BANGKOK CUSTOMERS' SWITCHING BEHAVIOR IN MOBILE PHONE SERVICE

By

LALANA SUKSANGUANSAK

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok Thailand

July 2003

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ABSTRACT

The purpose of this study was to explore whether selected attitudinal, behavioral, and demographic characteristics of customers might be effective in distinguishing between switchers and continuers of mobile phone services. To test the ability of the hypothesized variables to differentiate between switchers and continuers, two-group discriminant analysis: stepwise method was used. The independent variables were external influence, interpersonal influence, experiential influence, overall service usage, satisfaction, service involvement, risk taking behavior, income, and education. The 400 respondents were mobile phone users who live in Bangkok.

The result showed that there were three independent variables can be counted as a good predictor in distinguish between switchers and continuers in mobile phone service industries, which are overall service usage, satisfaction and service involvement. From the finding, satisfaction was the most powerful factor to discriminate the group of customers. Service involvement was the least powerful factor to discriminate the group of customers. In addition, classification functions of two groups were shown in order to predict whether new customers tend to switch service or not. In summary the profile of a mobile phone service switcher is that of an individual who used the service less; who was less satisfied and less involved with the service.

On the basis of the result, mobile phone service providers should target customer retention strategies. Marketing activities should be designed to increase service usage, customer involvement and customer satisfaction, thereby reducing the likelihood of customer switching.

ACKNOWLEDGEMENTS

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CHAPTER I

GENERALITIES OF THE STUDY

1.1 INTRODUCTION

During the past decade, mobile phone service industry has tremendous growth. The local cellular penetration rate is about 11% nationwide and 34% in Bangkok. In Hong Kong and Taiwan, by comparison, 80% of the people have mobile phones (http://www.bangkokpost.net/yearend2001/mobiles.html, Oct 10, 2002).

Rapid growth in mobile phone users in Thailand has attracted the interest of major mobile phone service providers such as Advance Info Service (AIS), Total Access Communication Co., ltd (TAC), and TA ORANGE. They are now competing for the market claimed by providing mobile phone services with value added and premium services such as mobile internet, ticket booking, horoscope etc. (Krungthepthurakij; August 7, 2002).

The growth of mobile phone users in the mobile phone business has been exponential as shown in figure 1.1.

Mobile Phone users in Thailand
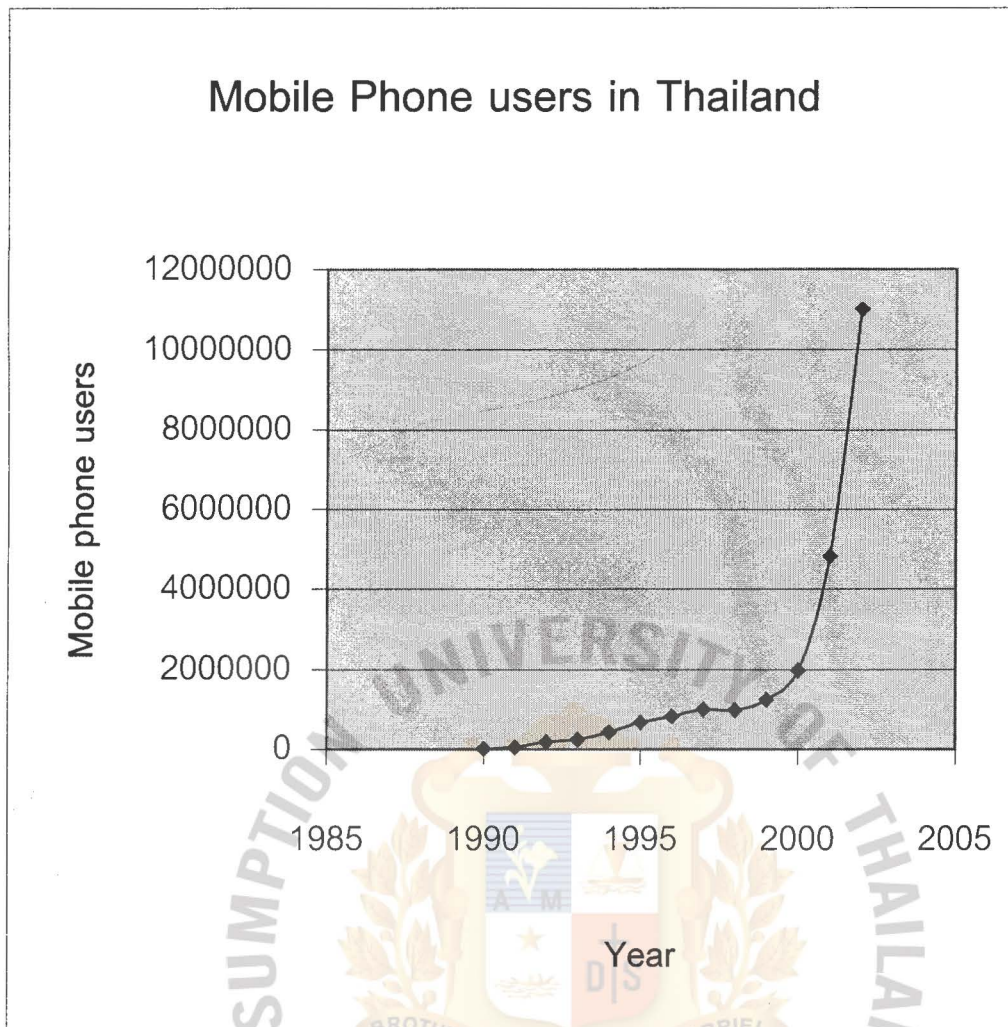
Figure.1.1 Growth of Mobile Phone Users in Thailand.

Source: Krungthepthurakij; August 7, 2002

From figure1.1, the number of mobile phone users in Thailand increased from 5,000,000 in year 2001 to 11,000,000 in the year 2002.The number of mobile phone users are expected to double in 2003. Due the decision to unlock IMEI (International Mobile Equipment Identity) by each mobile phone service provider, the price of mobile phone product and airtime charge have come down. Customers can easily switch from one mobile phone service provider to another. They can buy SIM card, choose the mobile service from any providers, without the need to change mobile

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phone hand set or buy a new one at very cheaper price (Manager magazine: June 2002, pp. 154 -155).

In addition, the new telecom law enacted in November 2002 has greatly benefited customers and will be even more of a boon when the state agencies and private operators follow it to the letter. Customers will gain.

- The law cancelled the deposit fee all operators charged.

- The law allows those with import hand sets to subscribe to any cell-phone operators.

- The law allows customers to keep their phone numbers when they switch to a new operator.

- The law allows customers to sue operators through the regulatory National Telecommunication Commission (NTC).

- The law allows the NTC to order operators to provide services they advertise falsely.

- The law guarantees universal access to telecom service (The Nation: June25, 2002).

A result of this increased competition is churn or customer movement in and out of the market place. Some of churn is customer-switching behavior (Keaveney, 1995) where customers continue to use the mobile phone service but switch from one mobile phone service provider to another.

Background of Mobile Phone Service Industry

The Telephone Organization of Thailand (TOT) has introduced Mobile Telecommunication services. It first launched the Nordic Mobile Telephone (NMT) 470 Mhz system on July 8, 1986. In 1987, the Communication Authority of Thailand (CAT) introduced the Advanced Mobile Phone System (AMPS) 800 Mhz band A as a second system operated in Thailand. However, these two operators could not provide service to meet demand. Government, then, has allowed the private sector to provide the mobile telecommunication service under the Build-Transfer-Operate (BTO) contract. Under this contract the private companies shall make an investment and take a responsibilities for installation system. After that they have to transfer the ownership of entire system to the government. However, the private companies can operate mobile telecommunication service for customers (Brandage, May 2002, pp.154 -158).

Now there are three major private companies of Thai mobile phone service providers market.

Advance Info Service (AIS)

AIS, established on 27 March 1990, was granted 25 years Build-Transfer-Operate (BTO) concession from the Telephone Organization of Thailand (TOT) to operate mobile phone service. AIS launched its service by providing Nordic Mobile Telephone (NMT) 900 Mhz and digital GSM (Global System for Mobile Communication). The digital system that are ensured by the crystal clear Voice Quality and able to automatically hop frequency, helping to maintain a constant signal.

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In July 2000, AIS first launched a new product and service under the brand "1-2-CALL" which is the digital GSM mobile phone in Chaing Mai province. It offered pre-paid system for its customers. This system allows the mobile phone operators to charge the subscribers before they have utilized the service. Customers can control their expense and don't need to pay monthly fee. Mobile phone operators also get benefit from this system. They can collect cash in advance and reduce the cost of billing. Moreover, a card that is paid by customers for mobile phone service has an expiration date. If customers can't use up the services charge of prepaid card, the remaining cash will be owned to the mobile phone operators. In June 2001, Shin Cooperation PLC has jointed with Telekom Malaysia International (TMI) to take over DPC as a shareholder at 46% and changed the brand's name from "HELLO 1800" to "GSM 1800". In September 2001, AIS launched General Packet Radio Service (GPRS) technology to serve their customer. AIS also relaunch the brand from "GSM 2 WATTS" to "GSM ADVANCE" in January 2002 (Brandage, May 2002, pp. 154-158).

In summary AIS owns four brands of mobile phone which are "GSM ADVANCE", "1-2 CALL", "NMT 900 Mhz", and "GSM 1800". AIS try to differentiate itself from its competitor in term of stronger signal than others. It emphasize on the strengthen point of "GSM 2 WATTS" via the advertising. An Automatic International Roaming and 795 Umper coverage network campaign was advertised. AIS try to promote its image under the concept "CARE for EXCELLENCE" which are Service Excellence, Technology Excellence, Network Excellence, and People Excellence. It can create brand image in the mind of customer (Business.com magazine; May, 2001).

Total Access Communication Co., ltd. (TAC)

Total Access Communication Co., ltd. (TAC) was established at 31 August 1989. CAT to operate and provide mobile phone service under the 22 years concession granted it. TAC operated mobile phone service with 800 Mhz Analog system and used Advance Mobile Phone System (N-AMPS). TAC then, developed the system into Narrow-Band Advance Mobile Phone System (AMPS) which is 3 times more efficient than AMPS.

In September 1991, TAC first introduced the digital system of Personal Communication Network (PCN) at 1800 frequency, under the brand of "World Phone 1800". With the digitized crystal clear voice quality and uninterrupted called, it is well known to the customer. In February 2001, 1800 Digital by Worldphone, Worldphone new 800 and Prompt have been relaunched to DTAC and D-prompt (prepaid system). In fact, TAC's new offerings were so substantial; the company changed its name to *DTAC*. As one would expect, the "D" in *DTAC* stands for "digital," but the new letter has the additional benefit of the sound meaning "good" in Thai. The meaning of "D" is the better and easier services.
(http://www.hakuhodo.co.jp/asia/wind/bangkok/bk010615.html.) .

During an intense competition in mobile phone market, It is not only AIS that DTAC has to compete with each other, but also TA ORANGE which is a new comer.

TA ORANGE Co., ltd.

TA ORANGE, which is a joint veture between Chareon Pokhapan (C.P.) Thailand and Orange Telecommunication from England, has launched their product and service since 13 December 2001. TA ORANGE gains the concession from CAT in order to provide mobile phone service named wire free TM system at frequency 1800 Mhz. For the first time, TA ORANGE launched the service focus for the employees and their friends or reletives of TA ORANGE and subsidiaries in C.P. group. By doing this, TA ORANGE can test the efficiency of network beform launch to the public. Moreover, it can gain first 100,000 customers without advertising (Brandage, May 2002, p154-158).

On February 1, 2002, TA ORANGE launched the advertising via television under the slogan **"Talking Listening Understanding"** in order to create brand awareness into the customer's mind. On March 27, 2002, TA ORANGE launched the products and services to the public with very attractive promotion. From now on, TA ORANGE fully enters to the severe competition in this business. TA ORANGE expects to be the 2nd leader in mobile phone market instead of D-TAC (Business Thai newspaper: November 12-18, 2001).

1900 Mhz (ACT Mobile)

1900 Mhz, owned by Thai Mobile Co., ltd. (ACT Mobile), provided mobile phone service named Personal Communication Service (PCS) system at frequency 1900 Mhz. There are two major shareholder in this company those are TOT (54.98%),

CAT (40%) and Airo Thai Co (0.2%). They also plan to operate mobile phone service in the near future (Business.com: March 2001).

Market and Competition

There are 22 million people able to own mobile phone but only 15 million customers now. Mobile phone operators try to do marketing activities to gain market share (Krungthepthurakij; April 2002). At present, AIS is the market leader followed by DTAC and TA ORANGE respectively.
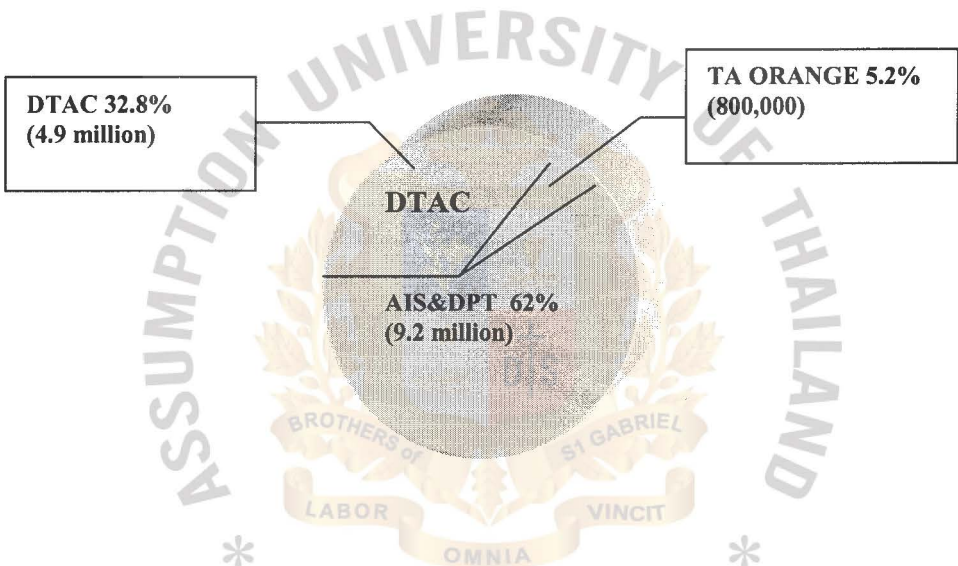
Figure1.2 Market Share of Mobile Phone Service Providers in Thailand.
Source: Manager Weekly Newspaper: Sep 30th - Oct 6th, 2002 p. A2 (survey on August 2002)

Mobile phone market has rapid growth according to the entering of new competitors, and deregulation regard to WTO in the year 2006. Consumers are benefiting from fierce competition in telecom market. It is going the way of other countries- falling costs and intense competition. Telecom firms are also coming up with all sorts of marketing tricks to capture customers (Krungthepthurakij; March 21, 2002).

The strong and the weak points of each mobile phone operator.

There is the comparison of week and strong points of the three major cell-phone firms as shown following

AIS	
Strong points	**Weak points**
• Good quality nationwide and in-building network	• High air-time charges
• Premuim after sale service	• No flat rate
• Nationwide service shop	• No drop call compensation
	• No per-second billing
	• No number portabality between pre-paid and post-paid phones
DTAC	
Strong points	**Weak points**
• Per-second billing with few conditions (30 seconds minimum requirement)	• Signal cisconnection in some coverage areas
• Number portabality between pre-paid and post-paid phones	• Only 75 percent nationwide network coverage
• Dropped-call compensation	
• Flat rate charge nationwide	

TA ORANGE	
Strong points	**Weak points**
• Per second billing with no minimum requirements • Low price hand sets for some models • Flat rate charge nationwide • Dropped call compensation	• Limited network coverage (currently covers only Bangkok and some major provinces) • No number portability between pre-paid and post-paid phones

AIS seems to be the best in term of quality even the service charge is relatively high. By signing up with TA ORANGE, users will enjoy a lower service cost but must put up with limited network coverage. DTAC's service is the " the in between choice" offering a cheaper alternative than AIS but slightly poorer coverage. The positioning of GSM ADVANCE is premium brand so AIS doesn't reduce airtime charge. AIS also has brand GSM 1800, which is position to the CITY PHONE, as a fighting brand for competing with D-TAC and TA ORANGE (The Nation: Tuesday, June 25, 2002).

