

# THE RELATIONSHIP BETWEEN ELEMENTS OF MARKETING MIX AND BRAND EQUITY OF SUNSILK IN BANGKOK

By SUPAVADEE APIVANICH

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

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#### ABSTRACT

The overall objective of this study was to examine the relationship between the elements of marketing mix and the dimensions of brand equity of Sunsilk. In order to understand the relationship of these variables, relevant theories and concepts were reviewed to form the theoretical and conceptual frameworks. Brand equity dimensions consist of perceived quality, brand loyalty, brand awareness, and brand associations. For marketing mix elements, this study investigates consumers' perceptions of five selected strategic marketing elements: price, store image, distribution intensity, advertising spending, and frequency of price promotions.

Samples survey was the research method selected for this study. The research instrument of this study is self-distributing questionnaire that is used to gather primary data by using survey method. The questionnaires were distributed using non-probability sampling to 400 target respondents who are buyers of Sunsilk shampoo in ten locations of supermarket in Bangkok. In order to analyze the data collected from the target respondent, Structural equation modeling (SEM) was used. SEM used to estimate parameters of the structural model and the completely standardized solutions computed by used the LISREL 8.54 maximum-likelihood method.

The results found that there are relationships between five marketing mix elements and brand equity dimensions. Store image has a major effect on brand equity. The results also show that good store image, high distribution intensity, high adverting spending, and high price are related to brand equity.

Finally, the researcher recommends that even if Sunsilk is the market leader, in order to remain dominant, Sunsilk Company should hold competitive advantage over its competitors. Creating brand equity can make the firm gain competitive advantage. And enhancing equity depends on the suitability of all marketing mix elements. Sunsilk Company should give more attention to store image. Consumers perceive that the good image of a store implies Sunsilk have good quality and create more positive brand association/awareness and finally, greater brand equity.

#### **ACKNOWLEDGEMENT**

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#### CHAPTER I

#### Generalities of the study

#### 1.1 Introduction of the study

Brands are an important part of today's marketplace, Today, the primary capital of many businesses is their brand. According to the American Marketing Association, a brand can be defined as "a name, term, sign, symbol, or design, or a combination of them which is intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors" (Keller, 1993). For decades, the value of a company was measured in terms of its real estate, then tangible assets, plants, and equipment. However, it has been recognized that a company's real value lies outside the business itself, in the minds of potential consumers (Kapferer, 1992). Brand equity is all about how consumers feel about a brand. Park and Srinivasan (1994) stated that brand equity is the incremental preference endowed by the brand to the product as perceived by an individual consumer. Understanding the needs and wants of consumers and devising products and programs to satisfy them is at the heart of successful marketing (Keller, 1998). Understanding consumer needs and wants is not simple. The marketing mix is the tools used to satisfy the needs and wants of the consumer. This study aims to discover which marketing mix elements influence brand equity.

#### Shampoo's Market Situation in Thailand

In Thailand, the shampoo market is a big market with a total market amount of 9,000 million Baht in the year 2003. This total market is separated into two parts. There are 2,300 million Baht for Conditioners and 6,700 million Baht for Shampoo (see Table 1.1) Moreover, the shampoo market can be classified into three groups: beauty shampoo, anti-dandruff shampoo, and baby shampoo. In the shampoo market, beauty shampoo has the highest market share with 67 percent market share with an amount of 4,500 million Baht, followed by anti-dandruff shampoo with 30 percent market share amounting to 2,000 million Baht and lastly the baby shampoo with a 3 percent market share with an amount of 200 million Baht (Figure 1.1).

Table 1.1: Total Market of Shampoo in Thailand

Tota	l market of shampoo	Total mark	et of conditioner
Year	Amount (Million B	aht) Year	Amount (Million Baht)
2001	6,500	2001	2,050
2002	6,600	2002	2,200
2003	6,700	2003	2,300

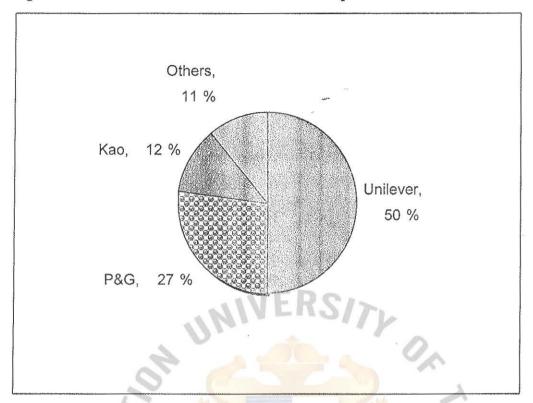
Source: BrandAge, Issue 8, 2003, p.48

Figure 1.1: Market Share of Shampoo



Source: BrandAge, Issue 8, 2003, p.48

Figure 1.2: Market Share of the Producers of Shampoo



Source: BrandAge, Issue 8, 2003, p.48

There are three main groups of producers of shampoo: Unilever, Procter and Gramble(P&G) and Kao. Unilever is the market leader in the shampoo market with 50 percent market share, followed by P&G with 27 percent, Kao with 12 percent, while other groups have around 11 percent (Figure 1.2).

Sunsilk is one of the shampoo brands produced by Unilever. Sunsilk was the market leader in the shampoo market since the product was launched to the market in year 1981. Table 1.2 shows the market share of shampoo since the year 1998 to 2003. As can be seen, Sunsilk was the market leader every year, followed by Pantene, Clinic and the last are the other brands.

