network Infrastructure	Frequency	Percent
Circuit core network	44	19.7
Packet core network	20	9.0
Radio network	47	21.1
Network management system	26	11.7
Value add system	28	12.6
Intelligent network	34	15.2
Other	24	10.8
Total	223	100

### 1.2 Perception of the Respondents on Five Dimensions of Service Quality

The descriptive statistics were identified for each dimension of service quality, which were presented in *Table 4-8* to *Table 4-12*. Five-point Likert scale was used for rating the respondents' perception levels based on the descriptive rating and arbitrary presented in Chapter 3.

The descriptive rating and arbitrary level are shown in *Table 4-7*.

**Table 4-7:** Rules of Thumb about Descriptive Rating and Arbitrary Level

Arbitrary Level	Descriptive Rating
4.20 - 5.00	Strongly Agree
3.40 - 4.19	Agree
2.60 - 3.39	Neutral
1.80 - 2.59	Disagree
1.00 - 1.79	Strongly Disagree

*Source: Tavipvoradech (2006), the relationship between employees' conflict management styles and their job satisfaction, p.55*

### **Tangibles**

The respondents' perceptions on Tangibles of Care service were shown in Table 4-8. Based on the findings, the respondents generally had favorable attitudes toward Tangibles of Care service with a mean in 'agree' range at 3.49. All attributes had means in the 'agree' level (3.43-3.54).

The statement that 'the scope of service has been defined and delivered properly' had the highest mean at 3.54, followed by 'Care engineers have provided Care service very well' (mean = 3.51), 'Care manager has managed Care service very well' (mean = 3.47) and 'the process of Care service has been defined and followed properly' (mean = 3.43), indicating that the respondents had favorable attitudes toward all attributes of Tangibles.

**Table 4-8:** Descriptive Rating and Arbitrary of Tangibles

Question	Mean	Std. Deviation	Degree
6. The scope of Care service has been defined and delivered properly	3.54	0.641	Agree
7. The process of Care service has been defined and followed properly	3.43	0.700	Agree
8. Care manager has managed Care service very well	3.47	0.740	Agree
9. Care engineers have provided Care service very well	3.51	0.722	Agree
Overall Tangibles	3.49	0.574	Agree

### Reliability

The respondents' perceptions on Reliability of Care service were shown in *Table 4-9*. Based on the findings, the respondents generally had undecided attitudes toward Reliability of Care service with a mean in 'neutral' range at 3.36. All attributes had means in the 'neutral' level (3.31-3.39), except only one statement (question no. 12) had mean in the 'agree' level (3.42).

The statement that 'Care manager always keep commitment' had the highest mean at 3.42, followed by 'Care engineers always work accurately' (mean = 3.39), 'Care service has been scheduled and informed exactly' (mean = 3.32) and 'Care service has been performed right at the first time' (mean = 3.31).

**Table 4-9:** Descriptive Rating and Arbitrary of Reliability

Question	Mean	Std. Deviation	Degree
10. Care service has been scheduled and informed exactly	3.32	0.730	Neutral
11. Care service has been performed right at the first time	3.31	0.691	Neutral
12. Care manager always keep commitment	3.42	0.760	Agree
13. Care engineers always work accurately	3.39	0.745	Neutral
Overall Reliability	3.36	0.591	Neutral

### Responsiveness

The respondents' perceptions on Responsiveness of Care service were shown in *Table 4-10*. Based on the findings, the respondents generally had favorable attitudes toward Responsiveness of Care service with a mean in 'agree' range at 3.46. All attributes had means in the 'agree' level (3.44-3.52), except only one statement (question no. 15) had mean in the 'neutral' level (3.35).

The statement that 'Care manager has prompt response on request' had the highest mean at 3.52, followed by 'Care service has been respond to request promptly' (mean = 3.51), 'Care engineer can solve problems promptly' (mean = 3.44) and 'Care service has been delivered very well as promised' (mean = 3.35).



**Table 4-10:** Descriptive Rating and Arbitrary of Responsiveness

Question	Mean	Std. Deviation	Degree
14. Care service has been respond to request promptly	3.51	0.677	Agree
15. Care service has been delivered very well as promised	3.35	0.693	Neutral
16. Care manager has prompt response on request	3.52	0.734	Agree
17. Care engineers can solve problems promptly	3.44	0.661	Agree
Overall Responsiveness	3.46	0.568	Agree

### Assurance

The respondents' perceptions on Assurance of Care service were shown in Table 4-11. Based on the findings, the respondents generally had favorable attitudes toward Assurance of Care service with a mean in 'agree' range at 3.45. All attributes had means in the 'agree' level (3.40-3.57), except only one statement (question no. 18) had mean in the 'neutral' level (3.38).

The statement that 'Care manager can be trust to manage good Care service' had the highest mean at 3.57, followed by 'Care engineers have good knowledge to work with error free' (mean = 3.47), 'Care service has been delivered that I can trust on good outcomes' (mean = 3.40) and 'Care service has been delivered that I feel confident to solve problems' (mean = 3.38).

**Table 4-11:** Descriptive Rating and Arbitrary of Assurance

Question	Mean	Std. Deviation	Degree
18. Care service has been delivered that I feel confident to solve problems	3.38	0.730	Neutral
19. Care service has been delivered that I can trust on good outcomes	3.40	0.696	Agree
20. Care manager can be trust to manage good Care service	3.57	0.725	Agree
21. Care engineers have good knowledge to work with error free	3.47	0.728	Agree
Overall Assurance	3.45	0.592	Agree

### Empathy

The respondents' perceptions on Empathy of Care service were shown in Table 4-12. Based on the findings, the respondents generally had favorable attitudes toward Empathy of Care service with a mean in 'agree' range at 3.42. All attributes had means in the 'agree' level (3.40-3.52), except only one statement (question no. 23) had mean in the 'neutral' level (3.35).