1.2 STATEMENT OF PROBLEM

Increased competition is causing customer loyalty to decline in mobile phone industries. Unlock IMEI and Telecom law enacted in November 2002 also supports the customers to switch the mobile phone service. According to Advance research ((2002) in Telecom journal (2002)) report that 43% of mobile phone users strong intent to switch mobile phone service provider because various reason such as price incentive, quality of service, promotion and dissatisfaction with their previous operator. Therefore, it is waste cost if these providers can't keep their customers to stay.

Customer switching behavior can be particularly damaging for subscription-based service firm where customers commit to ongoing relationships and service are continuously provide. In order to maintain their market shares among new entrants of mobile phone service providers have been forced to pay attention to customer retention. Customer retention means keeping customers, which translates into preventing customers from switching (Nordman 2001). However Ganesh, Arnold and Reynold (2001) state that the customers might switch service provider due to reason out of control of service provider. Just exploring what causes switching or how the process of switching proceeds is not enough if we do not understand the difference between customer groups. In order to do this, it is necessary to have an understanding of both switchers and continuers in this industry in case of to what extent mobile phone continuers' and switchers' attitudinal, behavioral and demographic factors can discriminate the two customer groups across. Therefore, the research problem is **"What factors are the effective predictors in differentiating between switchers and continuers in mobile phone service industries?"**

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1.3 OBJECTIVE OF THE STUDY

1.3.1   To study the switching behavior of Bangkokian customer toward mobile phone service industry.

1.3.2   To examine whether the customer switching behavior can be differentiated by their behavioral, attitudinal and demographic characteristics toward mobile phone service.

1.3.3   To identify the most influence factor that can differentiate between group of continuers and switchers toward mobile phone service.

1.4 SCOPE OF THE STUDY

According to the market survey done by Taylor Nelson Sofres cited in Thansethakij newspaper (March 17, 2002), more than 50% of population in Bangkok uses mobile phone. Mobile phone is considered to be the fifth basic needs for Bangkok customers. Target respondents are mobile phone users who stay in Bangkok either permanently or temporarily. Period of the survey will range from December 2002 – January 2003.

1.5 LIMITATION OF THE STUDY

1.5.1   The study is limited to three mobile phone operators, which are AIS, DTAC, TA ORANGE only.

1.5.2   This research focuses on mobile phone users who stay in Bangkok either permanently or temporarily.

1.5.3   This research is limited in time frame.

1.6 SIGNIFICANCE OF THE STUDY

The result of this research will provide an understanding of how both of customer groups (switchers and continuers) differ in attitude, behavior, and demographic factors toward mobile phone service. In addition, the result of this research provides the model in order to predict the tendency of switching the mobile phone services of the customers. Once the effective predictors are found, the manager can identify suitable target groups for different kinds of marketing activities.

1.7 DEFINITION OF TERMS

Continuers   The customers who use mobile phone service from the same operator and has never switched to the others (Keaveney and Parthasarathy 2001).

Customer Switching Behavior   when customer switches from one mobile phone service provider to another (Nordman 2001).

IMEI   (International Mobile Equipment Identity)   The IMEI is a unique 15-digit code used to identify an individual GSM mobile phone to a GSM network. The IMEI can be displayed on most phones by dialing the code *# 06 #. It is also usually printed on the compliance plate under the battery. An IMEI code is divided into four sections, with each section separated by a space as shown by this example: 490520 30 123456 0 (http://www.accesscomms.com.au/imei.htm).

Mobile Phone service Provider   The companies who provide mobile phone service such asAdvance Info Service Public Co. ltd. (AIS), Total Access Communication Public Co. ltd. (DTAC) and TA ORANGE.

Switchers   The customers who stopped using the service of one mobile phone service provider and switched to become the customers of different mobile phone service provider. (Keaveney and Parthasarathy 2001).

CHAPTER II

LITERATURE REVIEW

In this part of the study, the researcher will find the theories and models, which are relevant to the conceptual framework of this research. Previous researches relevant to this study are also included in order to support the framework of this study through the research methodology in chapter 4.

2.1 THEORIES RELATED TO FRAMEWORK

2.1.1 CONSUMER BEHAVIOR

Consumer behavior is a subset of a larger set of activities consisting of all human behavior. It includes everything that occurs as prospective customers for products and services become actual customers (Hanna and Wozniak, 2001).

2.1.2 THE NATURE OF DECISION PROCESS
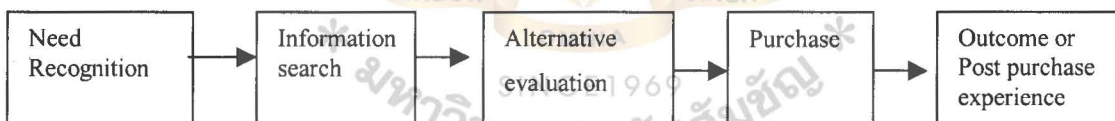
Figure 2.1 The Nature of Decision Process
Source: Engel J.F., Blackwell R.D., and Miniard P.W. (1993). Consumer Behavior. 6th ed., Chicago, IL: The Dryden Press

Consumer decision-making has the following stages:

1.Need recognition- a perception of difference between the desired state of affairs and the actual situation sufficient to arouse and activate the decision process.

2. Search for information- search for information stored in memory (internal search) or acquisition of decision-relevant information from the environment (external search).

3. Alternative evaluation-evaluation of options in term of expected benefits and narrow in the choice to the preferred alternative.

4. Purchase-acquisition of the preferred alternative or an acceptable substitute.

5.Outcomes-evaluation whether or not the chosen alternative meets needs and expectations. (Engel, Blackwell and Minard, 1993).

However, the process does not stop once the purchase has been made. There often is substantial post purchase evaluation, especially when high involvement has triggered extended problem solving. Sometimes buyers have doubts that the right choice was made. These doubts may be shown as dissatisfaction. The opposite response is satisfaction. Both depend on the degree to which expectations have been fulfilled.

The outcome of purchase

In general, as shown in figure 2.2., the post-purchase process includes four steps: decision confirmation, experience evaluation, satisfaction or dissatisfaction, and future response(exit, voice, or loyalty).

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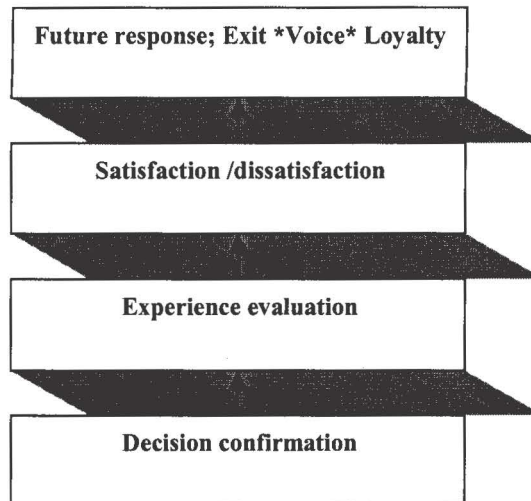
Figure 2.2 Step in the Post-Purchase
Source Jagdish N. Sheth, Banwari Mittal Bruce I Newman, Customer *Behavior:*
Customer Behavior and Beyond, Dryden Press, 1999

Decision Confirmation

Once the product or service has been used, outcomes are compared against expectancies and judgment is made. There are three possible outcomes of these evaluations

1. Actual performance matches expectations, leading to a neutral feeling

2. Performance exceeds expectations, causing what is known as *positive disconfirmation* which leads to satisfaction

3. Performance is below expectations, causing negative disconfirmation and dissatisfaction (Ernest, Woodruff and Jenkins, 1987).

Experience Evaluation

Following purchase, the product or service is actually consumed. Marketers need to know whether customers consume it routinely or while consciously evaluating it. This depends on the level of enduring involvement in the product or service and the

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finality of the preference that caused this purchase. Of the hundreds of products and services we use in our lives, we use most of them routinely or mindlessly. We notice them only if something does not work as expected. On the other hand, everybody is very enthusiastic about some products or services. In consuming these, we are conscious of the consumption experience, appraising and relishing it continually (e.g. wine drinking by wine connoisseurs). These then are the products and services that undergo conscious evaluation during use (Jagdish, Mittal and Newman, 1999).

Satisfaction/Dissatisfaction

The customers' satisfaction or dissatisfaction with the product or service will influence subsequent behavior. If customer is satisfied, he or she will exhibit a higher probability of purchasing the product again. Whereas dissatisfied customers respond differently. They may abandon or return the product/service. They may seek information that confirms high value. Private actions include making a decision to stop buying product (exit option) or warning friends (voice option) (Albert 1970).

Future response; Exit *Voice* Loyalty

- **Exit**   If customers are dissatisfied with their experience with brand, they may decide never again to buy the brand. This places them back to the start of the decision process the next time the problem recognition arises. They have to go through the arduous process of information search, alternative evaluation, and so on , all over again.

- **Voice**   Dissatisfied customers may complain and then decide either to give the brand or marketer another chance or simply to exit.

- **Loyalty** Customer loyalty means the customer buys the same brand repeated. At the first thought, one would think that if customers are satisfied, they would not switch brands. Thus, a satisfaction rating may be deemed to ensure loyalty. However, recent customer research has shown that while customers are likely to switch when they are satisfied than when they are not, being satisfied does not guarantee loyalty. One study shows that despite satisfaction, as much as 30 percent of customers were likely to switch suppliers (Bradley, 1994).

2.1.3 SWITCHING BEHAVIOR

Switching behavior is the result of post purchase evaluation (Hawkins, Best, and Coney 1983). In order to define what switching is it is first necessary to define the *relationship* itself. Like switching, a relationship is a fussy concept, and it can be hard to define exactly when it starts or ends. Some consider the beginning of a relationship to occur when there is behavioral proof, for example, a contract has been signed or the buyer has bought something repetitively. Other definitions of what a relationship is a concern attitude, stating that a relationship exists when the parties feel that there is something binding them together (Grönroos 2000).

A relationship can be considered to consist of many phases. One classification of relationship phases has been made by Dwyer & al (1987), and it includes "1) awareness or recognition of a feasible exchange partner, 2) exploration, the search and trial phase, 3) expansion, the continual increase in benefits and interdependence, 4) commitment, an implicit or explicit pledge of relational continuity, and 5) dissolution". Words used to describe the ending phase of a relationship include relationship dissolution, customer defection, breakdown, ending, exit, fading,

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termination, withdrawal and **switching** (Stewart 1998). The word used in this research, **switching**, indicates that the relationship does not just end, but that the customer moves over to a new service provider.

The phenomenon of switching behavior started receiving more attention during the 1990's, where Susan Keaveney's (1995) work was the first exploration of switching behavior in a service setting. Keaveney's work focused on antecedents of switching behavior, and she was able to define eight categories of critical behaviors of the firm that caused switching behavior in 45 different service sectors. Later the process of switching also started receiving attention, as demonstrated by Kate Stewart (1998) and Inger Roos (1999). Thereby antecedents of switching and the process of switching have been studied, which obviously promotes the understanding of switching behavior. However, just the fact that some people switch to another mobile phone services although they are satisfied while others would never switch no matter how dissatisfied (Nordman 2000). They are implied that differences in personality, or other underlying factors also have an impact on how we act. These differences have not been explored in the context of customer switching behavior.

2.2 RELEVANT ARTICLES INVOLVED WITH INDEPENDENT VARIABLES

Information Influence

Information search can be characterized in external, interpersonal, and experiential sources of information. External sources can include professional information provided in pamphlet, articles, books, marketer-generated information presented in advertisements and displays and by sales personnel. Interpersonal sources

come from the opinions and attitudes of friends, neighbors, and relatives (Del et. al., 1983).

The consumer usually searches his or her memory before seeking external sources of information regarding a given consumption-related need. Past experience can be direct experiences with the product or service through inspection or trial. The greater the relevant past experience, the less external information the consumer is likely to need in order to reach the decision (Schiffman and Kanuk 1994).

Consumers differ in their preference for types of information (Furse, Punj, and Stewart 1984). Preferences for different types of information sources have also been found to vary between goods versus services decisions (Murray 1991).

Information used by buyers in their choice decisions has a direct effect on the formation of predictive expectations of perceived performance (Boulding 1993). Predictive expectations effect consumers' judgments of satisfaction and service quality, which in turn affect key behavioral outcomes such as repurchase, **switching behavior**, and loyalty (Oliver, 1997; Yi, 1990; Zeithaml 1996).

Thus, the types of information that customers use when making choice decisions will affect their assessments of the choice.

- **External sources of information.**

External information search is a purposeful decision by consumer to scan the environment for new and decision-relevant information (Berning and Jacoby 1974).

Some consumers are more likely than others to rely on external sources of information when making purchase decisions. In a study of purchasers of new automobiles, Furse et al. (1984) identified two segments of consumers, representing 44 percent of respondents, which were characterized by their above-average use of

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external sources such as brochures, pamphlets, advertisements, magazines reviews, and ratings. Moreover, some purchase situations are more (or less) likely to trigger the desire for external sources of information. In a study of durable goods, consumers preferred advertising and other external sources when they believed they were capable of drawing their own conclusions about product attributes and judging the merits of the product themselves (Houston 1979). Consumers also prefer external, impersonal sources more when choosing goods, but less when choosing services (Murray 1991).

Consumers who seek external sources are interested in gaining factual objective information about product or service attributes. A preponderance of factual information about attributes should lead to more accurate predictive expectation about the future performance of the product or service (Boulding et al. 1993). Accurate predictive expectations mean an absence of disconfirmation. Absence of disconfirmation, combined with a positive valence of the predictive expectation for the chosen good or service, means that the positive predictive expectation is confirmed by perceived performance, resulting in satisfaction. Barring any unpleasant surprises in performance, continued use by consumers should result (Oliver 1997).

Strong expectation can even act to edit or filter perceived performance in such a way that consumers see what they want to expect to see and overlook discrepant information (Hoch and Deighton 1989). Any clear and pleasant surprises in performance, consumers will be motivated to continue their satisfied use of the product or service (Oliva, Oliver, and Bearden 1995).

- **Interpersonal sources of information**

Other customers rely on word of mouth opinions of others more than on their own decision-making product or service decisions. Consumers who have little prior

experience with product or service, who find the decision-making process difficult, or who have little confidence in their own abilities to judge the product or service may prefer to ask advice from others perceived as knowledgeable (Furse et al. 1984). Consumers also tend to use more, and to have more confidence in, interpersonal sources of information when purchasing services than when purchasing goods (Murray 1991).

Without the well-informed expectations that result from impendent decision processing, consumers are vulnerable to negative disconfirmation if services do not perform for them in the way that their friends have described (Oliver 1997). Moreover we know that service consumption can be highly individualized and difficult to comprehend until personally experienced. Thus, consumers who rely on various experiences to make service choices may risk disappointment and dissatisfaction if their personal experiences differ from others' experiences. When expectation are violated by contrary experience, motivation to correct the problem- by switching services or discontinuing use-is high (Hoch and Deighton 1989).

- **Experiential source of information**

When faced with a purchase decision, consumers first engage in internal search, examining information in memory about past experiences and product relevant knowledge (Bettman 1979). The more perceived risk associated with the purchase situation, as in case of services, the more consumer prefer their own observations and experiences as source of information (Murray 1991).

Hoch and Deighton (1989) observe that " consumers tend to grant special status to conclusions drawn from experience." They theorized that motivation and involvement in the decision tend to be higher, consumers have control over the pace

and content of learning, and source credibility is high because the interests of source and consumer are one. Research suggests that information from experience is likely to have greater influence on behavior than information from other sources (Smith and Swinyard 1982).

Having already used a service, or having service-relevant knowledge in memory, means that the consumer not only has personal knowledge about service attributes but also has personnel experience about how this service works for him or her satisfies his or her needs (Zeithaml, Berry, and Parasuraman 1993).