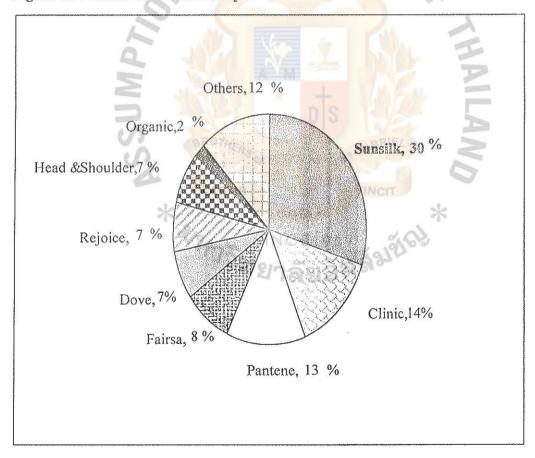
For this year (2003), Sunsilk is still the market leader and has gained the highest market share with 30 percent market share, followed by Clinic with 14 percent market share, Pantene with 13 percent market share, Fairsa with 8 percent, Dove with 7 percent, Rejoice with 7 percent, Head & Shoulder with 7 percent, Organic with 2 percent, while other shampoos have12 percent market share (see Figure 1.3).

Table 1.2: Market Share of Shampoo

Year	Sunsilk	Pantene	_Clinic	Others
1998	24 %	15 %	8 %	53 %
1999	27 %	14 %	10 %	49 %
2000	27 %	14 %	11 %	48 %
2001	35 %	14 %	13 %	38 %
2002	30 %	12 %	14 %	44 %
2003	30 %	13 %	14 %	43 %

Source: Prachachart-turakit Newspaper, 2003, September 19, p.17

Figure 1.3: Market Share of Shampoo



Source: Business Thai Newspaper, 2003, September 22, p.4

Table 1.3: Average Monthly Expenditure for Goods and Services Other than Food and Beverages.

<b>Expenditure Group</b>	Bangkok's Households (Baht)	
Personal Care	554.38	
Personal Services	138.48	
Hair Cut	71.73	
Hair Curl	7.12	
Hair Set and Hairdye	45.91	
Face and Body Massage	4.38	
Other Services	9.34	
Personal Supplies	415.90	
Toilet Soap	42.57	
Toilet Soap Toothpaste	45.58	
Shampoo, Conditioner	95.48	
Hairtonic, Hair lotion	13.38	
Perfume and Cologne	32.76	
Face Powder and powder	34.40	
Lipstick	12.11	
Other Cosmetics	36.75	
Tooth Brush, Electric tooth brush,		
Brushes and Electric brushes	10.70	
Razors, Blades and Electric Shaver	5.04	
Hand-bags, Suitcases	6.39	
Watches and Sun-glasses	17.45	
Toilet Paper and Tissue	20.97	
Sanitary Napkins	28.51	
Other Supplies and Repair	VINCIT 13.81	

Source: The 2002 Household Socio-Economic Survey, National Statistical Office.

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Table 1.3 shows the average monthly expenditure of Bangkok's Households on Goods and Services Other than Food and Beverages. As can be seen, Bangkok's households spending for shampoo is the highest amount of money (95.48 percent in the year 2002). Moreover, in Thailand shampoo market has a big market and Sunsilk is the market leader. Therefore, it can be said that Sunsilk will be a good case for studying the creation of brand equity. In this study, the researcher aims to study the relationship of some elements of the marketing mix and brand equity of Sunsilk.

#### 1.2 Statement of the problem

Competitiveness is the key to business and strong brands can make the difference between winning and losing in the marketplace (Nilson, 1998). Building strong brands, an approach to differentiation, involves creating brand equity by developing perceived quality, brand awareness, brand associations, and brand loyalty. Building a strong brand with great equity provides a host of possible benefits to a firm, such as greater customer loyalty and less vulnerability to competitiveness marketing actions or marketing crises; larger margins; more favorable customer response to price increases and decreases; increased marketing communication effectiveness; and licensing and brand extension opportunities (Keller, 2001).

There are many brands of Shampoo available in Thailand, such as Sunsilk, Clinic, Head& Shoulders, Organic and Clairol. Therefore the shampoo market is getting more competitive. Fiercer competition in Thailand' shampoo market can be also attributed to the rising number of producers and the launch of new products on the market. Manufacturers have continuously sought out new strategies to boost demand and capture a larger slice of the market. With the sellers competing so fiercely, the market is in the customers' hands. Consumers have a better chance than ever before of choosing the right product to fit their needs. As far as the manufacturers are concerned, the keys for survival are not so much capitalization but marketing strategies to meet customer demand.

The heart of successful marketing is to understand the needs and wants of consumers and devising products and programs to satisfy them. Marketing mix is the antecedents of brand equity. Marketing mix is also the tools that are used to satisfy the needs and wants of the consumer. Therefore, a deeper understanding of how marketing mix influences brand equity is very important. This research attempts to find out the answer to the question "What is the relationship between elements of the marketing mix and brand equity of the buyers of Sunsilk".

#### 1.3 Research Objectives

#### This research aims to find answers to the following objectives:

- To examine the relationship between the elements of marketing mix and the dimensions of brand equity which are perceived quality, brand loyalty, brand awareness, and brand associations of Sunsilk.
- 2. To know how each of the marketing mix elements affect the dimensions of brand equity of Sunsilk.
- To know which marketing mix elements have a major effect on brand equity with which Sunsilk's company should give more attention to in order to persuade their consumers in a more effective way.

### 1.4 Scope of the research

The respondents of this research are the buyers of Sunsilk in Bangkok in ten locations of supermarkets.

- 1) Tops Supermarket: Mahboonkrong
- 2) Tops Supermarket: Central Lardprao
- 3) Tops Supermarket: Central Pinklao
- 4) Big C: Hua Mark
- 5) Big C: Rajdamri
- 6) Big C: Chaengwattana
- 7) Tesco Lotus: Ekamai
- 8) Tesco Lotus: Silom S&A
- 9) Tesco Lotus: Sukaphiban 1
- 10) Tanghuaseng: Banglumpoo

These supermarkets are selected because they are the main supermarkets in the Bangkok area, large scale, and most importantly because of the high traffic of consumers. Moreover, the data was collected from to November 7, 2003 to December 30, 2003.

#### 1.5 Limitations of the Research

There are three limitations in this research as follows:

#### 1.5.1. Respondents:

The target population in this study is only people who are shopping in the ten selected supermarkets in Bangkok. Thus, the results may not be identical to other research studing other areas.