The statement that 'Care engineers understand and fulfill my requests very well' had the highest mean at 3.52, followed by 'Care service has been respond to individual request very well' (mean = 3.41), 'Care manger understands and fulfills my request very well' (mean = 3.40) and 'Care service has been always fulfilled my specific needs' (mean = 3.35).

**Table 4-12:** Descriptive Rating and Arbitrary of Empathy

Question	Mean	Std. Deviation	Degree
22. Care service has been respond to individual request very well	3.41	0.665	Agree
23. Care Service has been always fulfilled my specific needs	3.35	0.632	Neutral
24. Care manager understands and fulfills my requests very well	3.40	0.676	Agree
25. Care engineers understand and fulfill my requests very well	3.52	0.703	Agree
Overall Empathy	3.42	0.560	Agree

### 1.3 Customer Satisfaction of the Respondents

The descriptive statistic was identified for customer satisfaction, which was presented in Table 4-13. Five-point Likert scale was used for rating the respondents' perception levels based on the descriptive rating and arbitrary presented in Chapter 3.

The respondents were generally satisfied with Care services of NS Company with an average mean of 3.59. According to the findings, all attributes had means in the 'agree' level (3.53-3.65). The statement that 'I am satisfied with DTAC's decision to use Care services' had the highest mean at 3.65, followed by 'I am satisfied with Care service' (mean = 3.58), and 'I feel that my experience with Care service has been preferable' (mean = 3.43).

**Table 4-13:** Descriptive Rating and Arbitrary of Customer Satisfaction

Question	Mean	Std. Deviation	Degree
26. I am satisfied with DTAC's decision to use Care services	3.65	0.625	Agree
27. I am satisfied with Care service	3.58	0.594	Agree
28. I feel that my experience with Care service has been preferable	3.53	0.635	Agree
Overall Customer Satisfaction	3.59	0.551	Agree

## 2. Result of Hypotheses Testing

The results from Pearson's Correlation showed relationship between independent variables (five dimensions of service quality) and dependent variable (customer satisfaction).

The correlation coefficient ('r') ranges from +1.0 to -1.0. The sign of the correlation reflects its direction. The higher the absolute value of the correlation, the higher the strength of association between two variables will be found. If the value of 'r' is 1.0, there is a perfect positive linear relationship. If the value of 'r' is -1.0, there is a perfect negative linear relationship. If 'r' is 0, there is no correlation (Zikmund, 2003).

The value of correlation ('r') and its interpretation are shown in Table 4-14.



**Table 4-14:** Correlation value and its measure of the strength of association

Correlation (r)	Interpretation
1	Perfect positive linear association
0.90 to 0.99	Very high positive correlation
0.70 to 0.89	High positive correlation
0.40 to 0.69	Medium positive correlation
0 to 0.39	Low positive correlation
0	No linear association
0 to -0.39	Low negative correlation
-0.4 to -0.69	Medium negative correlation
-0.7 to -0.89	High negative correlation
-0.9 to -0.99	Very high negative correlation
-1	Perfect negative linear association

*Source: Jill Hussey and Roger Hussey (1997), Business Research: a Practical Guide for Undergraduate and Postgraduate Students, p.227*

All hypotheses were tested with a 95 percent confidence level and a significant level of 0.05. P-value is analyzed in order to accept or reject the null hypothesis. Null hypothesis is rejected when sig. (2-tailed) or p-value is less than 0.05.

### Analysis of Hypothesis 1

Ho1: There is no relationship between Tangibles and the mobile operator's satisfaction of the Care service.

Hypothesis 1 examines the relationship between Tangibles and the mobile operator's satisfaction of the Care service. According to *Table 4-15*, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between tangibles and customer satisfaction on Care service. Furthermore, the Pearson's correlation coefficient ( $r$ ) of 0.598 implied medium positive relationship between the two variables.

**Table 4-15:** Correlation Analysis - Tangibles and Customer Satisfaction

		Customer Satisfaction
Tangibles	Correlation Coefficient	0.598
	Sig. (2-tailed)	0.000

## Analysis of Hypothesis 2

Ho2: There is no relationship between Reliability and the mobile operator's satisfaction of the Care service.

Hypothesis 2 examines the relationship between Reliability and the mobile operator's satisfaction of the Care service. According to *Table 4-16*, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between reliability and customer satisfaction on Care service. Furthermore, the Pearson's correlation coefficient ( $r$ ) of 0.571 implied medium positive relationship between the two variables.

**Table 4-16:** Correlation Analysis - Reliability and Customer Satisfaction

		Customer Satisfaction
Reliability	Correlation Coefficient	0.571
	Sig. (2-tailed)	0.000

### Analysis of Hypothesis 3

Ho3: There is no relationship between Responsiveness and the mobile operator's satisfaction of the Care service.

Hypothesis 3 examines the relationship between Responsiveness and the mobile operator's satisfaction of the Care service. According to Table 4-17, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between responsiveness and customer satisfaction on Care service. Furthermore, the Pearson's correlation coefficient (r) of 0.584 implied medium positive relationship between the two variables.