Consumer learn from their experiences with products and services and update what they already know (Boulding 1993). Consumers who already have prior experience with a product or service, or who have product-related knowledge, learn quickly from experience (Hoch and Deighton 1989).

Service Usage

A number of related studies lead to hypothesize that heavier users of service will be less likely to switch. First, the disconfirmation paradigm predicts that frequent usage should provide customers with relatively accurate and realistic performance expectations, thereby decreasing disconfirmation and increasing satisfaction and repurchase intentions (Anderson and Sullivan 1993). Anderson (1994) stated the result from the Swedish Customer Satisfaction Barometer (SCSB) project which indicate the higher levels of customer usage are associated with lower incidences of disconfirmation, somewhat higher levels of satisfaction, and higher repurchase intentions.

According to Oliver (1997), when customer uses a service frequently or intensely, he or she develops a fairly strong and –as inferred by continued use-

presumably positive attitude about it. LaBarbera and Mazursky (1983) found that the longer the sequence of repeat purchase behavior, the more that experience with the brand account for repurchase behavior and the lower the role of satisfaction. Bolton and Lemon (1999) found evidence of a dynamic relationship between customers' prior usage, cumulative satisfaction evaluations and subsequent usage: Customers with positive evaluations of their prior usage experience higher cumulative satisfaction; higher over all satisfaction in turn was linked to increased subsequence usage.

Since consumer act as though the cost of learning is greater than the cost of making a mistake, heavy users of a particular mobile phone service may feel that they have developed nontransferable provider-specific skills. Having invested time and energy to become facile at one mobile phone service, consumer may be unwilling to learn about how to use an alternative product or service (Alba and Hutchinson 1987).

Propensity for Risk - Taking Behavior

Both propensity for risk-taking behavior and brand switching behavior have been empirically shown to be correlated with a third, known as "optimum stimulation level" (Raju 1980). Theories of optimum stimulation level (OSL) suggest that individuals prefer a certain level of stimulation. When an individual's stimulation level is below optimum, he or she will take action to raise it: when it above optimum, he or she will act to reduce it. One way in which consumers raise or lower their optimum stimulation level is through their behavior in the marketplace. Thus individual with higher OSL reported that they had both higher risk- taking and brand-switching tendencies than individuals with lower OSL (Raju 1980).

Both theory and evidence in the service literature suggest that customers perceive the selection and purchase of services to be riskier than goods (Murray 1991) It would be reasonable to expect that individuals with higher risk taking propensities might be more likely to select and purchase these "riskier" services (particularly if their stimulation levels were to fall below optimum levels) than with lower risk taking. Like selecting and choosing services, service-switching behavior can be seen as an inherently risky activity. By extension, then, we might expect that individuals with higher propensities for risk taking would be more willing to engage in the activity of switching among service providers.

Satisfaction

Satisfaction with the service provider was found to be a strong predictor of intentions to switch service provider, as was attitude toward switching Bansal and Taylor (1999). Prior study have found that dissatisfaction is associated with increase brand-(product-) switching behavior (LaBarbera and Mazursky 1983), service switching behavior (Keaveney 1995), and both product and service switching intention (Anderson and Sullivan 1993).

When considering factors that affect customer switching behavior, the most commonly mentioned factors would probably be customer satisfaction. According to Jones and Sasser (1995), the difference between merely *satisfied customers* and *completely satisfied* customers is important in highly competitive markets. Only the completely satisfied customers seemed considerably less inclined to switching. It shows that even satisfied customers interest to switch if they find the better alternative.

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Singh and Pandya (1991) studied the financial markets, and they came to the conclusion that customer exit occurred only when customers were *very dissatisfied*.

Mittal and Lassar (1998) found that 100% of the dissatisfied customers of health care and car repair services had a predisposition for switching. They also found that the differences in loyalty between customers that were "Somewhat satisfied" (4 on a five-item scale) or "Extremely satisfied" (5) were considerable. While more than half of the satisfied customers were interested in switching, only 19,5% (health care) and 32,4% in (car repair) of the extremely satisfied customers were interested in switching. So it seems like loyalty is much more likely among customers that are extremely satisfied, but still not ensured even among them.

Although most studies include satisfaction in some way, the effect of customer *dissatisfaction* or *satisfaction* on relationship longevity. For example switching or staying is not clear. It is known that dissatisfaction is not always a reason to switch (Stewart 1998). On the other hand Reichheld (1993) found that 65-85% of switchers were satisfied or even very satisfied with their service provider.

Involvement

More highly involved consumers have been found to report higher levels of positive disconfirmation and satisfaction (Oliver and Bearden 1983; Richins and Bloch 1991). These higher levels of satisfaction tend to be enduring. Involved consumers engage in greater prepurchase search (Beatty and Smith 1987). Higher level of involvement have been associated with higher level of commitment to

decision and resistance to belief change, resulting hardly to switch (Pritchard et al. 1999)

Oliva et al. (1995) have found that satisfied customers tolerate greater degrees of poor performance as their product and/or service involvement increases.

Demographics

- **Income and Education**

Customer with higher incomes and education levels may be capable of developing sophisticated and probably accurate estimates of what to expect from a service. For example, customer with higher incomes may have experience with more frequent usage of services or usage of greater variety of services. Higher incomes also allow customers to afford to choose "buy" in potential "make-versus-buy" service decisions, potentially giving them more experience with wider variety of services (Keaveney 2001).

Higher education levels may also provide consumers with greater skills in forming hypotheses about future service performance (Nelson 1970).

Lower income and less-educated service users may find that their expectations were ambigious, their ability to learn from experience limited, their assessments uncertain, and their evaluations of the service more vulnerable to instances of dissatisfaction (Hoch and Deighton 1989) which implies to switch.

Colgate and Hedge (2001) investigated customer-switching behavior among baking customers in Australia and New Zealand. Colgate's and Hedge's result indicated that the customer who did switch bank differed demographically from the other customers. The switchers were more likely to be younger, high income customers and those with a higher education.

2.3 PREVIOUS STUDIES RELEVANT TO THE TOPIC ON DEPENDENT VARIABLE.

Some researches on switching behavior are presented. These researches mostly focus on identifying factors that have been found to affect switching. These are as follows:

Keaveney (1995) was the first one to analyze antecedents of switching behavior in service setting, and interviewing over 500 persons about their experiences with service providers did this exploratory work. The critical incident method was used, and through this method data about 469 incidents, 838 separate critical behaviors were obtained. Through analyzing this material Keaveney (1995) could identify eight categories of antecedents of switching behavior. The categories identified were 1) *price* (mentioned by 30% of all respondents), *inconvenience (over 20%), core service failure (44%), service encounter failure (34%), response to service failure (17%), competition (10%), ethical problems (7%) and involuntary switching (6%).* The study included incidents from 45 different services.

Colgate and Hedge (2001) investigated customer switching behavior among banking customers in Australia and New Zealand. They also had Keaveney's (1995) framework as a basis for their study, and the aim was to find out to what extent the five major categories of switching determinants defined by Keaveney had an impact on the switching decisions. Colgate and Hedge also studied to what extent problems causing complaining behavior differ from those that result in switching. Colgate's and Hedge's results indicated that the customers who did switch banks differed *demographically* from the other customers. The switchers were more likely to be younger, high-income customers and those with a higher education. Considering that

the customers with high education and income are usually the customers that banks are especially keen on retaining this is an interesting result.

Colgate and Hedge (2001) were interested in how complaining behavior was related to switching, and according to their results the relationship is strong, 74% of the customers had complained at least once to the bank before switching, 40% even more than twice.

Factors affecting switching behaviors were identified along with estimating how they influence the decision-making. Bansal and Taylor (1999) based their studies on the theory of planned theory (TPB), an attitude behavior model. Based on the study they argue that switching behavior is affected not only be the *attitude to the target*, operationalised as *perceived service quality*, but also by the customers' *attitude towards switching*. Although service quality and customer satisfaction were found to be closely related they were still significantly different. Switching costs also had a significant effect on intentions to switch service provider. The study showed that although service quality and satisfaction are important antecedents of switching, attitude toward switching is the most influential determinant of switching intentions.

Anderson (1996) reported the importance of price tolerance in addition to satisfaction when predicting customer switching.

Dabholkar and Walls (1999) found that outcome-related, extrinsic, and service process factors were all importance in predicting customers' intentions to switch providers of an experiential service.

Bolton and Bronkhurst (1995) found that customers of cellular services who had complained to the firm were more likely to switch than customers who had not

complained. Thus, it seems importance to augment studies of satisfaction and intentions-which, although quite importance, have been well studied-to include other attitudinal, behavioral, and demographic variables. The study done by Advance Research (cited in Telecom Journal: April, 2002) found that the reasons of Bangkokian customers for switching mobile phone service provider are promotional incentive (50% of males and 25% of females), perceived service quality (50% of males and 40% of females), and price (50% of males and 20% of females).

Ganesh, Arnold and Reynolds (2000) compared loyal customers and switchers. They made the basic assumption that any company's customer base consists of either customers who have switched from other service providers or customers who have not switched such as first time adopters. The research was conducted in the retail-banking sector. The switchers were classified into satisfied switchers and dissatisfied switchers, where a satisfied switcher has switched service provider due to other reasons than dissatisfaction. The authors' aim was to study how these three customer groups differed in their behaviors and attitudes towards the service firm. The authors state that based on the literature on service satisfaction and switching behavior three critical constructs should be examined when studying differences between customers. The constructs are customer *loyalty*, customer *satisfaction* and *involvement*. The authors designed an instrument to collect data about (1) consumers' use of banking services, (2) overall satisfaction with the current primary bank, (3) satisfaction with the individual aspects of the banking service, (4) purchase and ego involvement associated with the choice and usage of the bank, (5) consumers' sense of loyalty toward the bank, and (6) demographic characteristics. The data was collected through telephone interviews with 200 respondents in the Southeast region of the United States. Of the respondents, 27% had always been loyal

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to their bank, 15,5% were dissatisfied switchers and 57,5% were satisfied switchers. Ganesh et al. performed discriminant function analysis to test the hypothesis. The results showed that the dissatisfied switchers were more satisfied with their current service provider than the other customer groups. Also, the satisfied switchers were less satisfied with their current bank than the stayers. The dissatisfied switchers also exhibited the highest levels of loyalty. This implies that a customers' banking and switching history might affect how the customer perceives the current relationship.

Keaveney and Parthasathy (2001) study on customer switching in online service industry. They investigate the degree to which selected behavioral, attitudinal and demographic factors are effective indiscriminating between continuers and switchers. The researchers sent 1,000-mail survey with 20% of response rate. So, 200 respondents was used to be the sample size in this study. The framework for this study was shown in figure.2.3

Behavioral Factors

- Information Influence
- External sources
- Interpersonal sources
- Experiential sources

- Overall Service Usage
- Frequently
- Intensity

Attitudinal Factors

- Propensity for risk taking

- Satisfaction

- Involvement

Demographic Factors

- Income

- Education

Customer Switching Behavior
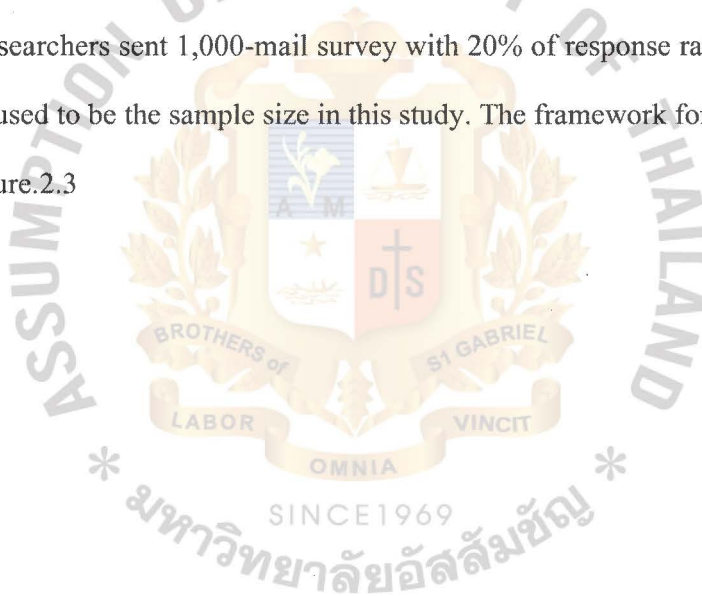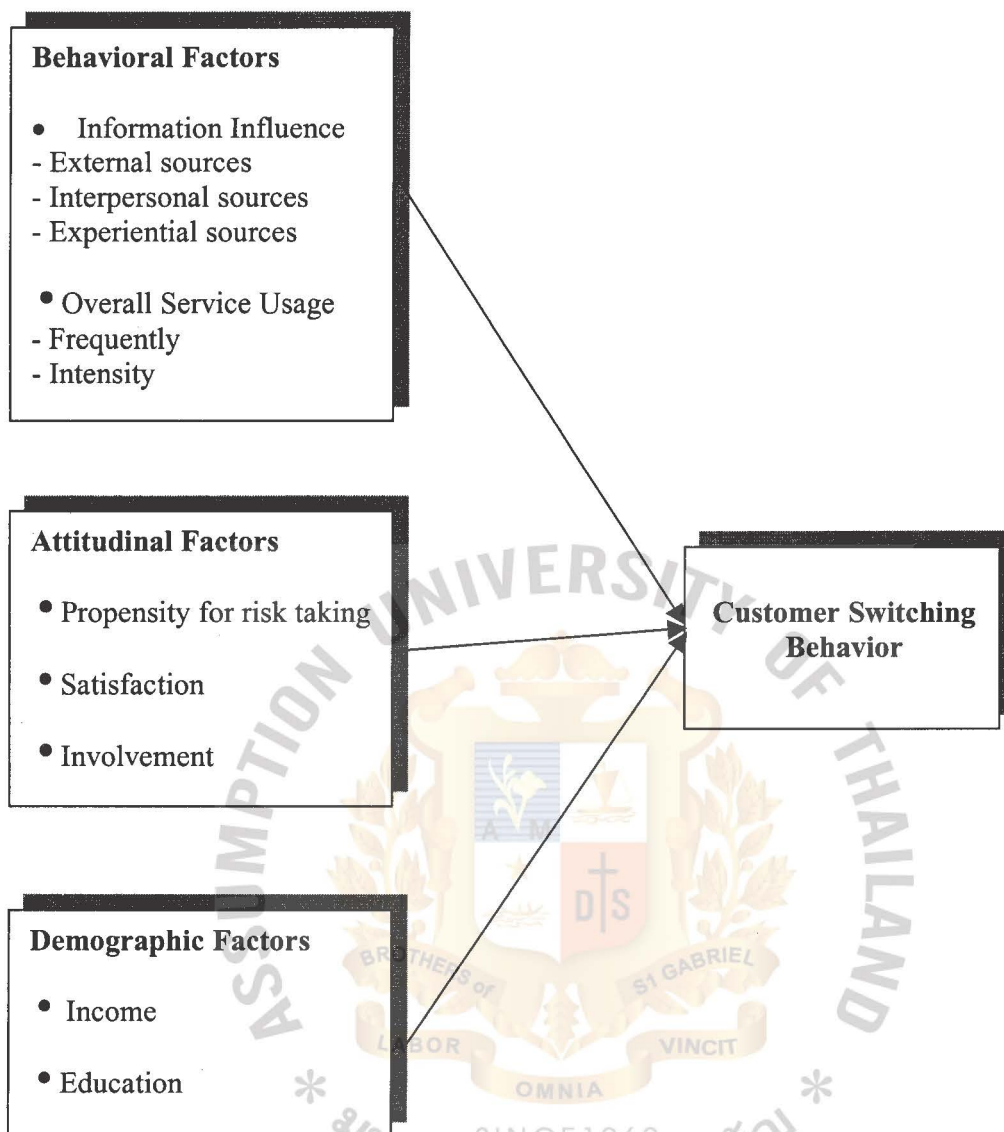
Figure 2.3 Keaveney and Parthasathy's Model of the Selected Behavioral, Attitudinal and Demographic Factors in Discriminating Online Service Continuers and Switchers.