#### 1.5.2. Variable:

This research studies the relationship between selected elements of the marketing mix and brand equity of Sunsilk, therefore; the results may not be identical for the variables that are not included in this research.

#### 1.5.3 Time:

This research is conducted in a specific time frame, therefore; the results may not be identical for other time frames.

#### 1.6 Significance of the Study

This study was conducted to develop a better understanding of the relationship between the elements of marketing mix and the dimensions of brand equity, to understand how Sunsilk can build a position in the consumer's mind among fierce competition. The result of this research will be beneficial to marketers to plan the marketing strategies to make firms succeed in the market place. Additionally, understanding which elements of marketing mix can be related with brand equity will be beneficial for other firms to apply the results from this research to create their own brands.

#### 1.7 Definition of Terms

#### Advertising:

Advertising is paid, nonpersonal communication through various media by business firms, nonprofit organizations, and individuals who are in some way identified in the advertising message and who hope to inform or persuade members of a particular audience (Dunn and Barban, 1982).

#### Brand:

A name, term, sign, symbol, or design, or combination of them which is intended to identify the goods and service of one seller or group of sellers and to differentiate them from those of competitors (Kotler, 2000).

#### Brand Association:

Anything that is directly or indirectly linked in the consumer's memory to a brand (Aaker, 1998).

#### Brand Awareness:

The ability of a potential buyer to recognize or recall that a brand is a member of a certain product category (Aaker, 1991).

#### **Brand Equity:**

The totality of the brand's perception, including the relative quality of products and services, financial performance, customer loyalty, satisfaction, and overall esteem toward the brand (Knapp, 2000).

#### **Brand Loyalty:**

Brand loyalty is a preference by a consumer for a particular brand that results in continual purchase of it (Belch, 2001).

#### Intensive Distribution (Distribution Intensity):

This is when the manufacturer places the goods or services in as many outlets as possible (Kotler, 2000).

#### Marketing Mix:

Marketing mix refers to the choice of ingredients that a company combines in order to satisfy the needs and/or wants of a particular group of customers (Dunn and Barban, 1982).

#### Perceived Quality:

The customer's perception of the overall quality or superiority of product or service relative to relevant alternatives with respect to its intended purpose (Keller, 1998).

#### Place:

Making products available in the right quantities and locations when consumers want them (McCarthy, 1990).

#### Price:

The amount of money charged for a product or sum of the values consumers exchange for the benefits of having a product (Kotler, 2000).

#### **Price Deals:**

Price deals are short-term discounts offered by manufacturers to encourage non-users to try the brand and existing users to buy more (Assael, 1993).

#### Store Image:

A set of interdependent organizations involved in the process of making a product or service available for use or consumption (Srivastava and Shocker, 1991).

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#### CHAPTER II

#### The Review of Literature

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This part aims to review related studies and concepts from various authors used in this research. The first section presents the concepts of consumer buying behavior and marketing strategies. The second section presents the concepts of marketing mix and its elements. The third section presents the concepts of brand equity and its dimensions and the last section presents some previous studies related to marketing mix and brand equity.

#### 2.1. Consumer buying behavior

The most important thing for marketers is to meet and satisfy target consumers' needs and wants. That is to "understand consumer behavior."

Consumer behavior can be defined as the process and activities people engage in when searching for, selecting, purchasing, using, evaluating and disposing of products and services to satisfy their needs and desires (Belch, 2001). According to Kotler (2000), consumer buying behavior has five stages which are:

- 1) Problem recognition:
  - The consumer recognizes a problem or need.
- 2) Information search:
  - The consumer searching for information needed to make a purchase decision.
- 3) Evaluation of alternatives:
  - Consumer evaluates the various alternatives.
- 4) Purchase decision:
  - Consumer makes a purchase decision.
- 5) Post purchase behavior:
  - Consumer's satisfy or dissatisfy after using the products or services.

#### 2.2 Marketing Strategy

Marketing strategy can be defined as a consistent, appropriate, and feasible set of principles through which a particular company hopes to achieve its long-run consumer and profit objectives in particular competitive environment (Hamper and Baugh, 1994). Marketing strategy is the approach that the company will take in trying to influence consumers to buy the product.

According to McCarthy and Perreault (1990), marketing strategy specifies a target market and is related to marketing mix. It has two interrelated parts:

- 1) A target market: Is the market segment the firm is trying to attract with its marketing effort.
- 2) A marketing mix: Is the controllable variables the company puts together to satisfy this target group.

#### 2.3 Marketing Mix

Marketing mix refers to the choice of ingredients that a company combines in order to satisfy the needs and/or wants of a particular group of customers (Dunn and Barban, 1982). Marketing mix is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market (Kotler, 2000). McCarthy (1990) classified these tools into four broad groups that he called the four Ps of marketing: product, price, place, and promotion. The particular marketing variables under each P are shown in Figure 2.1.

Figure 2.1: The Four P Components of the Marketing Mix

Product	Place	Promotion	Price
Physical good Service Features Quality level Accessories Installation Instructions Warranty Product lines Packaging Branding	Objectives Channel type Market exposure Kinds of middlemen Kinds of locations of stores How to handle transporting and storing Service levels Recruiting middlemen Managing channels	Objectives Promotion blend Salespeople Kind Number Selection Training Motivation Advertising Targets Kinds of ads Media type Copy thrust Prepared by whom Sales promotion Publicity	Objectives Flexibility Level over product lift cycle Geographic terms Discounts Allowances

Source: McCarthy, E. Jerome and Perreault, William D. (1990), Basic Marketing: Irwin, Inc., p. 37

### 2.3.1 The Four Ps of the Marketing Mix (Traditional marketing mix)

As can be seen from figure 2.1, the traditional Four Ps are:

#### 1) Product

Product is anything that can be offered to a market to satisfy a want or need. Products that are marketed include physical goods, services, experiences, events, persons, places, properties, organization, and ideas (Kotler, 2000).