**Table 4-17:** Correlation Analysis - Responsiveness and Customer Satisfaction

		Customer Satisfaction
Responsiveness	Correlation Coefficient	0.584
	Sig. (2-tailed)	0.000

#### Analysis of Hypothesis 4

Ho4: There is no relationship between Assurance and the mobile operator's satisfaction of the Care service.

Hypothesis 4 examines the relationship between Assurance and the mobile operator's satisfaction of the Care service. According to *Table 4-18*, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between assurance and customer satisfaction on Care service. Furthermore, the Pearson's correlation coefficient ( $r$ ) of 0.655 implied medium positive relationship between the two variables.

**Table 4-18:** Correlation Analysis - Assurance and Customer Satisfaction

		Customer Satisfaction
Assurance	Correlation Coefficient	0.655
	Sig. (2-tailed)	0.000

#### Analysis of Hypothesis 5

Ho5: There is no relationship between Empathy and the mobile operator's satisfaction of the Care service.

Hypothesis 5 examines the relationship between Empathy and the mobile operator's satisfaction of the Care service. According to *Table 4-19*, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between empathy and customer



satisfaction on Care service. Furthermore, the Pearson's correlation coefficient ( $r$ ) of 0.614 implied medium positive relationship between the two variables.

**Table 4-19:** Correlation analysis - Empathy and Customer Satisfaction

		Customer Satisfaction
Empathy	Correlation Coefficient	0.614
	Sig. (2-tailed)	0.000

#### Analysis of Hypothesis 6

Ho6: There is no relationship between the quality of Care service and the mobile operator's satisfaction of Care Service.

Hypothesis 6 examines the relationship between the quality of Care service and the mobile operator's satisfaction of the Care service. According to *Table 4-20*, the null hypothesis is rejected since the P-value of 0.00 is less than the significance level of 0.05. Therefore, it can be concluded that there is a relationship between service quality and customer satisfaction on Care service. Furthermore, the Pearson's correlation coefficient ( $r$ ) of 0.681 implied medium positive relationship between the two variables.

**Table 4-20:** Correlation analysis – Service Quality and Customer Satisfaction

		Customer Satisfaction
Service Quality	Correlation Coefficient	0.681
	Sig. (2-tailed)	0.000

## Summary of Hypothesis Testing Result

The correlation statistics were identified for examining the relationships between independent variables (five dimensions of service quality) and dependent variable (customer satisfaction), which was presented in *Table 4-21*.

**Table 4-21:** Summary of Hypothesis Testing Result

Hypothesis Statement	Correlation (r)	Result
Ho1: There is no relationship between Tangibles and the mobile operator's satisfaction of the Care service	0.598	Reject Ho1, Medium positive correlation
Ho2: There is no relationship between Reliability and the mobile operator's satisfaction of the Care service	0.571	Reject Ho2, Medium positive correlation
Ho3: There is no relationship between Responsiveness and the mobile operator's satisfaction of the Care service	0.584	Reject Ho3, Medium positive correlation
Ho4: There is no relationship between Assurance and the mobile operator's satisfaction of the Care service	0.655	Reject Ho4, Medium positive correlation
Ho5: There is no relationship between Empathy and the mobile operator's satisfaction of the Care service	0.614	Reject Ho5, Medium positive correlation
Ho6: There is no relationship between the quality of Care service and the mobile operator's satisfaction of Care Service	0.681	Reject Ho6, Medium positive correlation

## CHAPTER 5

### CONCLUSION AND RECOMMENDATION

This chapter consists of six sections. The first part presents the summary of the study. The second part summarizes the research findings derived from the testing of hypotheses. The third part provides a detailed research discussion regarding the findings of the study. The fourth part presents implication for practice. The fifth part provides the conclusion of the entire research results and the last part gives recommendations for further study.

#### 1. Summary of the Study

This study focused on mobile operator's satisfaction on Care Service of NS Company in Thailand. Therefore the objectives are to determine the level of customer (mobile operator) satisfaction on Care service, and perception on the quality of Care service. This research also aimed to identify the relationships between quality of Care service and customer (mobile operator) satisfaction on Care service. Thus, the independent variables of this research were five dimensions (tangibles, reliability, responsiveness, assurance and empathy) of service quality, and the dependent variable was customer satisfaction.

The research tool (questionnaire) was developed into three parts: 1) demographic data 2) five dimensions of service quality, and 3) customer satisfaction. Researcher

distributed 250 questionnaires to DTAC operation staffs during 1<sup>st</sup> July 2008 to 16<sup>th</sup> July 2008.

## **2. Summary of the Findings**

A total of 223 complete and valid questionnaires were received, which accounted for 89 percent of the total distribution. After data collection, the researcher used SPSS program to process and analyze data. The result of the questionnaire survey in part one was interpreted descriptively for respondents' demographic profile. In additional, the data obtained in part two of the questionnaire was analyzed descriptively to explain the respondents' perception on the quality of Care service. At last, the respondents' satisfaction on Care service was analyzed descriptively by obtaining in part three of the questionnaire. There were six hypotheses tested using Pearson's correlation coefficient to identify the relationships between five dimension of service quality and customer satisfaction.

With regard to the respondents' demographic profile, male (73.5 %) represented the majority of the respondents. Most of respondents were aged between 26 and 35 years old (62.3%). The majority of the samples were working as engineers or specialists (78%).

Based on additional data obtained in the first part of the questionnaire, most of respondents had 1-5 years of experiences on Care services (33.2%). The majority of the samples had most experiences on Radio network (21.1%).