Source: Keaveney, Susan M., and Madhavan Parthasarathy (2001). Customer Switching Behavior in Online Services: An Exploratory Study of the Role of Selected Attitudinal, Behavioral, and Demographic Factors. Journal of the Academy of Marketing Science, Vol.29, No.4, pp. 374-390.

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The result showed that the continuers were discriminated from switchers by their use of information sources. Continuers were significantly more likely than switchers to use external information sources (coefficient 0.26, p< 0.04), were significantly less likely than switchers to use interpersonal information sources (coefficient – 0.67, p <0.00), and were significantly more likely than switchers to use experiential information sources (coefficient 0,56, p < 0.00) when making online subscription decision. Once subscribed, continuers used online service significantly more frequently than switchers (coefficient 0.51, p < 0.00) and exhibited greater overall usage (coefficient 0.25, p < 0.05), but no differences in the intensity of usage were detected (coefficient 0.15, p < 0.25). Continuers were again characterized by significantly higher income (coefficient 0.44, p < 0.00) and higher education levels (coefficient 0.24, p < 0.06). The continuers have significantly higher propensity for risk-taking behavior than switches (coefficient 0.42, p < 0.00). Finally, the continuers were discriminated from switchers by higher level of satisfaction and their product involvement with coefficient of 0.42 (p < 0.00) and 0.27 (p < 0.02) respectively.

Chalermvongsavej W. (1997) studied the survey of opinions. Satisfaction and behavior of mobile phone users in Thailand and Outskirt areas. 250 respondents were used to be sample size in this study. The study found that satisfaction with mobile phone service varies according to different levels of calling frequency per day. Significant differences were found between groups using a telephone over 10 times per day and under 5 times per day. She also found that different levels of time length of using a mobile phone would affect satisfaction of mobile phone users.

CHAPTER III

RESEARCH FRAMEWORK

This chapter presents the research framework of this study, consisted of three parts which a Conceptual framework, hypotheses statement, and operationalization of variables.

3.1 CONCEPTUAL FRAMEWORK

Independent Variables   **Dependent Variables**

Behavioral Factors

- Information Influence
- External sources
- Interpersonal sources
- Experiential sources

- Over all Service Usage
- Frequently
- Intensively

Attitudinal Factors

- Propensity for risk taking
- Satisfaction
- Involvement

Demographics

- Income
- Education

Bangkok Customers' Switching Behavior

AIS ↔ DTAC

TA ORANGE
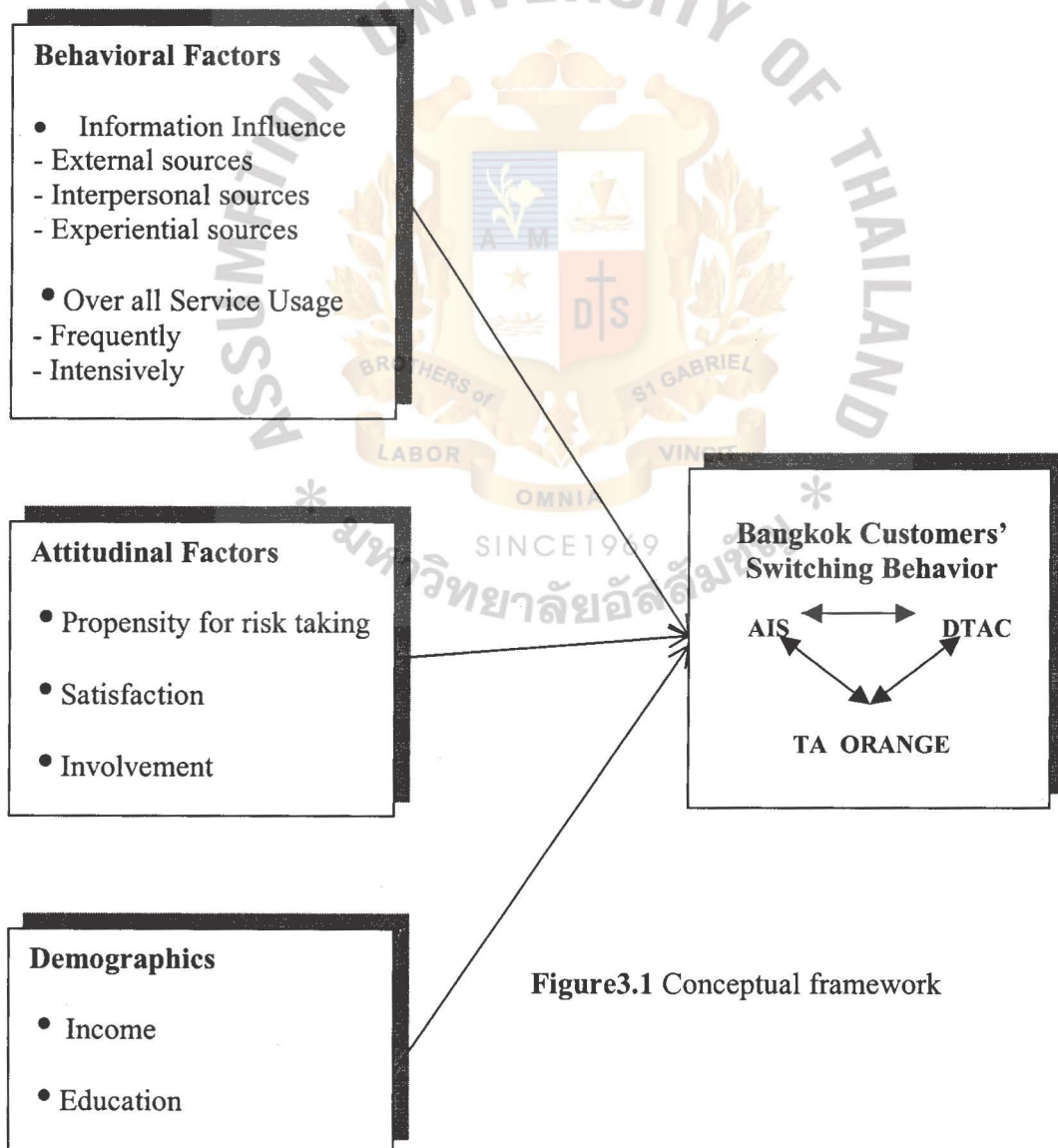
Figure3.1 Conceptual framework

The model in this study is derived from the model used in previous researches. It consists of three factors, which have been found to affect switching behavior. These factors are behavioral factors: information influences and overall service usage, attitudinal factors: propensity for risk taking, satisfaction and involvement, and demographic factors: income and education. The framework of this study is proved to be an effective predictors of customer switching behavior by Susan M, Keaveney and Madhavan Parthasarathy (2001) who studied on factors are effective in discriminating between continuers and switchers toward online service. The researcher adopts this model according to the assumption of both online and mobile phone services are wireless communication. In addition, this is an implication for future research of these authors.

3.2 HYPOTHESES STATEMENT

Hypotheses statements are set up base on the above framework of the study. The statements are also set up to reach the objective of this research. The objective of this study is to examine whether the customer switching behavior can be discriminated by their behavioral, attitudinal and demographic characteristics toward mobile phone service.

H_{10}: Customer switching behavior **cannot** be differentiated into mobile phone service continuers and switchers by their behavioral, attitudinal and demographic characteristics toward mobile phone service.

H_{1a}: Customer switching behavior **can** be differentiated into mobile phone service continuers and switchers by their behavioral, attitudinal and demographic characteristics toward mobile phone service.

3.3 CONCEPTS AND OPERATIONAL DEFINITION OF THE VARIABLES

Table 3.1 Concepts and Operational Definition of the Variables

Concept	Concept Definition	Questionnaire Design	Level of Measurement
Continuers	The customers who use mobile phone service from the same operator and have never switched to the others (Keaveney and Parthasathy 2001).	Did you switch the brand of these three mobile phone service providers?	Nominal, Category Scale

Concept	Concept Definition	Questionnaire Design	Level of Measurement
Switchers	Customers who stopped using the services of one service provider and switched to become the customers of difference mobile phone service provide (Keaveney and Parthasathy 2001).	Did you switch the brand of these three wireless telecommunication service providers?	Nominal, Category Scale
External sources of information	Heterophilous sources, or sources from outside the customer's social system, including mass media, advertising, articles brochures, pamphlets, reviews (Kotler 2000).	How much does each of external sources influence you to subscribe to this/that mobile phone service?	Fixed Sum Scale, Ratio Scale.
Interpersonal sources of information	Homophilous or interpersonal communication sources within social's system, also known as word-of-mouth communication (Kotler 2000).	How much does each of interpersonal sources influence you to subscribe to this/that mobile phone service?	Fixed Sum Scale Ratio Scale.
Experiential sources of information	Personal experience with the service or similar services, and general service-relevant knowledge (Klotler 2000).	How much does each of experiential sources influence you to subscribe to this/that mobile phone service	Fixed Sum Scale Ratio Scale.

Concept	Concept Definition	Questionnaire Design	Level of Measurement
Service usage ➤ Frequency	The number of times that customers engaged the mobile phone service on during a specified time period (Ram and Jung 1990).	How often (do/did) you use this mobile phone service during a day?	Numerical, Ratio Scale.
➤ Intensity	The amount of time they interact with the service each time (Ram and Jung 1990).	How much time (do/did) you spend using the mobile phone service each time?	Numerical, Ratio Scale.
Risk-taking propensity	The propensity to enjoy, takes advantage of, or otherwise seeks new and potentially risky activities and experiences (Raju 1980).	- When I eat out, I like to try the most unusual items the restaurant serves even if I am not sure I would like them. - I am the kind of person who would try any new product once. - I wouldn't rather stick to the brand when I buy any product. - Even for an important date or dinner, I wouldn't be wary of trying new or unfamiliar restaurant.	7- point likert scale, Interval Scale.

Concept	Concept Definition	Questionnaire Design	Level of Measurement
Satisfaction	An overall cognitive and effective state of happiness and contentment (Oliver 1997)	- On the whole, I was satisfied with my experience with that mobile pone service provider. - Overall, my negative experience outweighed my positive experience with that service. - In general, I was happy with the service experience.	7-points likert scale, interval scale.
Product/ service involvement	The interest and expertise in product /service class (Zinkhan and Locander 1998).	- I am very interested in mobile phone services. - My level of involvement with mobile phone service is high. - I usually use other service that provided by mobile phone service operators such as short message sending, logo or ring tone loading, m-banking etc. - I consider myself a mobile phone technology expert. - I purchase products involve with mobile phone regularly.	7 point likert scale, interval

Concept	Concept Definition	Questionnaire Design	Level of Measurement
Income	The amount of money or its equivalent one received during a period of time as salary or allowance (Kotler 2000).	Income	Interval Scale
Education	A level of a person's formal instruction (Kotler 2000)	Education	Ordinal Scale
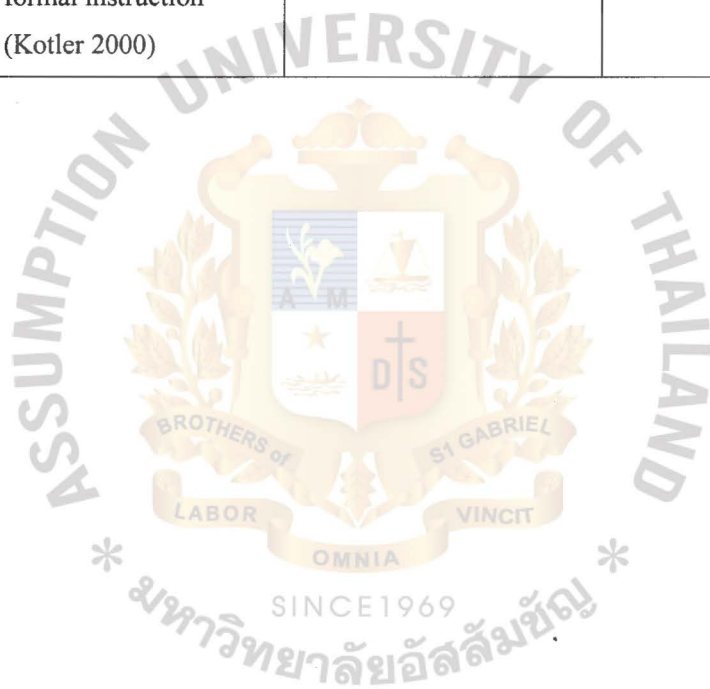
CHAPTER IV

RESEARCH METHODOLOGY

Research Methodology will provide the procedure to show how this research has been conducted. Research design explains the technique and method of data collection. Respondents and sampling procedure defines the target population, sample size and sampling method used in this study. All variables in this research will be measured by asking the respondents' through research instrument and questionnaires. The researcher also tests the reliability of the questionnaires by using pilot testing. The specific type of statistic used will be shown in the data processing and analysis.

4.1 RESEARCH DESIGN

A descriptive research_is adopted in this study since Quantitative descriptive designs yield numeric or statistical descriptive data about how variables are distributed among members of a population (Crowl 1993). Quantitative descriptive designs include surveys, classification research, passive designs, and ex-post factor designs.

Survey technique is employed in this study. The survey research has as a basic goal the collection of information about variables or phenomena within a population through use of interviews or questionnaires (Heppner et al. 1992). It is the systematic collection of data from respondents for the purpose of understanding and/or predicting some aspect of behavior of the population of interest (Tull and Hawkins 1980). This survey technique also provides relatively low cost, minimal time and accurate means of assessing information about the population.

In this study, a self-administered questionnaire is used as the method for collecting data the questionnaire can be filled out at the convenience of the respondent. Since there is no interviewer, *interviewer error or bias* is eliminated (www.ryerson.ca/~mjoppe/ResearchProcess/ DescriptiveResearch.htm). It is different from interviews because the respondent takes responsibility for reading and answering the questions (William G. Zikmund 2000). This type of survey is the cheapest and it could be conducted by a single researcher (Neuman 2000).

4.1.1 TYPE OF SOURCE

1. Primary data is the data collected through the survey by using the questionnaires that vary distributed to the sample of population, mobile phone users, for 400 respondents within Bangkok.

2. Secondary Data is the data collected from previous researches, textbooks, journals, the internet articles, newspapers, magazines and others documents relevant to this study.

4.2 RESPONDENTS AND SAMPLING PROCEDURES

4.2.1 RESPONDENTS

Respondents of this research are the mobile phone users who stay in Bangkok area and use mobile phone of AIS, DTAC, and TA ORANGE.

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- **Target population**

  The target population for this research is defined as follows:

  - Sampling element: Person who subscribes to mobile phone services and stay in Bangkok either permanently or temporarily.

  - Sampling Unit: Shop stores and service centers of AIS, D-TAC and TA ORANGE in Bangkok.

  - Extent: Bangkok

  - Time: 2003

- **Sampling Frame**

  No sampling frame in this study even though there are the list of companies' customers name. Since it's difficult to obtain all the name of customers, which are generally kept to be the secret for each mobile phone operator. It's also take time and expensive to has sampling frame

- **Sample size**

  Mobile Phone users in Bangkok are now more than 3,000,000 (Manager Weekly Newspaper; Sep 30 – Oct 6, 2002). This number will be used to be population and find the proper number of sample size in this study.

  The technique for determining non-probability sample size is made by using theoretical sample sizes for different sizes of population at 5% error and 95% level of certainty, so the sample size of the population of 3,000,000 are 384 samples. The number of sample size can be found in table 4.1 as follow:

Table4.1 Theoretical sample sizes for different sizes of population and a 95 percent level of confidence.

Population	Required Sample for Tolerable Error of			
	5%	4%	3%	2%
100	79	85	91	96
500	217	272	340	423
1,000	277	375	516	705
5,000	356	535	879	1,622
50,000	381	593	1,044	2,290
100,000	382	596	1,055	2,344
1,000,000	384	599	1,065	2,344
25,000,000	384	600	1,067	2,400

Source: Gary Anderson, Fundamentals of Educational Research, 1996, pp.202.