#### 2) Place

The various activities the company undertakes to make the product accessible and available to target consumers (Kotler, 2000).

#### 3) Promotion

These are activities which inform the customers about the product and which raise awareness of the product. These activities include advertising, sales promotion, personal selling, publicity, direct mail and public relations (Miller, 2001).

#### 4) Price

The amount of money charged for a product or the sum of the values consumers exchange for the benefits of having a product (Kotler, 2000).

#### 2.3.2 Marketing Mix Elements (Perceived marketing mix elements)

This study investigates consumers' perceptions of five selected strategic marketing elements: price, store image, distribution intensity, advertising spending, and frequency of price promotions. The selected factors do not embrace all types of marketing efforts but are representative enough to demonstrate the relationships between marketing efforts and the formation of brand equity (Yoo, Donthu and Lee, 2000).

Price

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Price is the marketing mix element that produces revenue (Kotler, 2000). High-priced brands are often perceived to be of higher quality and less vulnerable to competitive price cuts than low priced brands (Blattberg and Winniewski 1989; Dodds, Monroe, and Grewal 1991; Kamakura and Russell 1993; Milgrom and Roberts 1986; Olson 1977). Higher price will communicate a higher product quality. Therefore, price is positively related to perceived quality.

Yoo, Donthu and Lee (2000) find that there are no significant relationships between price and the other brand equity dimensions, brand loyalty and brand associations. Although high price implies high quality, it does not create loyalty to the brand. Brand-loyal consumers are willing to pay the full price for their favorite brand because they are less price sensitive than brand-non-loyal consumers. Thus,

changing the price level alone does not affect brand loyalty. Yoo, Donthu and Lee (2000) also find no direct relationship between price and brand associations, because both low and high prices can be equally strongly linked to the brand in memory for the benefits that each brings to consumers: A low-priced product would give transaction utility (i.e., paying less than the consumer's internal reference price), whereas a high-priced product would give high-quality image or acquisition utility, leading to reduced consumer risk (Thaler 1985).

#### Store Image (Place)

Storing is the marketing function of holding goods (McCarthy and Perreault, 1990). Storing can increase the value of products and make them more available when consumers want them. Store image can be defined as a set of interdependent organizations involved in the process of making a product or service available for use or consumption (Srivastava and Shocker, 1991). According to Anderson and Vineze, 2000, store location strategies are related closely to manufacturer and wholesaler distribution strategies and to the evolution of retail structures. Therefore, store image is one channel of the distribution policy (place) of marketing mix.

In a distribution channel, retailers are the ultimate channel that encounters the consumers. Therefore, selecting and managing retailers is the major marketing activity for the firm in order to satisfy consumers' needs. Moreover, distributing through good image stores signal that a brand is of good quality. According to previous researcher, Dodds et al. (1991), there are positive relationships between store image and perceived quality. Good-image stores attract more attention, contacts, and visits from potential customers. In addition, such stores provide greater consumer satisfaction and stimulate active and positive word-of-mouth communications among consumers (Rao and Monroe 1989; Zeithaml 1988). Therefore, distributing a brand through stores with a good-image will create more positive brand associations than distributing through stores with a bad-image.

Yoo, Donthu and Lee (2000) indicated that store image appears to have no relationship with loyalty to a specific brand. Consumers perceive good store image when their self-concept is congruent with store image (Sirgy and Samli 1985).

Therefore, if the perceived image of the product does not match the store image, consumers would not be impressed enough to show loyalty to the product.

#### **Distribution Intensity**

Kotler (2000) stated that intensive distribution consists of the manufacturer placing the goods or services in as many outlets as possible. Intensive distribution approach is used for convenience goods where the firm wants the product available in as many retail outlets as possible (Dalrymple and Persons, 1990). Intensive distribution provides convenience to the consumer by reducing the time consumers must spend searching for the stores. Therefore, when distribution intensity increases, consumers have more time and place utility and perceive more value for the product. The increased value in turn leads to greater consumer satisfaction, perceived quality, and brand loyalty and finally, greater brand equity. Thus, if the consumer is satisfied with the product, positive brand associations will increase.

#### Advertising Spending (Promotion)

Advertising is paid, non-personal communication through various media by business firms, nonprofit organizations, and individuals who are in some way identified in the advertising message and who hope to inform or persuade members of a particular audience (Dunn and Barban, 1982). Intense advertising spending shows that the company is investing in the brand, which implies that the product has superior quality. The previous researchers, Aaker and Jacobson (1994), found a positive relationship between advertising and perceived quality. Thus, advertising spending is positively related to perceived quality, which leads to higher brand equity.

Advertising plays an important role in creating strong brand associations and increasing brand awareness. Therefore, intensive advertising schedules increase the probability that a brand will be included in the consideration set, which simplifies the consumer's brand choice, making it a habit to choose the brand (Hauser and Wernerfeldt 1990). Thus, a greater amount of advertising is related

positively to brand awareness and associations, which leads to greater brand equity. In addition, according to an extended hierarchy of effects model, advertising is positively related to brand loyalty because it reinforces brand-related associations and attitudes toward the brand (Shimp 1997).

#### Price Deals (Price promotions)

Sales promotion is traditionally divided into price-related and non-price promotion. This study focuses on price promotion only. Also, price promotion will be measured as the perceived relative frequency of the price deals presented for the brand. Price deals can be defined as short-term discounts offered by manufacturers to encourage nonusers to try the brand and existing users to buy more (Assael, 1993) Price deals are easily copied, therefore; price deals may not be a desirable way to build brand equity. Moreover, reduced price can give a signal that the product is substandard or low-quality. The consumer attracted by a price cut usually remains only a short-term user of the brand. Therefore, price promotion campaigns do not last long enough to establish long-term brand associations, which can be achieved by other efforts such as advertising and sales management (Shimp 1997). Relying on sales promotion and sacrificing advertising would reduce brand associations, which lead to decreasing brand equity (Yoo, Donthu and Lee, 2000).