Based on the descriptive analysis, the respondents generally had favorable perceptions on tangibles, responsiveness, assurance, and empathy of Care service with average means of 3.49, 3.46, 3.45 and 3.42, respectively. By contrast, they had neutral or undecided perceptions on reliability of Care service with average mean of 3.36. However, the respondents were generally satisfied with Care services with an average mean of 3.59.

According to the correlation analyses, all five dimensions of service quality (independent variables), which are 1) tangibles 2) reliability 3) responsiveness 4) assurance and 5) empathy, were related to customer satisfaction (dependent variable) at similar degrees. All relationships between each five dimensions of quality and mobile operator's satisfaction on Care service were medium positive correlation. In summary, the result revealed that the respondents' perceptions on overall service quality was medium positively related to their satisfaction on Care service.

### **3. Discussion of the Research Findings**

According to the respondents' demographic profile, majority of respondents were male engineers from DTAC service operation organization who had 1-5 years experiences on Care service from the NS Company. Therefore engineers in DTAC service operation are the key users of Care service.

This study examined whether five dimensions of service quality (i.e., tangibles, reliability, responsiveness, assurance and empathy) were related to customer satisfaction on Care service. The results revealed that all null hypotheses are rejected.

It means that all five dimensions of service quality have relationship with customer satisfaction on Care service. The findings from the descriptive analysis and correlation analysis are discussed in details as follows.

### **3.1 Tangibles**

According to the hypothesis testing, tangibles dimension was found to have a medium positive relationship with customer satisfaction on Care service as indicated by the correlation value of 0.598. The result revealed that the more positive the respondents' perceptions on tangibles, the more likely they would be satisfied on Care service. Moreover, the findings also support the study of Wang and Lo (2002) which stated that tangibles was a important factor influencing customer satisfaction in China's telecommunication industry.

Descriptive analysis revealed that the respondents generally had positively favorable perceptions on tangibles dimension of Care service. The perception toward "the scope of Care service has been defined and delivered properly." was rated as the highest favorable perception. This implied that the NS Company could provide proper scope of Care service. Moreover the NS Company was able to deliver Care service according to the agreed scope.

### **3.2 Reliability**

According to the hypothesis testing, reliability dimension was found to have a medium positive relationship with customer satisfaction on Care service as indicated

by the correlation value of 0.571. The result revealed that the more positive the respondents' perceptions on reliability, the more likely they would be satisfied on Care service. The results also corresponded to previous findings of Wang and Lo (2002) which reported that reliability should not be neglected for firms in China's mobile phone market since it contributed positively and significantly to customer satisfaction.

Descriptive analysis revealed that the respondents generally had neutral or undecided perceptions on reliability dimension of Care service. Thus DTAC's service operation staffs perceived that the reliability of Care service was neither favorable nor unfavorable. It could be explained that the NS Company provided Care service with mistakes so its customers did not show their favorable perception on the reliability dimension. However, those mistakes were in an acceptable range for them therefore they did not rate this reliability dimension in a disagree level. It should be noted that the perceptions on 'Care service has been scheduled and informed exactly' and 'Care service has been performed right at the first time' were considered as the least favorable statements. This implied that Care service has not been scheduled and informed exactly. In addition, Care service has not been performed right at the first time.

### **3.3 Responsiveness**

According to the hypothesis testing, responsiveness dimension was found to have a medium positive relationship with customer satisfaction on Care service as indicated by the correlation value of 0.584. The result revealed that the more positive the

respondents' perceptions on responsiveness, the more likely they would be satisfied on Care service. The results also corresponded to previous findings of Leisen and Vance (2001) which stated that responsiveness is one of the most important factors influencing customer satisfaction in Germany's telephone service sector.

Descriptive analysis revealed that the respondents generally had positively favorable perceptions on responsiveness dimension of Care service. However, the statement that "Care service has been delivered very well as promised." was rated in the neutral range of the agreement. This implied that Care service might not delivered very well as DTAC's service operation staffs expected based on the NS Company's promise because it might be out of the agreed scope of Care service.

### **3.4 Assurance**

According to the hypothesis testing, assurance dimension was found to have a medium positive relationship with customer satisfaction on Care service as indicated by the correlation value of 0.655, which was the highest value comparing to other dimensions of service quality. This result was aligned with the researcher's expectation since Care service is mainly supported mobile operator to assure the stability of the network. The result revealed that the more positive the respondents' perceptions toward assurance, the more likely they would be satisfied on Care service. Moreover, the findings also support the study of Wang and Lo (2002) which stated that the relationship between assurance and customer satisfaction was found to be significant.



Descriptive analysis revealed that the respondents generally had positively favorable perceptions on assurance dimension of Care service. However, the statement that “Care service has been delivered that I feel confident to solve problems.” was rated in the neutral range of the agreement. This implied that DTAC’s service operation staffs might not confident that Care service was delivered to solve their problems.

### **3.5 Empathy**

According to the hypothesis testing, empathy dimension was found to have a medium positive relationship with customer satisfaction on Care service as indicated by the correlation value of 0.614. The result revealed that the more positive the respondents’ perceptions on empathy, the more likely they would be satisfied on Care service. Moreover, the findings also support the study of Wang and Lo (2002) which stated that empathy always led to superior customer value, which helps customers make their purchasing decisions on the one hand and leads to higher customer satisfaction indirectly on the other hand.

Descriptive analysis revealed that the respondents generally had positively favorable perceptions on empathy dimension of Care service. However, the statement that “Care service has been always fulfilled my specific needs.” was rated in the neutral range of the agreement as the lowest favorable perceptions. This implied that Care service might be unable to fulfill DTAC service operation staffs’ needs.