In addition, according to the statistical analysis method used, discriminant function analysis is sensitive to the ratio of sample to the number of predictor variables. The minimum sizes must be at least 20 observations for each predictor variable (Hair, Anderson, Tatham, and Black 1995). Since there are nine independent variables for this study, 180 respondents are the minimum sample size. Taken together, the researcher determines sample size as **400 respondents**. This figure can meet time and budget constraints for this study and make this research to be trustworthy.

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4.2.2 SAMPLING PROCEDURES

Sampling technique

This research is a non-probability sampling technique since the probability of any particular member of the population being chosen is unknown. The selection of sampling units in non-probability sampling is quite arbitrary, as researchers rely heavily on personal judgment (Churchill 1995). In this study, the researcher have to ensure that a mix of continuers and switchers would be sampled Because a relatively equal distribution between groups is desired for the most robust estimation of the discriminant function (Tabachnick and Fidell 1983). Hence, 200 samples are selected from each group.

Researcher uses purposive sampling in order to set the places which have variety of people. The places of interest have to locate the shop stores and service centers of AIS, DTAC and TA ORANGE in the same area or vicinity. The places selected are as follow[1]:

1. The Mall Bang Kae   2. Fashion Island

3. Siam Discovery and World Trade Center

This research study is employed convenience sampling, which is defined as the sampling procedure of obtaining this people or units that are the most convenience available (Zikmund 2000).

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[1] Service Center of AIS, DTAC and TA ORANGE are shown in Appendix D.

This technique is used because it meets all necessary requirement of non-probability sample. This technique also consumes less time and is possible to accomplish with a limit budget.

Table 4.2 Sample size Classification.

Place	Sample	
	Switchers	Continuers
The Mall Bang Kae	50	50
Fashion Island	50	50
Siam Discovery	50	50
World Trade Center	50	50
Total	200	200

4.3. RESEARCH INSTRUMENT/QUESTIONNAIRE

4.3.1 RESEARCH INSTRUMENT

Structured questionnaire is employed as the instrument in this research. The questionnaire is used as a tool to gather information from the respondents. The survey instrument is first administered in self-completion format to a sample of 400 respondents.

The questionnaire for this study differ somewhat, depending on who are continuers and switchers. The questions for each group are almost the same. Continuers questionnaire are asked about their current continuous subscription, while switchers

questionnaire focused on the mobile phone service provider that they had most recently stopped using.

The questions contains classifying questions, reasons to switch, sources of information influence, service usage, propensity for risk- taking scale, satisfaction, involvement and personal data

In Classifying questions, three questions asked for classifying into 2 groups of respondents that are switcher group and continuer group. Nominal scales are used to measure.

The switchers will be asked about the reasons for switching. This information will be studied about the customer switching behavior in mobile phone services by using descriptive statistic.

Three questions are used to collect source of information influence, which are external, interpersonal, and experiential sources of influence. Respondents are asked to distribute 100 points among three types of information sources according to how much each has influenced the mobile subscription decision. Fixed Sum Scale is used to measure.

Two questions are employed to collect about usage level—frequency and intensity. Numerical scales measure these two questions.

Four questions are employed to collect about a propensity for risk-taking behavior. In this part of questions, the seven point likert scale developed by Raju (1980) is employed on this part.

Three questions are developed to measure satisfaction in this study, base on typical scale of satisfaction designed by Yi (1990) or Oliver (1997). A seven-point Likert scale is also employed on this part.

Five questions are developed to measure product/service involvement of both groups. The seven point likert designed by Zinkhan and Locander (1988) will be selected in this study because it focused on customers' involvement and interest in a technology-related area such as calculators.

The questions from personal data that are income and education in order to test demographic factors. To measure these two questions, interval and ordinal scale scales are used in this study.

For the rest questions in personal data are not included in the research framework, therefore they will be shown in descriptive statistic part.

4.4 DATA PROCESSING AND ANALYSIS

The researcher used the Statistic Package for Social Science (SPSS) in order to analyze data. There are two statistical procedures used in this research; Descriptive statistics and inferential statistics.

4.4.1 DESCRIPTIVE STATISTICS

Descriptive Statistic involves observation and description of variables as they are distributed throughout a population (Crowl 1993). In this research, the raw data of the two groups- switchers and continuers- are presented in form of frequency as

percentage for nominal and interval data. These data include personal data: gender, age, income and education. The researcher also shows the reasons to switch of the customers by using descriptive statistic in order to study the switching behavior of customers.

4.4.2 INFERENTIAL STATISTICS

Inferential Statistics will be used in hypothesis testing. To test the ability of the hypothesized variables to differentiate between switchers and continuers, two-group discriminant function analysis is used.

Discriminant function analysis is used to determine which variables discriminate between two or more naturally occurring groups. It could be used to determine which variables are the best predictors of the dependent variables. The objectives of discriminant analysis are as follows:

1. Development of discriminant functions, or linear combinations of the predictor or independent variables, that will best discriminate between the categories of the criterion or dependent variables (groups).

2. Examination of whether significant differences exist among the groups, in term of predictor variables

3. Determination of which predictor variables contribute to most of the intergroup differences.

4. Classification of cases to one of the groups based on the values of the predictor variables.

5. Evaluation of the accuracy of classification. (Malhotra 1999).

Discriminant analysis joins a nominally scaled criterion or dependent variable with one or more independent variables that are interval or ratio scaled. Once the discriminant equation is found, it can be used to predict the classification of a new observation. This is done by calculating a linear function of the form (Cooper and Donald R., 1998)

$$D_i = d_o + d_1x_1 + d_2x_2 + \ldots + d_px_p$$

Where...

D_i is the score on discriminant function i

The d_i s is weighting coefficients: d_o is a constant

The X's are the values of the discriminating variables used in the analysis

A single discriminant equation is required in this research since the categorization calls for two groups that are continuers and switchers.
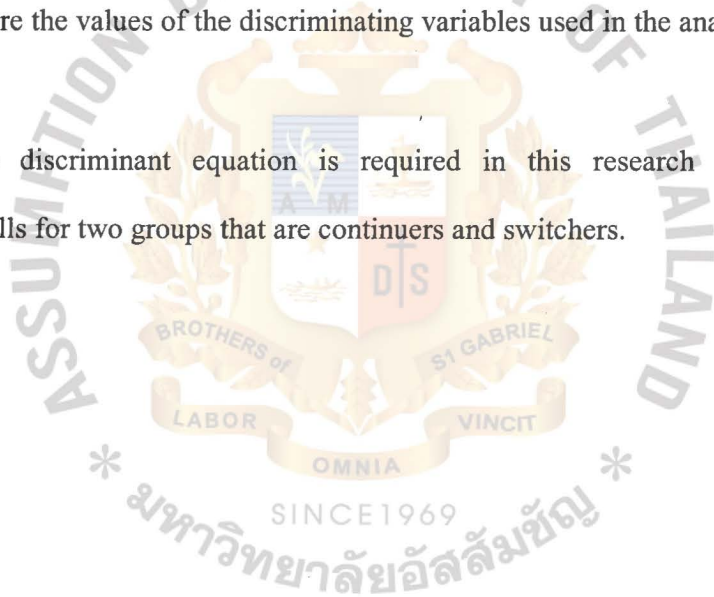
CHAPTER V

DATA ANALYSIS

This chapter contains the analysis of the research questionnaire on 400 selected respondents, which can be classified into 200 of switchers and 200 of continuers in mobile phone service. The data returned from all respondents are encoded and process SPSS for window (Statistic Package for the Social Sciences) and analyzed by using discriminant analysis: stepwise method. The findings of this study are summarized in three parts: Reliability analysis, descriptive analysis and discriminant analysis.

5.1 RELIABILITY ANALYSIS

Table5.1 Reliability analysis

	ALPHA SCALE
Propensity for risk taking	0.7702
Satisfaction	0.9580
Involvement	0.6646

The researcher conducted pretest by distributing 60 questionnaires to use the Cronbach's Coefficient Alpha scales to test the reliability of the questionnaires. From the above, four questions developed by Raju (1980) were used to measure propensity for risk taking. Reliability of the scale was 0.7702 which indicate that the scale is strongly reliability to test hypothesis. So, four sub-variable will be merged into independent variable, Propensity for risk taking. Reliability for the satisfaction scale was 0.9580 and 0.6646 for the involvement scale. All of these alpha values were

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above 0.6 ($\alpha = 0.6$). So researcher can conclude that questions developed for used in this study are reliable.

5.2 DESCRIPTIVE ANALYSIS

In this research study, the frequency distribution was used to summarize demographic characteristics of respondents and degree of importance of each independent variable toward dependent variable. These characteristics are:

- Gender

- Age

- Income

- Education background

Table5.2 Gender of the sample

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	203	50.8	50.8	50.8
	female	197	49.3	49.3	100.0
	Total	400	100.0	100.0	

The respondents of the research can be classified by gender as 49.3 percent are female whereas male occupies largest portion of the target respondents with 50.8 percent of the total sample.

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Table5.3 Age of the sample

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not over 15 years	45	11.3	11.3	11.3
	15 - 24 years	229	57.3	57.3	68.5
	25-34 years	109	27.3	27.3	95.8
	35-54 years	14	3.5	3.5	99.3
	more than 54 years	3	.8	.8	100.0
	Total	400	100.0	100.0	

Regarding the Age of the sample, most of the largest group is age between 15-24 years old which are 57.3 percent of the sample size. Respondent age between 25-34 years old is the second largest proportion with 27.3 percent of total distribution. Respondents with age not over than 15 and 35-54 years old has the percentage with value of 11.3 and 3.5 percents respectively. The least proportion is age more than 54 years old, which are 0.8 percent.

Table5.4 Income of the sample

income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lower than 5.000 baht	55	13.8	13.8	13.8
	5,000-10,000	107	26.8	26.8	40.5
	10,001- 20,000	128	32.0	32.0	72.5
	20,001-30,000	59	14.8	14.8	87.3
	30,001-40,000	20	5.0	5.0	92.3
	more than 40,000	31	7.8	7.8	100.0
	Total	400	100.0	100.0	

Regarding the income of the sample, the largest portion of the respondent's income is between 10,001-20,000 baht, which are 32 percents of the sample size.

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Table5.5 Education of the sample

education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lower than high school	8	2.0	2.0	2.0
	high school/vocational	55	13.8	13.8	15.8
	diploma	81	20.3	20.3	36.1
	bachelor degree	210	52.5	52.6	88.7
	master degree	45	11.3	11.3	100.0
	Total	399	99.8	100.0	
Missing	System	1	.3		
Total		400	100.0		

The education background of the respondents has been also described. Most of the respondents graduated at bachelor degree level (52.5 percents). Whereas lower than high school level occupied the least proportion of total respondents with the percentage of 2.0.

The researcher also used descriptive statistic in order to describe the distribution of mobile phone service providers, which customers subscribe to. The distribution is shown as following

Table5.6 Current mobile phone service provider of the sample

Which mobile phone service provider do you subscribe now?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	AIS	185	46.3	46.3	46.3
	DTAC	139	34.8	34.8	81.0
	TA-ORANGE	76	19.0	19.0	100.0
	Total	400	100.0	100.0	

Which mobile phone service provider do you subscribe now?
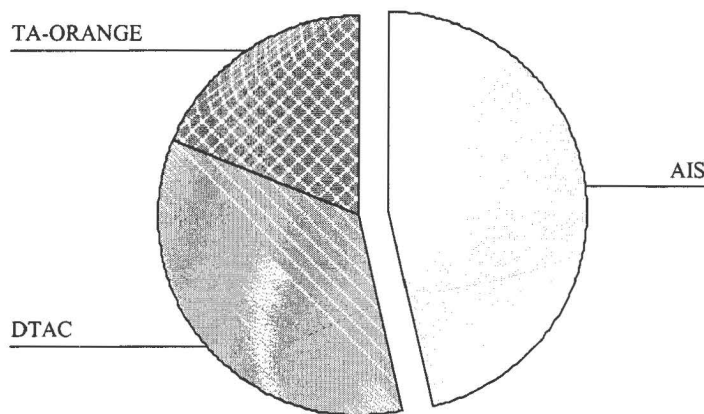
Fig.5.1 The distribution of current mobile phone service provider of the sample

From figure5.1 the respondents mostly subscribe to AIS, which are 46.3 percent of the 400 samples. DTAC and TA-ORANGE are 34 percents and 19 percents respectively.

Table5.7 Previous mobile phone service provider of switchers

Which one is your previous brand that you subscribed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	AIS	85	42.5	42.5	42.5
	DTAC	**88**	**44.0**	**44.0**	**86.5**
	TA-ORANGE	27	13.5	13.5	100.0
	Total	200	100.0	100.0	

Which one is your previous brand that you subscribed?
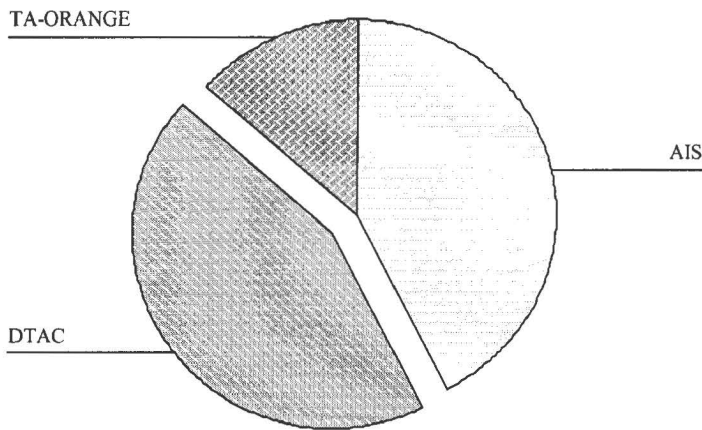
Fig. 5.2 Previous Mobile Phone Service Provider of Switchers.

From figure 5.2, DTAC is the provider that the group of switchers in this study mostly switches. 44 percents of 200 switchers in this study switched from DTAC to new provider. This imply that DTAC should realize to this problem Whereas 13.5 percents of 200 switchers in this study switched from TA- ORANGE to new provider. This may be because, at the time of collecting data, TA ORANGE is the new operator so the percentage of switching is not so much.

Table5.8 The Reasons to switch to another Mobile Phone Service Provider.

Which is the most important factor influence you to switch to new mobile phone service provider?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	better quality and nationwide network	47	23.5	23.5	23.5
	pricing incentive(per-second billing, flatrate nationwide)	**65**	**32.5**	**32.5**	**56.0**
	promotional incentive	61	30.5	30.5	86.5
	better service quality	21	10.5	10.5	97.0
	others	6	3.0	3.0	100.0
	Total	200	100.0	100.0	

Which is the most important factor influence you to switch to new mobile
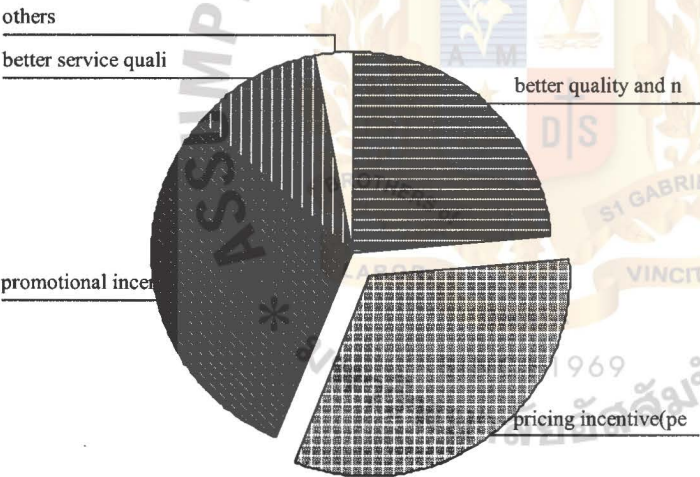
Fig. 5.3 The Reasons to switch to another Mobile Phone Service Provider

From figure 5.3, the majority of the reason of switching service is pricing incentive (32.5 percents). Followed by promotional incentive (30.5 percents), better

quality and nationwide network (23.5 percents), better service quality (10.15 percents) and others reasons (3.0 percents) respectively.