Price deals can dilute brand loyalty and discourage repeat purchases. Consumers often fail to establish a repeat purchase pattern after an initial trial. This is because consumers are momentarily attracted to the brand by the transaction utility that the price promotions provide, and when deals end, they lose interest in the brand. Thus, change in brand loyalty after the end of deals may not occur unless the brand is perceived to be superior to and meet consumer needs better than its competing products (Yoo, Donthu and Lee, 2000).

#### 2.4 Brand Equity

Brand equity is the added value endowed by the brand to the product (Farquhar, 1989). Aaker (1991) defined brand equity as a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers. Aaker (1991) further explained that the assets and liabilities on which brand equity is based will differ from context to context. Keller (1993) defined brand equity as the differential effects that brand knowledge has on consumer response to the marketing of that brand. Brand knowledge is, in terms of an associative network model, a network of nodes and links where the brand node memory has a variety of associations or simple unique association linked to it.

Upshaw (1995) explained that brand equity is the total accumulated value or worth of a brand; the tangible and intangible assets that the brand contributes to its corporate parent, both financially and in terms of selling leverage. Knapp (2000) defined brand equity as the totality of the brand's perception, including the relative quality of products and services, financial performance, customer loyalty, satisfaction, and overall esteem toward the brand. It's all about how consumers, customers, employees, and all stakeholders feel about a brand. Belch (2001) stated that brand equity can be thought of as an intangible assets of added value or goodwill that results from the favorable image, impressions of differentiation, and/or the strength of consumer attachment to a company name, brand, or trademark.

# 2.4.1. Brand Equity Dimensions

Aaker (1991) stated that brand equity can be grouped into five categories: (1) name (brand) awareness, (2) brand associations, (3) perceived quality, (4) brand loyalty, and (5) other proprietary assets.

Keller (1993) proposed a knowledge-based framework for creating brand equity based on two dimensions:

1) Brand awareness.

Brand awareness relates to brand recall and recognition performance by consumers.

#### 2) Brand image.

Brand image refers to the set of associations linked to the brand that consumers hold in memory.

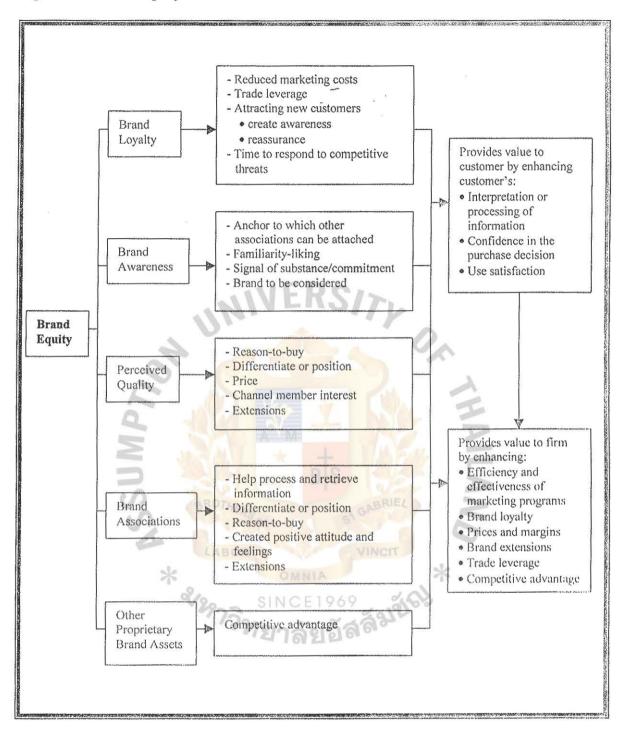
Similarly, Alba and Hutchinson (1987) proposed that knowledge has two sub-dimensions of experience and familiarity. The effects of experience and familiarity on consumer' brand equity perceptions occur at two levels:

- 1) brand; and
- 2) product category.

While knowledge about a brand may directly influence the brand equity associated with a particular brand, the knowledge about a product category will influence the brand equity associated with all brands in the product category (Alba and Hutchinson, 1987).

In summary, brand equity is regarded as a very important concept in business practice as well as in academic research because marketers can gain competitive advantage through successful brands. While many definitions and dimensions of brand equity exist, one of the most widely accepted and used are the concept of David A. Aaker. According to Aaker (1991) brand equity can be grouped into five categories as shown in figure 2.1

Figure 2.2: Brand Equity Model



Source: Aaker, David A (1992), Journal of Business Strategy, Vol. 13, No. 14, p.29

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Figure 2.1 shows that brand equity can be grouped into five categories. Brand equity provides value to the customer as well as the firm. In addition, the resulting customer value becomes a basis for providing value to the firm.

#### **Brand Loyalty**

Brand loyalty is a measure of the attachment that a customer has to a brand (Aaker, 1991). It reflects how likely a customer will be to switch to another brand, especially when that brand makes a change, either in price or in product features. Belch (2001) explained that brand loyalty is a preference by a consumer for a particular brand that results in continual purchase of it.

Aaker (1998) indicated that an existing base of loyal customers provides enormous sustainable competitive advantages. First, it reduces the marketing costs of doing business. Keeping existing customers happy and reducing their motivation to change is usually considerably less costly than trying to reach new customers and persuading them to try another brand. Second, brand loyalty provides trade leverage, which is defined as the willingness to carry a product and to support it. Third, the loyalty of existing customers represents a substantial entry barrier to competitors. Finally brand loyalty provides the time to respond to competitive moves. If a competitor develops a superior product, a loyal following will allow the firm the time needed to respond by matching or neutralizing. With a high level of brand loyalty, a firm can allow itself the luxury of pursuing a less risky follower strategy.