### 3.6 Service Quality

According to the last hypothesis testing, service quality was found to have a medium positive relationship with customer satisfaction on Care service as indicated by the correlation value of 0.681. The result revealed that the more positive the respondents' perceptions toward service quality, the more likely they would be satisfied on Care service. This result was supported by the findings of Leisen and Vance (2001) in Germany's telephone market, and similar to the findings of Wang and Lo (2002) in China's telecommunication industry.

### 3.7 Customer Satisfaction

Descriptive analysis indicated that the respondents' satisfaction level on Care service with an average mean of 3.59. This implied that the respondents were satisfied on Care service. The statement "I am satisfied with DTAC's decision to use Care service." was rated as the highest favorable perception. This implied that DTAC's service operation staffs were most satisfied with their management decision to buy Care service from the NS Company.

## 4. Implication for Practice

The results of this study provide both business and academic sectors with some useful insights into five dimensions of service quality relating to mobile operator's satisfaction on Care service. For academic sector, the results of this study extend the knowledge in the area of service quality in telecommunication industry. And this

study is useful for other researchers and academic scholars as they can use the findings as references for their future research. For business sector, not only the NS Company can benefit from this study, but other telecommunication companies who want to gain competitive advantage in telecommunication industry can also gain a better understanding how service quality can improve customer satisfaction.

According to the research findings, there are several implications in quality of Care service. To increase the mobile operator's satisfaction on Care service, the NS Company should focus on improvement of each service quality dimension since all five dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) have strong relationships with mobile operator's satisfaction on Care service.

1) Tangibles - DTAC's service operation staffs were satisfied that the NS Company could provide a proper scope of Care service and was able to deliver Care service according to the agreed scope. But the NS Company needs to emphasize its improvement on the process related Care service. The NS Company should discuss and agree with DTAC regarding to define and follow the processes properly. The processes should be reviewed regularly and modified when needed. All processes should be visible to all related people in both DTAC and the NS Company.

2) Reliability - The NS Company should immediately investigate on reliability dimension, since it was the least favorable dimension of service quality with the lowest mean value. The company might need to make a proper plan to provide Care service right at the first time with the exactly schedule which clearly agreed and informed to mobile operator. Care manager is the key contributors to high mean value

of reliability dimension. It means Care manager always keep commitment, then mobile operator will perceive Care service is a reliable service.

3) Responsiveness - DTAC's service operation staffs were satisfied that the NS Company and Care manager could provide prompt responses on requests. But the NS Company needs to highlight the improvement on delivering Care service very well as promised. The NS Company should not promise to deliver if those requests are unable to be delivered. And the NS Company should inform DTAC clearly if the requests are out of the scope of Care service, therefore the new scope of Care service can be defined and agreed.

4) Assurance - To increase the mobile operator's satisfaction on Care service, the company should concentrate on an improvement of assurance dimension due to it has strongest relationship with mobile operator's satisfaction on Care service. Care manager and Care engineers are the main contributors to high mean value of assurance dimension. It means Care manager and Care engineers built trust to mobile operator that they can provide good Care service to assure the stability of network. But the NS Company needs to highlight its improvement in building stronger confidence to mobile operator that Care service can help to solve their problem.

5) Empathy - Engineers are the main contributors to high mean value of empathy dimensions. When Care engineers understand mobile operator's needs and response on those requests, this is bringing higher satisfaction on Care service. But the NS Company needs to emphasize the improvement in fulfilling requests from mobile operator.



## 5. Conclusion

The objective of this research were to determine the current level of the mobile operators' satisfaction on the Care services, to determine the mobile operators' perception on the quality of Care services, and to identify the relationship of each dimension of service quality provided by NS Company and customer satisfaction.

To answer the research questions, paper questionnaire survey (in-person drop off) was conducted to collect primary data. The obtained data produced the results which supported to answer the research questions as follows.

The first research question asked about the current level of the mobile operators' satisfaction on the Care services. Based on the result, the respondents were satisfied on Care service at the agreed level.

The second question aimed to identify the relationship between the quality of Care services and the mobile operator's satisfaction. According to the research findings, all five dimensions of service quality (independent variables) were medium positively related to the mobile operator's satisfaction (dependent variable) on Care service. The findings also indicated that assurance dimension was strongest positively related to the mobile operator's satisfaction on Care service.

To summarize, in this study, respondents' perceptions on service quality which consisted of tangibles, reliability, responsiveness, assurance and empathy were found to be related to their satisfaction on Care service at similar degrees. The result

revealed that the more positive the respondents' perceptions toward service quality, the more likely they would be satisfied on Care service.

## 6. Recommendations for Further Study

Beside the given managerial implications, the researcher anticipates that findings of this study will be useful for researchers who decide to conduct further research on topics relevant to this study. This study, like all others, is not without its limitations. The issues recommended for further study are as follows.

1) This study identified only the relationship between five dimensions (tangibles, reliability, responsiveness, assurance and empathy) of service quality and customer satisfaction on Care service. Further research should study other variables that may be related to customer satisfaction on Care service of the NS Company. Based on the findings of this study, service quality had medium positive relationship with customer satisfaction, it will be useful to find other variables which have strong positive/negative relationship.

2) This study focused only one mobile operator. Further research should study more than one mobile operator who using Care service, this will be useful for the NS Company to evaluate its Care service. Based on future research, the NS Company will understand what its customers (mobile operators) really want from Care service.