5.3 DISCRIMINANT ANALYSIS: DATA INTERPRETATION

To test the ability of the hypothesized variables to differentiate between switchers and continuers, two-group discriminant analysis: stepwise method was used. The independent variables were external influence, interpersonal influence, experiential influence, overall service usage, risk taking behavior, satisfaction, involvement, income, and education.

Table5.9 Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		399	99.8
Excluded	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	1	.3
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
	Total	1	.3
Total		400	100.0

This table shows the summary of 400 questionnaires with 1 missing value

Table5.10 Group Statistics

Did you switch the brand of these three mobile phone service providers?		Mean	Std. Deviation	Valid N (listwise) Unweighted	Weighted
Yes Switchers	External source of influence	30.2814	17.4443	199	199.000
	Interpersonal source of influence	48.5578	21.5056	199	199.000
	Experiential sources of influence	21.2613	16.5597	199	199.000
	OVERALL	2.5553	4.0342	199	199.000
	RISK	4.4209	1.0575	199	199.000
	SATISFAC	3.2931	1.4057	199	199.000
	INVOLVEM	2.4874	1.3382	199	199.000
	income	2.9296	1.2773	199	199.000
	education	3.5477	.9355	199	199.000
No Continuers	External source of influence	32.250	17.9807	200	200.000
	Interpersonal source of influence	43.250	14.5716	200	200.000
	Experiential sources of influence	22.375	16.4419	200	200.000
	OVERALL	8.8150	7.0373	200	200.000
	RISK	4.7275	1.1279	200	200.000
	SATISFAC	4.9533	1.2401	200	200.000
	INVOLVEM	4.1820	1.0576	200	200.000
	income	2.9450	1.4535	200	200.000
	education	3.6000	.9297	200	200.000
Total	External source of influence	36.2807	18.6800	399	399.000
	Interpersonal source of influence	36.9123	21.7147	399	399.000
	Experiential sources of influence	26.8321	17.3939	399	399.000
	OVERALL	7.1892	5.9600	399	399.000
	RISK	4.0733	1.1458	399	399.000
	SATISFAC	4.1253	1.5629	399	399.000
	INVOLVEM	3.8356	1.2534	399	399.000
	income	2.9373	1.3667	399	399.000
	education	3.5739	.9318	399	399.000

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Table 5.10 shows mean of each independent variable for each group. The mean of income and education are almost the same in switchers and continuers. It implies that these two independent variables may be not be used in the analysis.

Table5.11 **Test of equality of group means**

	Wilks' Lambda	F	df1	df2	Sig.
External source of influence	.897	45.531	1	397	.000
Interpersonal source of influence	.925	32.176	1	397	.000
Experiential sources of influence	.898	45.250	1	397	.000
OVERALL	.713	159.720	1	397	.000
RISK	.923	33.099	1	397	.000
SATISFAC	.717	156.545	1	397	.000
INVOLVEM	.908	40.114	1	397	.000
Income	1.000	.013	1	397	.911
education	.999	.313	1	397	.576

Table5.11 is the test of equality of group means between 2 groups. It is the first step to test whether the independent variables can be used in the analysis or not. The researcher uses the following assumptions to test.

H_0: μ External source of switchers $=$ μ External source of continuers

μ Interpersonal source of switchers $=$ μ Interpersonal source of continuers

μ Experiential source of switchers $=$ μ Experiential source of continuers

μ Service usage of switchers $=$ μ Service usage of continuers

μ Risk of switchers $=$ μ Risk of continuers

μ Satisfaction of switchers $=$ μ Satisfaction of continuers

μ Involvement of switchers $=$ μ Involvement of continuers

μ Income of switchers $=$ μ Income of continuers

μ Education of switchers $=$ μ Education of continuers

H_1: μ External source of switchers $\neq$ μ External source of continuers

  μ Interpersonal source of switchers $\neq$ μ Interpersonal source of continuers

  μ Experiential source of switchers $\neq$ μ Experiential source of continuers

  μ Service usage of switchers $\neq$ μ Service usage of continuers

  μ Risk of switchers $\neq$ μ Risk of continuers

  μ Satisfaction of switchers $\neq$ μ Satisfaction of continuers

  μ Involvement of switchers $\neq$ μ Involvement of continuers

  μ Income of switchers $\neq$ μ Income of continuers

  μ Education of switchers $\neq$ μ Education of continuers

From table5.11 Significant value of income and education are 0.911 and 0.576 respectively which are more than $\alpha = 0.05$. So null hypothesis is accepted. It can be concluded that

- The means of income and education are not different between group of switchers and continuers

From table5.11, the rest of dependent variables' significant value are less than $\alpha = 0.05$. So null hypothesis are rejected. It can be concluded that these variables may be possible to differentiate the group of switcher and continuers in this analysis. However, the next step in discriminant function analysis would be continued.

Table 5.12 Variable Entered/Removed

Variables Entered/Removed[a,b,c,d]

Step	Entered	Wilks' Lambda							
						Exact F			
		Statistic	df1	df2	df3	Statistic	df1	df2	Sig.
1	OVERALL	.713	1	1	397.000	159.720	1	397.000	.000
2	SATISFAC	.591	2	1	397.000	136.953	2	396.000	.000
3	INVOLVEM	.567	3	1	397.000	100.381	3	395.000	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.
a Maximum number of steps is 18.
b Minimum partial F to enter is 3.84.
c Maximum partial F to remove is 2.71.
d F level, tolerance, or VIN insufficient for further computation.

From table5.12, 9 independent variables are entered into regression equation consequently. It is ended at the third step. There are three independent variables, which could be used. In addition, exact F value of theses three variables are more than 3.84.

Table5.13 Variable in analysis

Step		Tolerance	F to Remove	Wilks' Lambda
1	OVERALL	1.000	159.720	
2	OVERALL	.977	84.454	.717
	SATISFAC	.977	81.714	.713
3	OVERALL	.932	58.079	.651
	SATISFAC	.962	88.158	.694
	INVOLVEM	.946	16.509	.591

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From table5.13 shows all independent variables, which can be used in the analysis. There are three of nine independent variables could be used which are overall service usage, satisfaction and service involvement.

Table5.14 Variables Not in the Analysis

Step		Tolerance	Min. Tolerance	F to Enter	Wilks' Lambda
0	External source of influence	1.000	1.000	45.531	.897
	Interpersonal source of influence	1.000	1.000	32.176	.925
	Experiential sources of influence	1.000	1.000	45.250	.898
	OVERALL	**1.000**	**1.000**	**159.720**	**.713**
	RISK	1.000	1.000	40.114	.908
	SATISFAC	1.000	1.000	156.545	.717
	INVOLVEM	1.000	1.000	33.099	.923
	Income	1.000	1.000	.013	1.000
	Education	1.000	1.000	.313	.999
1	External source of influence	.662	.662	.392	.712
	Interpersonal sources of influence	.984	.984	12.106	.692
	Experiential sources of influence	.755	.755	.209	.713
	RISK	.961	.961	10.873	.694
	SATISFAC	**.977**	**.977**	**81.714**	**.591**
	INVOLVEM	.990	.990	14.575	.688
	Income	.998	.998	.107	.713
	Education	1.000	1.000	.196	.713
2	External source of influence	.658	.657	1.380	.589
	Interpersonal sources of influence	.966	.958	4.188	.585
	Experiential sources of influence	.751	.734	1.061	.590
	RISK	.764	.753	.275	.591
	INVOLVEM	**.946**	**.932**	**16.509**	**.567**
	Income	.998	.976	.183	.591
	Education	.997	.974	.000	.591
3	External source of influence	.657	.632	1.061	.566
	Interpersonal sources of influence	.961.	.925	2.996	.563
	Experiential sources of influence	.750	.711	.846	.566
	RISK	.741	.741	.030	.567
	Income	.998	.930	.143	.567
	Education	.991	.931	.112	.567

Table5.14 shows the process of bringing independent variable into the discriminant analysis model: stepwise method . When the process not yet starts bringing independent variables into the model called Step 0. Therefore, the independent variables those are not entered into the equation are all 9 variables. The independent variable with the highest F to Enter value and the lowest Wilks' Lambda is selected in the discriminant function. A second predictor is added based on the highest adjusted or partial F ratio. The stepwise analysis process is ended when there are no variables, which have the F to Enter value greater than 3.84.

From table5.14, **at Step 0**, The variable with the highest F to enter value and the lowest Wilks' Lambda is **Overall service usage** which is selected in the model (F to enter =159.720 and Wilks' Lambda = 0.713). **At Step 1, Satisfaction** with the highest adjusted or partial F ratio (81.714) and the lowest Wilks' Lambda (0.591) is the second predictor in the model. **At Step 2, Service involvement** is the last predictor in the model (F to enter =16.509 and Wilks' Lambda = 0.567). The procedure is ended at **Step 3** because the F to enter value of the remaining variables is less than 3.84.

Table5.15 Classification Function Coefficients

	Did you switch the brand of these three mobile phone service providers?	
	Yes (switchers)	No (continuers)
OVERALL	.129	.7549
SATISFAC	1.915	2.786
INVOLVEM	3.057	2.558
(Constant)	-13.735	-13.315

Fisher's linear discriminant functions

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Table5.15 shows the coefficient of each function of two groups. For group of switchers, classification function is

-13.735+0.129 service usage+1.915satisfaction +3.057involvement ------(5.1)

For group of continuers, classification function is

-13.315+0.7549service usage+2.786satisfaction+2.558involvement ------(5.2)

In order to predict whether new customers tend to switch service or not, substitute the figure got from questionnaire in each variable. If value from equation (5.1) is more than equation (5.2), this customer is in the group of switchers. This means the customer tends to switch the mobile phone service provider.
If the value from equation (5.2) is more than equation (5.1), this customer tends to stay.

Table5.16 Standardized Canonical Discriminant Function Coefficients

	Function
	1
OVERALL	.564
SATISFAC	-.662
INVOLVEM	.313

Table5.16 shows which variable is the most influence factor to discriminate the group of customer. For this analysis, satisfaction is the **most influence** factor to discriminate the group of customer. Service involvement is the **least influence** factor to discriminate the group of customer.

CHAPTER VI
CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

This research has been designed to explore whether selected attitudinal, behavioral and demographic characteristics of customers might be effective in discriminating between switchers and continuers of mobile phone service. The factors (independent variables) established as derived from the analysis are listed below:

Behavioral factors

- Information Influence

    - External sources

    - Interpersonal sources

    - Experiential sources

- Overall Service Usage

    - Frequency

    - Intensity

Attitudinal Factors

- Propensity for risk taking

- Satisfaction

- Involvement

Demographic Factors

- Income

- Education

Research problem of this study is to determine what factors are the effective predictors in distinguishing between switchers and continuers in mobile phone service industries. The results from the analysis has showed below:

- There are three independent variables that can be counted as a good predictor in distinguishing between switchers and continuers in mobile phone service industries, which are "overall service usage", "satisfaction" and "service involvement".

Besides, the answers of research problem can also be used to support hypothesis testing, which will be mentioned later.

Research objectives are:

1. To study the switching behavior of customer toward mobile phone service industry.

2. To examine whether the customer switching behavior can be distinguished be their behavioral, attitudinal and demographic

3. To identify the most influence factor that can differentiate between group of continuers and switchers toward mobile phone service.

For objective number one, descriptive analysis showed the reasons of customers that influence them switch to another mobile phone service provider. This study found that the majority of the reason of switching service is pricing incentive (32.5 percents). Followed by promotional incentive (30.5 percents), better quality and nationwide network (23.5 percents), better service quality (10.15 percents) and others reasons (3.0 percents) respectively.(see fig 5.3)

For the second objective, Discriminant analysis: stepwise method was used to test the hypothesis in this study. The result has been summarized as following table.

Table 6.1 Summary of the Hypothesis Testing

Hypothesis	Test Statistic	F to Enter	Result

$H1_0$: Customer switching behavior **cannot** be discriminated into mobile phone service continuers and switchers by their behavioral, attitudinal and demographic characteristics toward mobile phone service.	Discriminant Analysis: Stepwise	**Behavioral factor**
		• Information Influence
		   -External sources< 3.84
		   -Interpersonal sources< 3.84
		   -Experiential sources< 3.84
		• **Overall Service Usage**
		   -Frequency
		   -Intensity $\Big\}$ ≥ 3.84
			
			Accept H_0
			Accept H_0
			Accept H_0
			
			Reject H_0

		Attitudinal Factors • Propensity for risk taking < 3.84 • **Satisfaction ≥ 3.84** • **Involvement ≥ 3.84** **Demographic Factors** • Income< 3.84 • Education< 3.84	Accept H_0 **Reject H_0** **Reject H_0** Accept H_0 Accept H_0
Variable in the analysis - "Overall service usage" - "Satisfaction" - "Involvement"		⟵---------------⟶ 159.720 ⟵---------------⟶ 81.714 ⟵---------------⟶ 16.509	

From the table 6.1, there are three of nine variables can be used in this research. Since F (value) to enter comes from SPSS program and the minimum value of F to enter (into the equation) is 3.84. Therefore, the variables "overall service usage", "satisfaction" and "service involvement" can be entered into the model since their F to Enter value have exceeded 3.84

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For the third objective, Standardized Canonical Discriminant Function Coefficients (Table 5.6) showed that satisfaction is the most influence factor to discriminate the group of customer. Service involvement is the least influence factor to discriminate the group of customer.

In addition, from table5.8 (group statistic) in chapter 5, we can conclude that

- o Mobile phone service continuers use overall service more than mobile phone service switchers. (Mean value of switchers = 2.5553, and 8.8150 for continuers).

- o Mobile phone service continuers are more satisfied with the service than mobile phone service switchers. (Mean value of switchers = 3.2931, and 4.9533 for continuers).

- o Mobile phone service continuers experience greater involvement with the service than mobile phone service switchers. (Mean value of switchers = 2.4874 and 4.1820 for continuers).

In summary the profile of a mobile phone service switcher is that of an individual who used the service less; who was less satisfied and less involved with the service.

6.2 RECOMMENDATIONS

A major contribution of this research is that it empirically identifies and profiles defection-prone customers of mobile phone services that will enable managers to develop "early warning system" to target potential switchers and take action to retain them.

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Referring to the result of research, we can conclude that

- o Mobile phone service continuers use overall service more than mobile phone service switchers

- o Mobile phone service continuers are more satisfied with the service than mobile phone service switchers.

- o Mobile phone service continuers experience greater involvement with the service than mobile phone service switchers.

On the basis of the result, mobile phone service providers should target customer retention strategies. Marketing activities should be designed to increase service usage, customer involvement and customer satisfaction, thereby reducing the likelihood of customer switching.

According to the descriptive statistic result, the reasons, which may influence switcher involved with service usage, are pricing incentive (32.5%) and promotion incentive (30.5%). Mobile phone service provider should increase the service usage by offering real per second billing which means that customers can only pay for what they use; no minimum charge. The customers can also call anywhere at one flat rate. The firm should launch the promotional campaign attract customer to use the service more at cheaper price.

Satisfaction is the one factor should be increased in order to retain the switchers. Mobile phone service provider should satisfy customer by providing a quality and nationwide network, offer the best service quality, and provide some activities suitable for each group of customer life's style. For example, customers can choose their own bill due date, decide their own monthly budget and payment amount, etc.

Once the customer experience higher level of involvement, they have higher level of commitment to decision and resistance to belief change (Pritchard et al. 1999). These support the finding of this study; mobile phone service provider should increase service involvement. Another way is offering non-voice service. Even though the customers rarely use the mobile phone for calling, they involve with mobile phone service through non-voice service. Mobile phone service provider should provide interesting service can be download via mobile phone such as short message sending (SMS), logo, picture message or ring tone loading, m-banking, guideball SMS report on mobile, mobile karaoke, sport news, business news, internet service, etc.

6.3 FURTHER STUDY

The study was conducted among a field sample of current customers of major mobile phone service provider. Future research should also examine the generalizability of results across other subscription-based services such as insurance, public utilities, health care and other membership-based services. Other areas should be studied on the next research.