Brand loyalty is the asset. Without the loyalty of its customers, a brand is merely a trademark, an ownable, identifiable symbol with little value. With the loyalty of its customers, a brand is more than a trademark. A trademark identifies a product, a service, and a corporation. A brand identifies a promise. A strong brand is a trustworthy, relevant, distinctive promise. It is more than a trademark. It is a trustmark of enormous value. Creating and increasing brand loyalty results in a corresponding increase in the value of the trustmark (Shimp, 1997)

Aaker and Joachimsthaler (2000) indicated that brand loyalty is at the heart of any brand's value. The concept is to strengthen the size and intensity of each

loyalty segment. A brand with a small but intensely loyal customer base can have significant equity.

#### Brand awareness

Aaker (1991) stated that brand awareness is the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category. Brand awareness relates to the number of persons who recognize the brand's significance, and who are conscious of the promise which this symbol expresses (Kapferer, 1992).

According to Aaker (1991), brand awareness is an asset that can be remarkably durable and thus sustainable. Also, brand awareness can provide a host of competitive advantages. First, brand awareness provides a strong brand name to which other associations with the brand can be attached in the customer's mind. Second, awareness provides the brand with a sense of familiarity, and people like the familiar. Third, name awareness can be a signal of presence, commitment, and substance, attributes that can be very important even to industrial buyers of big-ticket items and consumer buyers of durable. Finally, the brand name that is well known to customers can be the basis for getting into the customer's evoked set. This is the set of brands that the customer will consider buying, as discussed throughout the brand (Aaker, 1998).

Temporal (2000) stated that there is an obvious link between awareness and purchase because people will not buy something they do not know anything about. Temporal (2000) further explained that brand awareness involves brand recognition and brand recall. Brand recognition involves people simply being able to recognize the brand as being different from others by seeing it or hearing it after they have already been acquainted with it. Brand recall is a term used to describe how well people can remember the brand when they are prompted by the name of the category or the usage situation. This is important when consumers plan category purchases in advance.

#### Perceived quality

Perceived quality can be defined as the customer's perception of the overall quality or superiority of product or service relative to relevant alternatives with respect to its intended purpose (Keller, 1998) According to Aaker (1991), perceived quality can provide a competitive advantage. Firstly, perceived quality provides value by providing a reason to buy. Secondly, perceived quality also leads to the brand's differentiation on perceived quality dimensions. That is, a differentiated brand offers the customer a special benefit and a basis for brand preference. Thirdly, a perceived quality advantage gives the option of charging a premium price. It can increase profit or provide resources to reinvest in the brand. If the brand is priced competitively, it should yield a larger customer base, higher brand loyalty, and more effective marketing mix programs. Fourthly, perceived quality is relevant to retailers and other channel members and so helps in the distribution of the brand. If the brand is priced lower, it will help the channel provide value. Finally, perceived quality permits the development of brand extensions; there is clear evidence that perceived quality in a brand supports brand extensions. Perceived quality can be useful by introducing new products by using the brand name. Consumers who believe in the brand will be enlarging trust to other products, which relate to that brand.

Perceived quality is a special type of association, partly because it influences brand associations in many contexts and partly because it has been empirically shown to affect profitability (Aaker and Joachimsthaler, 2000).

#### Brand associations

Brand association is anything that is directly or indirectly linked in the consumer's memory to a brand (Aaker, 1991). Brand association can provide a competitive advantage. Firstly, the associations can help customer's process or retrieve information by helping them to summarize a set of facts that would be expensive to communicate and difficult for the customer to process. In addition, association can help in the recall of information during decision making. Secondly, the associations can help differentiate a brand from competitors. Thirdly, the associations can involve customer benefits that provide a specific reason to buy and

use the brand. Associations can also build credibility and confidence in the brand. Fourthly, the associations can create positive attitudes and feelings that are transferred to the brand. Finally, the associations can provide a basis for a franchise extension from the existing brand (Aaker, 1991).

Aaker (2000) indicated that brand association can include user imagery, product attributes, use situations, organizational associations, brand personality, and symbol. Much of brand management involves determining what associations to develop and then creating programs that will link the associations to the brand.

#### Other proprietary assets

Aaker (1991) described other proprietary assets as consisting of patents, trademarks, and channel relationships. Aaker (1991) further described that brand assets will be most valuable if they inhibit or prevent competitors from eroding a customer base and loyalty. These assets can take several forms; a trademark will protect brand equity from competitors who might want to confuse customers by using a similar name, symbol, or package. A patent, if strong and relevant to customer choice, can prevent direct competition. A distribution channel can be controlled by a brand because of a history of brand performance.

#### Provides value to the customer

According to Aaker (1992) brand equity provides value to the customer in three ways. Firstly, brand equity assets can help a customer interpret, process, store, and retrieve a huge quantity of information about products and brands. Secondly, the assets can also affect the customer's confidence in the purchase decision; a customer will usually be more comfortable with the brand that was last used, is considered to have high quality, or is familiar. The third and potentially most important way that brand equity assets, particularly perceived quality and brand associations, provide value to the customer is by enhancing the customer's satisfaction when the individual uses the product.

#### Provides value to the firm

According to Aaker (1992) brand equity provides value to the firm in six ways. Firstly, brand equity can enhance the efficiency and effectiveness of marketing programs. Secondly, brand awareness, perceived quality, and brand associations can all strengthen brand loyalty by increasing customer satisfaction and providing reasons to buy the product. Enhanced brand loyalty is especially important in buying time to respond to competitor innovations. Thirdly, brand equity will usually provide higher margins for products by permitting premium pricing and reducing reliance on promotions. Fourthly, brand equity can provide a platform for growth by brand extensions. Fifthly, brand equity can provide leverage in the distribution channel as well. Channel members have less uncertainty dealing with a proven brand name that has already achieved recognition and has established strong associations. Finally, brand equity assets provide a firm with a barrier that prevents customers from switching to a competitor.

#### 2.5 Competitive Advantage

To be successful in the long run, the business must hold a competitive advantage over its competitors. Competitive advantage can be defined as something unique or special that a firm does or possesses that provides an advantage over its competitors (Belch, 2001).