3) This study focused only one service as Care service. However, the NS Company provides many services to mobile operators. Further research should study the

relationship between five dimensions (tangibles, reliability, responsiveness, assurance and empathy) of service quality and customer satisfaction on all services which provided by the NS Company. Based on future research, the NS Company will find useful information in order to improve its service organization.



## REFERENCES

- Bahia, Kamilia and Nantel Jacques (2000). "A reliable and valid measurement scale for perceived service quality of banks" *International Journal of Bank Marketing*, Vol 18/2, 84-91.
- Baron, Steve and Harris, Kim (1995). *Service Marketing: text and cases*. 1<sup>st</sup> ed. Hampshire:Macmillan.
- Berry, L.L. and Parasuraman, A. (1991). *Marketing Services: Competing Through Quality*. 1<sup>st</sup> ed. New York: Free Press.
- Buzzell, R. and Gale, B. (1987). *The Pims Principle: linking strategy to performance*. 1<sup>st</sup> ed. New York: The Free Press.
- Johnson, William C. and Sirikit, Anuchit (2002). "Service quality in Thai telecommunication industry: a tool for achieving a sustainable competitive advantage" *Management Decision*, 40/7, 693-701.
- Gale, B.T. (1992). "Monitoring customer satisfaction and market perceived quality" *AMA Worth Repeating Series*, No. 922CSO, American Marketing Association, Chicago, IL.
- Hampton, G. (1993). "Gap analysis of college student satisfaction as a measure of professional service quality" *Journal of Professional Service Marketing*, Vol.9 No.1, 115-28.
- Hussey, Jill and Hussey, Roger (1997). *Business research: a practical guide for undergraduate and postgraduate students*. 1<sup>st</sup> ed. Houndmills: Macmillan Pr.
- Ireland, Duane R. and Hoskisson, Robert E. (2006). *Understanding Concepts of Business Strategy*. 1<sup>st</sup> ed. Thomson South-Western.
- Johnson, Burke and Christensen, Larry (2000). *Educational Research: quantitative and qualitative approaches*. 1<sup>st</sup> ed. Boston: Allyn and Bacon.



- Cronin, J. Joseph and Taylor, A. Steven (1992). "Measuring Service Quality: A Reexamination and Extension" *Journal of Marketing Research*, Vol.56, 55-68.
- Lee, Haksik, Lee, Yongki and Yoo, Dongkeun (2000). "The determinants of perceived service quality and its relationship with satisfaction" *Journal of Services Marketing*, Vol.14/3, 217-231.
- Leisen, B. and Vance, C. (2001). "Cross-national assessment of service quality in the telecommunication industry" *Managing Service Quality*, Vol.11, 307-17.
- Liljander, V., Strandvik, T. (1995). "The nature of customer relationships in services" *Journal of Marketing Research*, Vol.4, 141-67.
- Lovelock, Christopher and Wirtz, Jochen (2007). *Service Marketing: People, Technology, Strategy*. 6<sup>th</sup> ed. Upper Saddle River, NJ: Pearson Prentice Hall.
- Madhok, Anoop (2006). "Revisiting multinational firms' tolerance for Joint ventures: a trust-based approach" *Journal of International Business Studies*, Vol.37, 30-43.
- Maddren, Harry, Maull, Roger, Smart, Andi and Baker, Paul (2007). "Customer satisfaction and service quality in UK financial services" *International Journal of Operations & Production Management*, Vol.27/9, 998-1019.
- Malhotra, Naresh K. (1999). *Marketing research : an applied orientation*. 3<sup>rd</sup> ed. Upper Saddle River, NJ : Prentice Hall International.
- Mohr, Alexander T. and Puck Jonas F. (2007). "Role conflict, General manager job satisfaction and stress and the performance of IJVs" *European Management Journal*, Vol 25, 25-35.
- Oliver, Richard L. (1993). "Cognitive, affective and attributive based of the satisfaction response" *Journal of Consumer Research*, Vol.20, 418-430.

- Olorunniwo, Festus (2006). "Service quality, customer satisfaction, and behavioral intentions in the service factory" *Journal of Services Marketing*, Vol. 20/1, 59-72.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985). "A conceptual model of service quality and its implications for future research" *Journal of Marketing*, Vol. 49 Fall, 41-50.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988). "SERVQUAL: a multiple item scale for measuring customer perceptions of service quality" *Journal of Retailing*, Vol.64 Spring, 12-40.
- Phillips, L., Chang, W., Dae, R. and Buzzell, R.D. (1983). "Product quality, cost position, and business performance: a test of some key hypotheses" *Journal of Marketing*, Vol. 47 No. 2, 26-44.
- Perkins, Stephen J. (1997). *Internationalization: the people dimension; human resource strategies for global expansion*. 1<sup>st</sup> ed. London: Kogan Page.
- Ravald, A., Gronroos, C. (1996). "The value concept and relationship marketing" *European Journal of Marketing*, Vol.30/2, 19-30.
- Sekaran, U. (2000). *Research Methods for Business: a Skill-building Approach*. 3<sup>rd</sup> ed. New York: Wiley.
- Sureshchandar, G.S., Rajendran, Chandrasekharan and Anantharaman, R.N. (2002). "The relationship between service quality and customer satisfaction – a factor specific approach" *Journal of Services Marketing*, Vol.16/4, 363-379.
- Tavipvoradech, Nussara (2006). "The relationships between employees' conflict management styles and their job satisfaction: a case study of entertainment company". *Research Project, Master of Science in Management, Assumption University*.