In addition, this study could find only factors which classify the customers into switchers and continuers, which are overall service usage, satisfaction and involvement. Further research should focus on which exactly factors can increase overall service usage, satisfaction and involvement for switchers in order to find the certain ways to retain them.

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APPENDIXES

APPENDIX A

Copy of questionnaire

Questionnaire of Respondents

Dear Respondent,

This Questionnaire is used for a research study entitled " Bangkokian Switching Behavior in Mobile Phone Service" by MBA student in Assumption University. For a complete and accurate analysis, the research requests all respondents to answer every item in the questionnaire.

The researcher appreciates your kindness for your cooperation, and for providing valuable time and effort in answering questions.

All the responses will be kept confidential and the entire questionnaire will be destroyed after the analysis has been completed. Thank you.

Very truly yours

Lalana   Suksanguansak
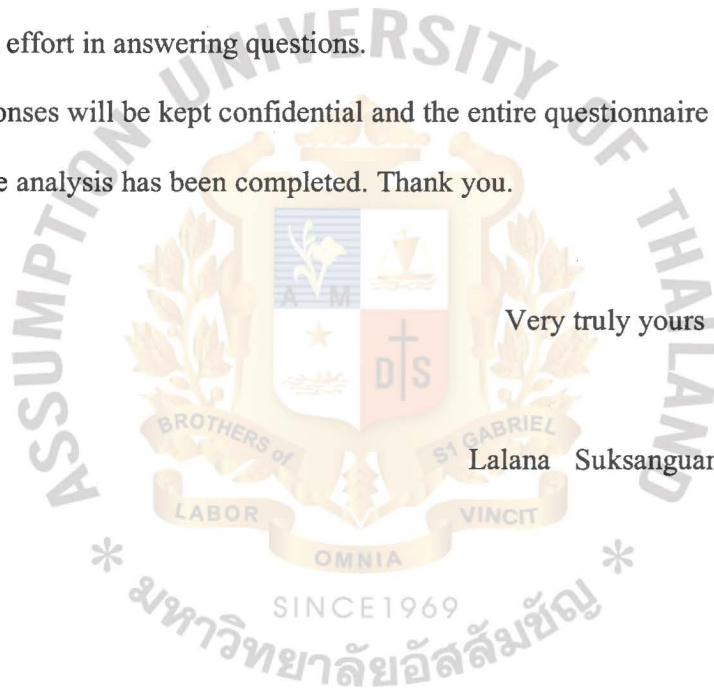
Questionnaires

1. Which wireless telecommunication service providers do you subscribe now?

❏ Advance Info Services (AIS) (GSM ADVANCE, GSM 1800, 1-2-CALL)

❏ D-TAC (D-TAC, D-PROMT)

❏ TA-ORANGE (ORANGE, JUST TALK)

2. Did you switch the brand of these three wireless telecommunication service providers?

❏ Yes (go to item 3, 4)   SWITCHER

❏ No (go to part B)   CONTINUER

3. Which one is your previous brand that you subscribed?

❏ Advance Info Services (AIS) (GSM ADVANCE, GSM 1800, 1-2-CALL)

❏ DTAC (D-TAC, D-PROMT)

❏ TA-ORANGE (ORANGE, JUST TALK)

4. Which is the most important factor influencing you to switch to new mobile phone service provider?

❏ Better quality and nationwide network of provider.

❏ Pricing incentive (Per-second billing, Flatrate nationwild)

❏ Promotional incentive

❏ Better service quality

❏ Others   GO TO PART A

Sources of Influence

5.How much did each of these sources influence you to subscribe to that previous mobile phone service? **Please make sure that the total equal 100 percent.**

5.1.[External sources of influence] :   _____

Articles, reviews, advertising, or other activities of the company.

5.2.[Interpersonal sources of influence] :   _____

Openion of friends, colleaques, relatives, or others.

5.3.[Experiential sources of influence] :   _____

My own personal experience and general knowledge

about three of these brands.

                       Total   **100**

Service Usage

5. Frequency: Typically, how often did you use this service for calling in average?

---------- **time/ times per day.**

6. Intensity: Typically, how much time did you spend calling for each time ?

---------- **minute/minutes each time.**

Risk Taking Scale

	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
8. When I eat out, I like to try the most unusual items the restaurant serves even if I am not sure I would like them.	❏	❏	❏	❏	❏	❏	❏
9. I am the kind of person who would try any new product once.	❏	❏	❏	❏	❏	❏	❏
10. I wouldn't rather stick to the brand when I buy any product.	❏	❏	❏	❏	❏	❏	❏
11. Even for an important date or dinner, I would try new or unfamiliar restaurant.	❏	❏	❏	❏	❏	❏	❏

Satisfaction

	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
12. On the whole, I was satisfied with my experience with that wireless telecommunication service provider.	❏	❏	❏	❏	❏	❏	❏
13. Overall, my negative experience outweighed my positive experience with that service	❏	❏	❏	❏	❏	❏	❏
14. In general, I was happy with the service experience.	❏	❏	❏	❏	❏	❏	❏

Product/ Service Involement

	1	2	3	4	5	6	7
15. I am very interested in mobile phone service.	❏	❏	❏	❏	❏	❏	❏
16. My level of involvement with mobile phone service is high.	❏	❏	❏	❏	❏	❏	❏
17. I usually use other services which provided by mobile phone service operators such as short message sending, e- mail sending, logo or ring tone loading, m-banking etc.	❏	❏	❏	❏	❏	❏	❏
18. I consider myself a mobile phone technology expert.	❏	❏	❏	❏	❏	❏	❏
19. I purchase products involve with mobile phone regulary.	❏	❏	❏	❏	❏	❏	❏

Go to Personal Data

<u>Part B: For continuers:</u>   Please answer with regard to the service you currently subscribe to (base on your judgement of currently mobile phone service you subscribed)

Sources of Influence

5. How much do each of these sources influence you to subscribe to your currently mobile phone service? <u>Please make sure that the total equal 100 percent.</u>

5.1.[External sources of influence] :   _____

Articles, reviews, advertising, or other activities of the company.

5.2.[Interpersonal sources of influence] :   _____

Openion of friends, colleaques, relatives, or others.

5.3.[Experiential sources of influence] :   _____
My own personal experience and general knowledge about
  three of these brands.

Total   **100**

Service Usage

5. Frequency: Typically, how often do you use this service for calling in average?

_____ **Time/Times a day.**

6. Intensity: Typically, how much time do you spend calling for each time ?

_____ **Minute/Minutes for each time.**

Risk Taking Scale

	Strongly disagree 1	2	3	4	5	6	**Strongly agree** 7
8. When I eat out, I like to try the most unusual items the restaurant serves even if I am not sure I would like them.	❑	❑	❑	❑	❑	❑	❑
9. I am the kind of person who would try any new product once.	❑	❑	❑	❑	❑	❑	❑
10. I wouldn't rather stick to the brand when I buy any product.	❑	❑	❑	❑	❑	❑	❑
11. Even for an important date or dinner, I would try new or unfamiliar restaurant.	❑	❑	❑	❑	❑	❑	❑

Satisfaction	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
12. On the whole, I am satisfied with my experience with my currently mobile phone service provider.	❏	❏	❏	❏	❏	❏	❏
13. Overall, my positive experience outweighed my negative experience with this service	❏	❏	❏	❏	❏	❏	❏
14.In general, I am happy with the service experience.	❏	❏	❏	❏	❏	❏	❏

Product/Service Involement

	1	2	3	4	5	6	7
15. I am very interested in mobile phone service.	❏	❏	❏	❏	❏	❏	❏
16. My level of involvement with mobile phone service is high.	❏	❏	❏	❏	❏	❏	❏
17. I usually use other services which provided by mobile phone service operators such as short message sending, e- mail sending, logo or ring tone loading, m- banking etc.	❏	❏	❏	❏	❏	❏	❏
18. I consider myself a mobile phone technology expert.	❏	❏	❏	❏	❏	❏	❏
19. I purchase products involve with mobile phone regulary.	❏	❏	❏	❏	❏	❏	❏

Go to Personal data

Personal Data

20. Gender

❑ Male   ❑ Female

21. Age

❑ Not over 15 years   ❑ 15-24 years

❑ 25-34 years   ❑ 35-54 years

❑ More than 54 years

22. Income

❑ Lower than 5,000 Baht   ❑ 5,000-10,000 Baht

❑ 10,001- 20,000 Baht   ❑ 20,001-30,000 Baht

❑ 30,001-40,001 Baht   ❑ More than 40,000 Baht

23. Education

❑ Lower than high school   ❑ High school/Vocational

❑ Diploma   ❑ Bachelor Degree

❑ Master Degree   ❑ Doctor degree

แบบสอบถาม

เรียน ผู้ตอบแบบสอบถาม

    แบบสอบถามนี้ได้จัดทำขึ้นโดยมีวัตถุประสงค์เพื่อใช้ในการศึกษา เรื่อง "พฤติกรรมการเปลี่ยนผู้ให้บริการโทรศัพท์มือถือของคนกรุงเทพฯ" การศึกษาดังกล่าวเป็นส่วนหนึ่งของการทำวิทยานิพนธ์ของนักศึกษาปริญญาโทภาควิชา บริหารธุรกิจ มหาวิทยาลัยอัสสัมชัญ (ABAC)

    ทางผู้จัดทำใคร่ขอขอบพระคุณท่านที่สละเวลาในการตอบแบบสอบถามนี้ และข้อมูลที่ได้จะนำไปใช้เพื่อการศึกษาเท่านั้น

<div align="right">

ขอแสดงความนับถือ
ลลนา สุขสงวนศักดิ์

</div>

1. ขณะนี้ท่านใช้บริการโทรศัพท์มือถือกับผู้ให้บริการใด

❏ Advance Info Services (AIS) (GSM ADVANCE, GSM 1800, 1-2-CALL)

❏ Total Access Communication (DTAC, D – PROMT)

❏ TA-ORANGE (ORANGE, JUST TALK)

2. ท่านเคยเปลี่ยนยี่ห้อของผู้ให้บริการโทรศัพท์มือถือหรือไม่

❏ เคย **(ไปที่ข้อ 3)**

❏ ไม่เคย **(ไปที่ PART B)**

3. ผู้ให้บริการโทรศัพท์มือถือรายเก่าของท่านคือ

❏ Advance Info Services (AIS) (GSM ADVANCE, GSM 1800, 1-2-CALL)

❏ Total Access Communication (DTAC, D – PROMT)

❏ TA-ORANGE (ORANGE, JUST TALK)

❏ อื่นๆ

4. ท่านคิดว่าสาเหตุที่มีผลทำให้ท่านตัดสินใจเปลี่ยนผู้ให้บริการโทรศัพท์มือถือคือ (สามารถตอบได้มากกว่า 1 ข้อ)

❏ สัญญาณชัดเจน สายไม่หลุด.

❏ อัตราค่าบริการถูก(คิดค่าบริการเป็นวินาที, อัตราเดียวทั่วไทย),

❏ โปรโมชั่นที่น่าสนใจ

❏ คุณภาพของการบริการ

❏ อื่นๆ **(กรุณาตอบคำถาม PART A)**

โปรดตอบคำถามโดยอ้างอิงจากผู้ให้บริการโทรศัพท์มือถือ<u>รายเก่า</u>ของท่าน

อิทธิพลของข้อมูล (Information Influence)

5.โปรดให้คะแนนความสำคัญของแหล่งข้อมูลที่มีอิทธิพลต่อท่านในการเลือกใช้บริการโทรศัพท์มือถือ<u>รายเก่า</u>

5.1. แหล่งข้อมูลจากภายนอก เช่น :

บทความ, โฆษณา, หรือกิจกรรมต่างๆที่ บริษัทจัดขึ้น   _____

5.2. แหล่งข้อมูลจากบุคคล เช่น :

ความคิดเห็น หรือ คำแนะนำจากเพื่อน, เพื่อนร่วมงาน, ญาติ หรือ บุคคลอื่น   _____

5.3.แหล่งข้อมูลจากประสบการณ์ เช่น :

คุณใช้ประสบการณ์ และ ความรู้ส่วนตัวที่มีใช้ในการเลือก   _____

ผลรวม   **100**

ระดับการใช้บริการ (Service Usage)

6. ความถี่ ความถี่ในการใช้โทรศัพท์มือ<u>รายเก่า</u>ของท่าน โดยเฉลี่ย

-------------- **ครั้งต่อวัน**

7.เมื่อท่านใช้บริการกับผู้ให้บริการ โทรศัพท์มือถือ<u>รายเก่า</u>, ท่านใช้เวลานานเท่าใดในการ โทรแต่ละครั้ง

------------ **นาทีต่อครั้ง**

ระดับการยอมรับความเสี่ยง (Risk Taking Scale)

	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
	1	2	3	4	5	6	7
8. เมื่อท่านออกไปรับประทานอาหารนอกบ้าน, ท่านชอบที่จะลองสั่งจานแปลกๆถึงแม้ว่าท่านจะไม่แน่ใจว่าจะชอบหรือไม่	☐	☐	☐	☐	☐	☐	☐
9. ท่านเป็นคนที่ชอบทดลองซื้อ/ใช้ผลิตภัณฑ์ใหม่ๆเสมอ	☐	☐	☐	☐	☐	☐	☐
10. ท่านมักจะซื้อของโดยที่ไม่ยึดติดกับตราสินค้า	☐	☐	☐	☐	☐	☐	☐
11. แม้กระทั่งการนัดทานข้าวครั้งสำคัญ, ท่านก็มักจะลองเข้าร้านอาหารใหม่ๆที่ท่านยังไม่เคยเข้าเลย	☐	☐	☐	☐	☐	☐	☐

ระดับความพอใจ (Satisfaction)	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
	1	2	3	4	5	6	7
12. โดยรวมแล้วท่านยังพอใจในการใช้บริการกับผู้ให้บริการโทรมือถือรายเก่าอยู่	☐	☐	☐	☐	☐	☐	☐
13. ท่านมีประสบการณ์ทางด้านบวกมากกว่าประสบการณ์ด้านลบต่อผู้ให้บริการโทรศัพท์มือถือรายเก่า	☐	☐	☐	☐	☐	☐	☐
14. ผู้ให้บริการโทรศัพท์ถือรายเก่าที่ท่านใช้อยู่ในขณะนี้สร้างความประทับใจให้แก่ท่าน	☐	☐	☐	☐	☐	☐	☐

ระดับความเกี่ยวข้องกับสินค้าและบริการ (Product/Service Involvement)	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
	1	2	3	4	5	6	7
15. ท่านมีความสนใจในบริการโทรศัพท์มือถือ	☐	☐	☐	☐	☐	☐	☐
16. ในแต่ละวัน ท่านมีความเกี่ยวข้องในการใช้บริการโทรศัพท์มือถือสูง	☐	☐	☐	☐	☐	☐	☐
17. นอกเหนือจากการโทรแล้ว, ท่านยังใช้บริการอื่นที่ผู้ให้บริการโทรศัพท์มือถือจัดให้อยู่บ่อยๆ เช่น ส่งข้อความ, อี-เมล,โหลดริงโทน,โลโก้, อินเตอร์เน็ต, ธุรกรรมทางธนาคาร เป็นต้น	☐	☐	☐	☐	☐	☐	☐
18. ท่านมีความรู้ ความเชี่ยวชาญเกี่ยวเทคโนโลยีไร้สายนี้เป็นอย่างดี เช่น เทคโนโลยี GPRS, บลูทูธ, WAP, 3G Mobile เป็นต้น	☐	☐	☐	☐	☐	☐	☐
19. ท่านมักเปลี่ยนเครื่องโทรศัพท์มือถือ หรืออุปกรณ์ต่างๆเช่น หน้ากาก, แบตเตอรี่,อยู่เป็นประจำ	☐	☐	☐	☐	☐	☐	☐

จบสำหรับ PART A กรุณาข้ามไปที่ข้อมูลส่วนตัว

<u>**PART B: Continuers**</u>　　　โปรดตอบคำถามโดยอ้างอิงจากผู้ให้บริการโทรศัพท์มือถือ<u>รายปัจจุบัน</u>ของท่าน