In order to achieve a competitive advantage, the company should have quality products that command a premium price, providing superior customer service, having the lowest production costs and lower prices, or dominating channels of distribution. Also, competitive advantage can be achieved through advertising that creates and maintains product differentiation and brand equity. Thus, the company can achieve competitive advantage by manage their marketing mix well.

According to Hardy (1994), competitive advantage has three forms that are differentiation, cost leadership, and quick response. An approach to differentiation involves creating brand equity by developing its dimensions.

#### 2.6. The Previous Empirical research

Yoo, Donthu, and Lee (2000) research entitled "An Examination of Selected Marketing Mix Elements and Brand Equity" explored the relationships between selection marketing mix elements and the creation of band equity. They proposed a conceptual framework in which marketing elements are related to the dimensions of brand equity, such as, perceived quality, brand loyalty, and brand associations combined with brand awareness. These dimensions are related to brand equity. The empirical tests using a structural equation model support the research hypothesis. The results show that frequent price promotions, such as, price deals are related to low brand equity, while high advertising spending, high price, good store image, and high distribution intensity are related to high brand equity.

Jarusin Pornpakdeetawanugoon (2002's Competitive Aspects of Brand Value for Mobile Phone Industry Created by Brand Equity, indicated that creating brand value by formulating brand equity as a strategic weapon for creating value of a brand and adding up the marketing mix elements is related to the dimensions of brand equity. The correlation analysis is used for testing relationship among brand value and its elements, brand equity and its dimensions, and marketing mix elements. The results show that there are relationships between brand equity and marketing mix. Finally, this study shows that a successful advertising campaign and distribution intensity of product enhances strongly brand awareness/association.

Seema, Natnicha (2003) in their study "A study of the relationship between the elements of marketing mix and some dimensions of brand equity" revealed the relationship of the elements of marketing mix (product, price, store image, distribution intensity, advertising, and sales promotion) and brand equity (perceived quality, brand loyalty and brand awareness/association). This study used correlation coefficient to measure the relationship between the elements of marketing mix and brand equity. The finding of this study show that there are positive relationships between brand equity and dimensions of brand equity, some elements of marketing mix (product, price, store image, distribution intensity and advertising) and dimensions of brand equity. On the contrary, there is negative relationship between sales promotion and dimensions of brand equity.

In conclusion, this study aims to examine the relationship between elements of marketing mix and some dimensions of brand equity of Sunsilk. The researcher selected perceived quality, brand loyalty, brand awareness, and brand associations as the dimensions of brand equity. This research focuses on a few key elements of the marketing mix. In particular, this study selects price, store image, distribution intensity, advertising spending and price deals from the traditional "4P" marketing mix (price, place or distribution, promotion and product) as a representative set of marketing programs. This study explores how these marketing actions increase or decrease brand equity. The findings provide insights into how marketing activities may be controlled to generate and manage brand equity.



# Chapter III Research Frameworks

This chapter is designed to provide the research framework used in this study. This chapter contains four sections; the first section presents theoretical framework. The second section presents conceptual framework. The third section presents research hypothesis. And the last section presents concepts and operationalization of the variables.

#### 3.1 Theoretical Framework

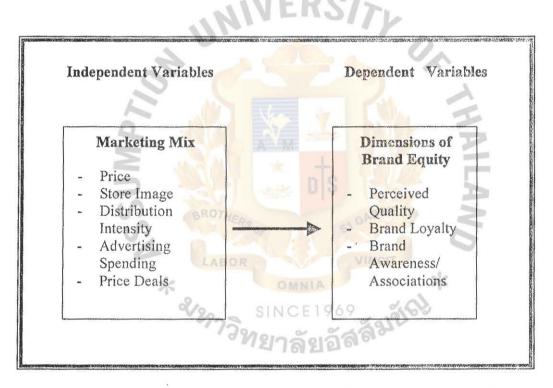
The main purpose of this study is to assess the relationships between marketing mix elements and brand equity of Sunsilk buyers. The researcher uses Aaker's brand equity dimensions as a fundamental in this study. These dimensions are perceived quality, brand loyalty, and brand awareness/ associations.

Creating brand equity can make the firm gain a competitive advantage. Brand equity is enhanced when consumers become familiar with the brand and hold favorable, strong, and unique associations in memory about the brand. According to Keller (1998), brand equity is reinforced by marketing actions that consistently convey the meaning of the brand to consumers in terms of what products the brand represents, what core benefits it supplies, what needs it satisfies, and how the brand makes those products superior and which strong, favorable, and unique brand associations exist in the minds of consumers. Shimp (1997) stated that enhancing equity depend on the suitability of all marketing mix elements.

# 3.2 Modified Conceptual Framework

The researcher modified the conceptual framework from the previous researchers such as Yoo, Donthu and Lee (2000) whose research entitled "An Examination of Selected Marketing Mix Elements and Brand Equity."

The researcher considers marketing mix elements as independent variables, whereas dimensions of brand equity as dependent variables. The researcher selects price, store image, distribution intensity, advertising spending and price deals as a representative set of marketing mix activities. For dependent variables, the researcher selects perceived quality, brand loyalty, and brand awareness/ associations as a representative set of brand equity.

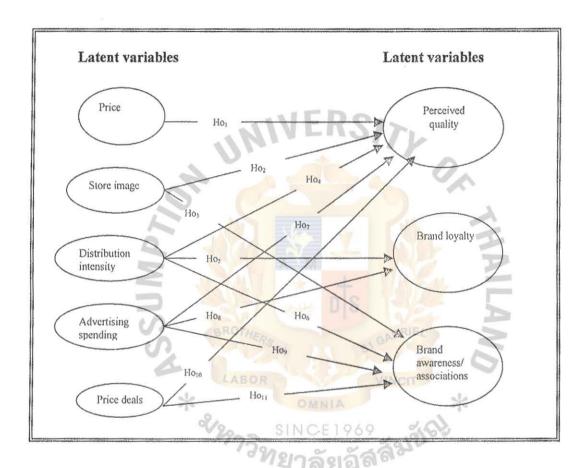


**Figure 3.1**: A Modified Conceptual Framework from: *Yoo, B., Donthu, N. and Lee, S.* (2000), an examination of selected marketing mix elements and brand equity, p.24.