Wang, Yonggui and Lo, Hing-Po (2002). "Service quality, customer satisfaction and behavior intentions" *Info*, Vol.4/6, 50-60.

Yoo, Dong Kyoon and Park, Jeong Ah (2007). "Perceived service quality - analyzing relationships among employees, customers, and financial performance" *International Journal of Quality & Reliability Management*, Vol.24/9, 908-926.

Zeithaml, Valarie A. and Bitner, Mary J. (2006). *Services Marketing: Integrating Customer Focus Across the Firm*. 4<sup>th</sup> ed. Boston: McGraw-Hill.

Zigmond, William G. (2003). *Business Research Methods*. 7<sup>th</sup> ed. Thomson South-Western.



## Appendix-A

### DATA CODING

Question No.	Variable	Coding
1	Gender	1 = Male 2 = Female
2	Age	1 = 25 years old or below 2 = 26 – 35 years old 3 = 36 – 45 years old 4 = 46 years old or more
3	Current Position	1 = Engineer or Specialist 2 = Manager 3 = Higher than manager
4	Experienced with Care services	1 = Less than 1 year 2 = 1- 5 years 3 = 6-10 years 4 = 11 years or more
5	Part of the network infrastructure with the most experiences	1 = Circuit Core Network 2 = Packet Core Network 3 = Radio Network 4 = Network Management System 5 = Value Add Systems 6 = Intelligent Network 6 = Other
6-9	Tangibles	5 = Strongly agree
10-13	Reliability	4 = Agree
14-17	Responsiveness	3 = Neutral
18-21	Assurance	2 = Disagree
22-25	Empathy	1 = Strongly disagree
26-28	Customer Satisfaction	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree



## Appendix-B



### Questionnaire

Dear Respondents:

This questionnaire is developed only as part of the study, which is partial fulfillment of the requirement for the Degree of Master of Science in Management, Assumption University. It is not beneficial to other purposes.

I would like to request for your co-operation in completing this questionnaire, which it will take about 20 minutes.

Please complete the questionnaire based on your own opinions, there is no right or wrong answer. Your responses will be beneficial to the study. I would like to express my appreciation for your effort and time in completing this questionnaire.

Yours sincerely,  
Chatdao Payackapan

---

#### Part I:

Please check ✓ in your chosen answer.

1. Gender

\_\_\_ Male

\_\_\_ Female

2. Age

\_\_\_ 25 years old or below

\_\_\_ 26 – 35 years old

\_\_\_ 36 – 45 years old

\_\_\_ 46 years old or more

3. Current position

\_\_\_ Engineer or Specialist

\_\_\_ Manager

\_\_\_ Higher than manager

4. How many year have you experienced with Care services?

\_\_\_ Less than 1 year

\_\_\_ 1 – 5 years

\_\_\_ 6 – 10 years

\_\_\_ 11 years or more

5. What is the part of the network infrastructure you have the most experiences?

\_\_\_ Circuit Core Network

\_\_\_ Packet Core Network

\_\_\_ Radio Network

\_\_\_ Network Management System

\_\_\_ Value add systems

\_\_\_ Intelligent Network

\_\_\_ Other (please specify) \_\_\_\_\_

## Part II:

Please indicate your agreement on each statement, representing your perception on the service quality of Care Service of NS Company by putting (✓) mark on the box that best matches your answer. Your response varies from 1-5, indicating:

5 = Strongly Agree

4 = Agree

3 = Neutral

2 = Disagree

1 = Strongly Disagree

Five Dimensions of Service Quality	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
<b>Tangibles</b>					
6. The scope of Care service has been defined and delivered properly					
7. The process of Care service has been defined and followed properly					
8. Care manager has managed Care service very well					
9. Care engineers have provided Care service very well					
<b>Reliability</b>					
10. Care service has been scheduled and informed exactly					
11. Care service has been performed right at the first time					
12. Care manager always keep commitment					
13. Care engineers always work accurately					

Five Dimensions of Service Quality	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
<b>Responsiveness</b>					
14. Care service has been respond to request promptly					
15. Care service has been delivered very well as promised					
16. Care manager has prompt response on request					
17. Care engineers can solve problems promptly					
<b>Assurance</b>					
18. Care service has been delivered that I feel confident to solve problems					
19. Care service has been delivered that I can trust on good outcomes					
20. Care manager can be trust to manage good Care service					
21. Care engineers have good knowledge to work with error free					
<b>Empathy</b>					
22. Care service has been respond to individual request very well					
23. Care Service has been always fulfilled my specific needs					
24. Care manager understands and fulfills my requests very well					
25. Care engineers understand and fulfill my requests very well					

### Part III:

Please indicate your agreement on each statement, representing your satisfaction toward the service quality of Care Service of NS Company by putting (✓) mark on the box that best matches your answer.