อิทธิพลของข้อมูล (Information Influence)

5.โปรดให้คะแนนความสำคัญของแหล่งข้อมูลที่มีอิทธิพลต่อท่านในการเลือกใช้บริการโทรศัพท์มือถือ**รายปัจจุบัน** ที่ท่านกำลังใช้อยู่

　5.1. แหล่งข้อมูลจากภายนอก เช่น :
　　 บทความ, โฆษณา, สื่อหรือกิจกรรมต่างๆที่ บริษัทจัดขึ้น　　　　　　＿＿＿＿

　5.2. แหล่งข้อมูลจากบุคคล เช่น :
　　 ความคิดเห็น หรือ คำแนะนำจากเพื่อน, เพื่อนร่วมงาน, ญาติ หรือ บุคคลอื่น　＿＿＿＿

　5.3. แหล่งข้อมูลจากประสบการณ์ เช่น :
　　 คุณใช้ประสบการณ์ และ ความรู้ส่วนตัวที่มีใช้ในการเลือก　　　　　　＿＿＿＿

　　　　　　　　　　　　　　　　　　　　　　ผลรวม　　　　　**100**

ระดับการใช้บริการ (Service Usage)

6. ความถี่ ความถี่ในการใช้โทรศัพท์มือของท่านเฉลี่ยโดยปัจจุบัน
　＿＿＿ **ครั้ง ต่อ วัน**

7. ท่านใช้เวลานานเท่าใดในการ โทรแต่ละครั้งใน ปัจจุบัน?
　＿＿＿ **นาที ต่อ ครั้ง.**

ระดับการยอมรับความเสี่ยง (Risk Taking Scale)

	ไม่เห็นด้วย อย่างยิ่ง						เห็นด้วย อย่างยิ่ง
	1	2	3	4	5	6	7
8. เมื่อท่านออกไปรับประทานอาหารนอกบ้าน, ท่านชอบที่จะลองสั่งงานแปลกๆถึงแม้ว่าท่านจะไม่แน่ใจว่าจะชอบหรือไม่	❑	❑	❑	❑	❑	❑	❑
9. ท่านเป็นคนที่ชอบทดลองซื้อ/ใช้ผลิตภัณฑ์ใหม่ๆเสมอ	❑	❑	❑	❑	❑	❑	❑
10. ท่านมักจะซื้อของโดยที่ไม่ยึดติดกับตราสินค้า	❑	❑	❑	❑	❑	❑	❑
11. แม้กระทั่งการนัดทานข้าวครั้งสำคัญ, ท่านก็มักจะลองเข้าร้านอาหารใหม่ๆที่ท่านยังไม่เคยเข้าเลย	❑	❑	❑	❑	❑	❑	❑

ระดับความพอใจ (Satisfaction)	ไม่เห็นด้วย อย่างยิ่ง						เห็นด้วย อย่างยิ่ง
	1	2	3	4	5	6	7
12. โดยรวมแล้วท่านพอใจในการใช้บริการกับ ผู้ให้บริการโทรมือถือรายปัจจุบัน	❏	❏	❏	❏	❏	❏	❏
13. ท่านมีประสบการณ์ทางด้านบวกมากกว่า ประสบการณ์ด้านลบต่อผู้ให้บริการโทรศัพท์ มือถือรายปัจจุบัน	❏	❏	❏	❏	❏	❏	❏
14.ผู้ให้บริการโทรศัพท์ถือรายปัจจุบันที่ท่าน ใช้อยู่ในขณะนี้สร้างความประทับใจให้แก่ท่าน	❏	❏	❏	❏	❏	❏	❏

ระดับความเกี่ยวข้องกับสินค้าและบริการ (Product/Service involvement)	ไม่เห็นด้วย อย่างยิ่ง						เห็นด้วย อย่างยิ่ง
	1	2	3	4	5	6	7
15. ท่านมีความสนใจในบริการโทรศัพท์มือถือ	❏	❏	❏	❏	❏	❏	❏
16. ท่านจัดให้ระดับการทุ่มเทความพยายาม หรือระดับความสำคัญของบริการโทรศัพท์มือ ถือสูง	❏	❏	❏	❏	❏	❏	❏
17.นอกเหนือจากการโทรแล้ว, ท่านยังใช้ บริการอื่นที่ผู้ให้บริการโทรศัพท์มือถือจัดให้อยู่ บ่อยๆ เช่น ส่งข้อความ, อี-เมล,โหลดริงโทน,โล โก้, อินเตอร์เน็ต, ธุรกรรมทางธนาคาร เป็นต้น	❏	❏	❏	❏	❏	❏	❏
18. ท่านมีความรู้ ความเชี่ยวชาญเกี่ยว เทคโนโลยีไร้สายนี้เป็นอย่างดี เช่น เทคโนโลยี GPRS, บลูทูธ, WAP, 3G Mobile เป็นต้น	❏	❏	❏	❏	❏	❏	❏
19. ท่านมักเปลี่ยนเครื่องโทรศัพท์มือถือ หรือ อุปกรณ์ต่างๆเช่น หน้ากาก, แบตเตอรี่,อยู่เป็น ประจำ	❏	❏	❏	❏	❏	❏	❏

กรุณากรอกข้อมูลส่วนตัว

ข้อมูลส่วนตัว (Personal Data)

20. เพศ

❑ ชาย   ❑ หญิง

21. อายุ

❑ น้อยกว่า 15 ปี   ❑ 15 - 24 ปี
❑ 25 – 34 ปี   ❑ 35 - 54 ปี
❑ มากกว่า 54 ปี

22. รายได้ต่อเดือน

❑ น้อยกว่า 5,000 บาท   ❑ 5,001 – 10,000 บาท
❑ 10,001 – 20,000 บาท   ❑ 20,001 – 30,000 บาท
❑ 30,001-40,000 บาท   ❑ มากกว่า 40,000 บาท

22. ระดับการศึกษา

❑ ต่ำกว่ามัธยมปลาย   ❑ มัธยมปลาย/ ป.ว.ช.
❑ อนุปริญญา   ❑ ปริญญาตรี
❑ ปริญญาโท   ❑ ปริญญาเอก

APPENDIX B

Reliability result- 60 respondents

Reliability for Risk Taking Scale

****** Method 2 (covariance matrix) will be used for this analysis ******

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

Correlation Matrix

	UNUSUAL	NEWPRO	STICK	UNFAMILI
UNUSUAL	1.0000			
NEWPRO	.6200	1.0000		
STICK	.3249	.2425	1.0000	
UNFAMILI	.5210	.6259	.4069	1.0000

N of Cases =   60.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
UNUSUAL	12.7167	17.1218	.6189	.4304	.6892
NEWPRO	12.7000	18.5186	.6386	.5144	.6828
STICK	12.3500	21.1127	.3838	.1899	.8082
UNFAMILI	12.6833	17.2709	.6665	.4734	.6631

Reliability Coefficients   4 items

Alpha = .7702   Standardized item alpha = .7709

Reliability for satisfaction

****** Method 2 (covariance matrix) will be used for this analysis ******

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

Correlation Matrix

	SATISFY	POSITIVE	HAPPY
SATISFY	1.0000		
POSITIVE	.9185	1.0000	
HAPPY	.8539	.8811	1.0000

N of Cases = 60.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item deleted
SATISFY	8.0000	10.6780	.9152	.8526	.9350
POSITIVE	7.9833	10.2540	.9351	.8782	.9204
HAPPY	8.1167	11.5285	.8859	.7890	.9574

Reliability Coefficients   3 items

Alpha = .9580   Standardized item alpha = .9583

Reliability for service involvement

****** Method 2 (covariance matrix) will be used for this analysis ******

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

Correlation Matrix

	INTEREST	INVOLVE	OTHERSER	EXPERT	OTHERPRO
INTEREST	1.0000				
INVOLVE	.4129	1.0000			
OTHERSER	..3112	.1648	1.0000		
EXPERT	.3276	.0302	.3200	1.0000	
OTHERPRO	.3229	.2109	.4077	.3373	1.0000

N of Cases = 60.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
INTEREST	13.9167	18.7218	.5085	.3036	.5790
INVOLVE	14.3500	21.0788	.2799	.1973	.6682
OTHERSER	15.0667	16.6056	.4552	.2265	.5964
EXPERT	15.9667	19.5243	.3785	.2108	.6302
OTHERPRO	15.4333	16.4192	.4872	.2475	.5785

Reliability Coefficients   5 items

Alpha = .6646   Standardized item alpha = .6654

APPENDIX C

Statistical Output

Discriminant

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		399	99.8
Excluded	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	1	.3
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
	Total	1	.3
Total		400	100.0

Group Statistics

Did you switch the brand of these three mobile phone service providers		Mean
yes	External source of influence	30.2814
	Interpersonal source of influence	48.5578
	Experiential sources of influence	21.2613
	OVERALL	2.5553
	RISK	4.4209
	SATISFAC	3.2931
	INVOLVEM	2.4874
	income	2.9296
	education	3.5477
no	External source of influence	32.2500
	Interpersonal source of influence	43.2500
	Experiential sources of influence	22.3750
	OVERALL	8.8150
	RISK	4.7275
	SATISFAC	4.9533
	INVOLVEM	4.1820
	income	2.9450
	education	3.6000
Total	External source of influence	36.2807
	Interpersonal source of influence	36.9123
	Experiential sources of influence	26.8321
	OVERALL	7.1892
	RISK	4.0733
	SATISFAC	4.1253
	INVOLVEM	3.8356
	income	2.9373
	education	3.5739

Group Statistics

Did you switch the brand of these three mobile phone service providers		Std. Deviation
yes	External source of influence	17.4443
	Interpersonal source of influence	21.5056
	Experiential sources of influence	16.5597
	OVERALL	4.0342
	RISK	1.0575
	SATISFAC	1.4057
	INVOLVEM	1.3382
	income	1.2773
	education	.9355
no	External source of influence	17.9807
	Interpersonal source of influence	14.5716
	Experiential sources of influence	16.4419
	OVERALL	7.0373
	RISK	1.1279
	SATISFAC	1.2401
	INVOLVEM	1.0576
	income	1.4535
	education	.9297
Total	External source of influence	18.6800
	Interpersonal source of influence	21.7147
	Experiential sources of influence	17.3939
	OVERALL	5.9600
	RISK	1.1458
	SATISFAC	1.5629
	INVOLVEM	1.2534
	income	1.3667
	education	.9318

Group Statistics

Did you switch the brand of these three mobile phone service providers		Valid N (listwise)	
		Unweighted	Weighted
yes	External source of influence	199	199.000
	Interpersonal source of influence	199	199.000
	Experiential sources of influence	199	199.000
	OVERALL	199	199.000
	RISK	199	199.000
	SATISFAC	199	199.000
	INVOLVEM	199	199.000
	income	199	199.000
	education	199	199.000
no	External source of influence	200	200.000
	Interpersonal source of influence	200	200.000
	Experiential sources of influence	200	200.000
	OVERALL	200	200.000
	RISK	200	200.000
	SATISFAC	200	200.000
	INVOLVEM	200	200.000
	income	200	200.000
	education	200	200.000
Total	External source of influence	399	399.000
	Interpersonal source of influence	399	399.000
	Experiential sources of influence	399	399.000
	OVERALL	399	399.000
	RISK	399	399.000
	SATISFAC	399	399.000
	INVOLVEM	399	399.000
	income	399	399.000
	education	399	399.000

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
External source of influence	.897	45.531	1	397	.000
Interpersonal source of influence	.925	32.176	1	397	.000
Experiential sources of influence	.898	45.250	1	397	.000
OVERALL	.713	159.720	1	397	.000
RISK	.923	33.099	1	397	.000
SATISFAC	.717	156.545	1	397	.000
INVOLVEM	.908	40.114	1	397	.000
income	1.000	0.013	1	397	.911
education	.999	0.013	1	397	.576

Variables Entered/Removed[a,b,c,d]

		Wilks' Lambda			
Step	Entered	Statistic	df1	df2	df3
1	OVERALL	.713	1	1	397.000
2	SATISFAC	.591	2	1	397.000
3	INVOLVEM	.567	3	1	397.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

Variables Entered/Removed[a,b,c,d]

	Wilks' Lambda			
	Exact F			
Step	Statistic	df1	df2	Sig.
1	159.720	1	397.000	.000
2	136.953	2	396.000	.000
3	100.381	3	395.000	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

a. Maximum number of steps is 18.

b. Minimum partial F to enter is 3.84.

c. Maximum partial F to remove is 2.71.

d. F level, tolerance, or VIN insufficient for further computation.

Variables in the Analysis

Step		Tolerance	F to Remove	Wilks' Lambda
1	OVERALL	1.000	159.720	
2	OVERALL	.977	84.454	.717
	SATISFAC	.977	81.714	.713
3	OVERALL	.932	58.079	.651
	SATISFAC	.962	88.158	.694
	INVOLVEM	.946	16.509	.591

Variables Not in the Analysis

Step		Toleranc	Min. Toleranc	F to Enter	Wilks Lambd
0	External source of influenc	1.000	1.000	45.531	.897
	Interpersonal source of influence	1.000	1.000	32.176	.925
	Experiential sources of influence	1.000	1.000	45.250	.898
	OVERALL	1.000	1.000	159.720	.713
	RISK	1.000	1.000	40.114	.908
	SATISFAC	1.000	1.000	156.545	.717
	INVOLVEM	1.000	1.000	33.099	.923
	income	1.000	1.000	.013	1.000
	education	1.000	1.000	.313	.999
1	External source of influence	.662	.662	.392	.712
	Interpersonal sources of influence	.984	.984	12.106	.692
	Experiential sources of influence	.755	.755	.209	.713
	RISK	.961	.961	10.873	.694
	SATISFAC	.977	.977	81.714	.591
	INVOLVEM	.990	.990	14.575	.688
	income	.998	.998	.107	.713
	education	1.000	1.000	.196	.713
2	External source of influence	.658	.657	1.380	.589
	Interpersonal sources of influence	.966	.958	4.188	.585
	Experiential sources of influence	.751	.734	1.061	.590
	RISK	.764	.753	.275	.591
	INVOLVEM	.946	.932	16.509	.567
	income	.998	.976	.183	.591
	education	.997	.974	.000	.591
3	External source of influence	.657	.632	1.061	.566
	Interpersonal sources of influence	.961	.925	2.996	.563
	Experiential sources of influence	.750	.711	.846	.566
	RISK	.741	.741	.030	.567
	income	.998	.930	.143	.567
	education	.991	.931	.112	.567

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.762[a]	100.0	100.0	.658

a. First 1 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.567	224.118	3	.000

Standardized Canonical Discriminant Function Coefficients

	Function 1
OVERALL	.564
SATISFAC	-.662
INVOLVEM	.313

Classification Statistics

Classification Processing Summary

Processed		400
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		400

Prior Probabilities for Groups

Did you switch the brand of these three mobile phone service providers?	Prior	Cases Used in Analysis	
		Unweighted	Weighted
yes	.500	199	199.000
no	.500	200	200.000
Total	1.000	399	399.000

Classification Function Coefficients

	Did you switch the brand of these three mobile phone service providers?	
	yes	no
OVERALL	.129	0.7549
SATISFAC	1.915	2.786
INVOLVEM	3.057	2.558
(Constant)	-13.735	-13.315

Fisher's linear discriminant functions

APPENDIX D

*Service Center of AIS, DTAC and TA ORANGE
in Bangkok Area*

Location	AIS	DTAC	ORANGE
Shin Tower 2	√	-	-
Shin Tower 3	√	-	-
The Mall Bangkae	√	√	√
Futher Park Rungsit	√	√	√
World Trad Center and Siam Center	√	√	√
Fation Iceland	√	√	√
Central Bangna	√	-	-
Central Pinklow	√	√	-
The Mall Bangkapi	√	-	-
Central Rama III	√	-	-
Seacon Square	-	√	-
SCB Park	-	√	-
The Mall Tapra	-	-	√
Central Ladprow	-	-	√

Source: AIS,DTAC,ORANGE