Customer Satisfaction	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
26. I am satisfied with DTAC's decision to use Care services					
27. I am satisfied with Care service					
28. I feel that my experience with Care service has been preferable					

**Thank you very much for your participation.**

## Appendix-C

### RELIABILITY MEASURES

(Pretest Survey)

#### Scale: Tangibles

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.853	4

#### Scale: Reliability

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.805	4



## Scale: Responsiveness

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.786	4

## Scale: Assurance

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.808	4

## Scale: Empathy

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.841	4

## Scale: Customer Satisfaction

**Case Processing Summary**

		N	%
Cases	Valid	30	100.0
	Excluded <sup>a</sup>	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.820	3

## Appendix-D

### RELIABILITY MEASURES

(Completed Survey)

#### Scale: Tangibles

##### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

##### Reliability Statistics

Cronbach's Alpha	N of Items
.835	4

#### Scale: Reliability

##### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

##### Reliability Statistics

Cronbach's Alpha	N of Items
.822	4

### Scale: Responsiveness

#### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.839	4

### Scale: Assurance

#### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.841	4



### Scale: Empathy

#### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.856	4

### Scale: Customer Satisfaction

#### Case Processing Summary

		N	%
Cases	Valid	223	100.0
	Excluded <sup>a</sup>	0	.0
	Total	223	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.870	3

## Appendix-E

### DESCRIPTIVE ANALYSIS

#### Statistics

Gender

N	Valid	223
	Missing	0

#### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	164	73.5	73.5	73.5
	Female	59	26.5	26.5	100.0
	Total	223	100.0	100.0	

#### Statistics

Age

N	Valid	223
	Missing	0

#### Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 years old or below	37	16.6	16.6	16.6
	26-35 years old	139	62.3	62.3	78.9
	36-45 years old	38	17.0	17.0	96.0
	45 years old or more	9	4.0	4.0	100.0
	Total	223	100.0	100.0	

### Statistics

Current position

N	Valid	223
	Missing	0

### Current position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineer or Specialist	174	78.0	78.0	78.0
	Manager	28	12.6	12.6	90.6
	Higher than manager	21	9.4	9.4	100.0
	Total	223	100.0	100.0	

### Statistics

How many year have you experienced with Care services

N	Valid	223
	Missing	0

### How many year have you experienced with Care services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	55	24.7	24.7	24.7
	1-5 years	74	33.2	33.2	57.8
	6-10 years	55	24.7	24.7	82.5
	11 years or more	39	17.5	17.5	100.0
	Total	223	100.0	100.0	

### Statistics

What is the part of the network infrastructure you have the most experience

N	Valid	223
	Missing	0

### What is the part of the network infrastructure you have the most experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Circuit Core network	44	19.7	19.7	19.7
Packet Core network	20	9.0	9.0	28.7
Radio network	47	21.1	21.1	49.8
Network Management system	26	11.7	11.7	61.4
Value add system	28	12.6	12.6	74.0
Intelligent Network	34	15.2	15.2	89.2
Other	24	10.8	10.8	100.0
Total	223	100.0	100.0	

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The scope of Care service has been defined and delivered properly	223	1	6	3.54	.641
The process of Care service has been defined and followed properly	223	2	5	3.43	.700
Care manager has managed Care service very well	223	2	5	3.47	.740
Care engineers have provided Care service very well	223	1	5	3.51	.722
Tangibles	223	1.50	5.25	3.4877	.57404
Valid N (listwise)	223				



### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Care service has been scheduled and informed exactly	223	1	5	3.32	.730
Care service has been performed right at the first time	223	1	5	3.31	.691
Care manager always keep commitment	223	1	5	3.42	.760
Care engineers always work accurately	223	1	5	3.39	.745
Reliability	223	1.50	5.00	3.3599	.59107
Valid N (listwise)	223				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Care service has been respond to request promptly	223	2	5	3.51	.677
Care service has been delivered very well as promised	223	1	5	3.35	.693
Care manager has prompt response on request	223	2	5	3.52	.734
Care engineers can solve problems promptly	223	1	5	3.44	.661
Responsiveness	223	2.00	5.00	3.4563	.56805
Valid N (listwise)	223				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Care service has been delivered that I feel confident to solve problem	223	1	5	3.38	.730
Care service has been delivered that I can trust on good outcomes	223	2	5	3.40	.696
Care manager can be trust to manage good Care service	223	2	5	3.57	.725
Care engineers have good knowledge to work with error free	223	1	5	3.47	.728
Assurance	223	2.00	5.00	3.4529	.59230
Valid N (listwise)	223				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Care service has been respond to individual request very well	223	2	5	3.41	.665
Care service has been always fulfilled my specific needs	223	2	5	3.35	.632
Care manager understand and fulfill my requests very well	223	2	5	3.40	.676
Care engineers understand and fulfill my request very well	223	2	5	3.52	.703
Empathy	223	2.00	5.00	3.4215	.55953
Valid N (listwise)	223				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I am satisfied with DTAC's decision to use Care service	223	1	5	3.65	.625
I am satisfied with Care service	223	2	5	3.58	.594
I feel that my experience with Care service has been preferable	223	2	5	3.53	.635
Customer Satisfaction	223	1.67	5.00	3.5874	.55091
Valid N (listwise)	223				

## Appendix-F

### CORRELATION ANALYSIS

#### Correlations

		Tangibles	Customer Satisfaction
Tangibles	Pearson Correlation	1	.598**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.598**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### Correlations

		Reliability	Customer Satisfaction
Reliability	Pearson Correlation	1	.571**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.571**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### Correlations

		Responsiveness	Customer Satisfaction
Responsiveness	Pearson Correlation	1	.584**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.584**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Correlations

		Assurance	Customer Satisfaction
Assurance	Pearson Correlation	1	.655**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.655**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Correlations

		Empathy	Customer Satisfaction
Empathy	Pearson Correlation	1	.614**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.614**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Correlations

		Service Quality	Customer Satisfaction
Service Quality	Pearson Correlation	1	.681**
	Sig. (2-tailed)		.000
	N	223	223
Customer Satisfaction	Pearson Correlation	.681**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).