# 3.3 Hypothesis Statements

The researcher examines eleven hypotheses for supporting research objectives. On the basis of the previous researchers, Yoo, Donthu and Lee (2000), the research hypothesizes directional relationship paths among the variables as summarized in Figure 3.2.

Figure 3.2: The Structural Hypothesized Relationship



Yoo, Donthu and Lee (2000) found that there are no significant relationships between price and the other brand equity dimensions, brand loyalty and brand associations. And store image and price deals appear to have no relationship with loyalty to a specific brand.

#### Hypothesis 1:

Ho<sub>1</sub>: There is no relationship between price of Sunsilk and perceived quality of Sunsilk.

Ha<sub>1</sub>: There is a relationship between price of Sunsilk and perceived quality of Sunsilk.

Hypothesis 2:

Ho<sub>2</sub>: There is no relationship between store image of Sunsilk and perceived quality of Sunsilk.

Ha<sub>2</sub>: There is a relationship between store image of Sunsilk and perceived quality of Sunsilk.

# Hypothesis 3:

Ho<sub>3</sub>: There is no relationship between store image of Sunsilk and brand awareness/associations of Sunsilk.

Hay There is a relationship between store image of Sunsilk and brand awareness/associations of Sunsilk.

#### Hypothesis 4:

Ho<sub>4</sub>: There is no relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.

Ha<sub>4</sub>: There is a relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.

#### Hypothesis 5:

Hos: There is no relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk.

Has: There is a relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk.

#### Hypothesis 6:

Ho<sub>6</sub>: There is no relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk.

Ha<sub>6</sub>: There is a relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk.

#### Hypothesis 7:

Ho<sub>7</sub>: There is no relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.

Ha<sub>7</sub>: There is a relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.

# Hypothesis 8:

Hos: There is no relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.

Ha<sub>8</sub>: There is a relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.

# Hypothesis 9:

Ho<sub>9</sub>: There is no relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.

Has: There is a relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.

# Hypothesis 10:

Ho<sub>10</sub>: There is no relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.

Ha<sub>10</sub>: There is a relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.

# Hypothesis 11:

Ho<sub>11</sub>: There is no relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.

Ha<sub>11</sub>: There is a relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.

# 3.4 Operationalization of Dependent Variables

Table 3.1 shows the operational definitions of dependent variables, which are the dimensions of brand equity: perceived quality, brand loyalty, and brand awareness/ associations.

Table 3.1: Operationalization of Dimensions of Brand Equity.

Concept	Conceptual Definition	Operational Components	Level of Measurement
Perceived Quality	The customer's perception of the overall quality or superiority of product or service relative to relevant alternatives with respect to its intended purpose (Keller, 1998)	- Quality of product	Interval
Brand Loyalty	The totality of the brand's perception, including the relative quality of products and services, financial performance, customer loyalty, satisfaction, and overall esteem toward the brand (Knapp, 2000).	- Repurchase a preferred product or service consistently in the future.	Interval
Brand Awareness/ Association	The ability of a potential buyer to recognize or recall that a brand is a member of a certain product category. And anything that is directly or indirectly linked in the consumer's memory to a brand (Aaker, 1991, 1998).	<ul> <li>Ability to recognize the brand.</li> <li>Ability to aware the brand</li> <li>Ability to recall the brand.</li> </ul>	Interval

# 3.5 Operationalization of independent Variables

Table 3.2 shows the operational definitions of independent variables, which are the marketing mix elements: price, store image, distribution intensity, advertising spending and price deals.

Table 3.2: Operationalization of Marketing Mix Elements.

Concept	Conceptual Definition	Operational Components	Level of Measurement
Price	The amount of money charged for a product or sum of the values consumers exchange for the benefits of having a product (Kotler, 2000).	- Retail price of product	Interval
Store Image	A set of interdependent organizations involved in the process of making a product or service available for use or consumption (Srivastava and Shocker, 1991).	- Ciood image of stores.	Interval
Distribution Intensity	The manufacturer placing the goods or services in as many outlets as possible (Kotler, 2000).	- Location - Amount of Stores.	Interval
Advertising Spending	Is paid, nonpersonal communication through various media by business firms, nonprofit organizations, and individuals who are in some way identified in the advertising message and who hope to inform or persuade members of a particular audience (Dunn and Barban, 1982).	- Frequency - Intensive	Interval
Price Deals	Short-term discounts offered by manufacturers to encourage nonusers to try the brand and existing users to buy more (Assael, 1993)	- Frequency - Intensive	Interval

# Chapter IV

# Research Methodology

This chapter discusses the methodology employed in this study. Therefore, the first section presents the research method and the instruments used for data collection. Second is the source of data of this study. Third is the sampling design that describes the target population, sampling frame, sampling units and sample size of this study. Fourth is the pretest of the questionnaires. Finally is the statistical technique, which is used for testing each hypothesis.

# 4.1 Research Methodology

# 4.1.1 Research Method: Sample Survey

In this study, exploratory research is used. The exploratory study is particularly helpful in breaking broad, vague problem statements into smaller, more precise sub-problem statements, hopefully in the form of specific hypotheses (Churchill, 1991). Thus, to obtain some background information where absolutely nothing is known about the problem area, the hypotheses are formulated for the investigation (Malhortra and Birks, 2000).

In order to gather the primary data, the researcher uses a sample survey. The principal advantage of the survey method is that it can collect a great deal of data about an individual respondent at one time. Survey also provides a quick, inexpensive, efficient and accurate means of assessing information about a population (Aaker, Kumer and Day, 1999).

#### 4.1.2 Research Instrument

This study used questionnaire as an instrument to acquire several aspects of respondents' perception. Questionnaire is a data-collection instrument. It formally sets out the way in which the research questions of interest should be asked (Proctor, 2003). Self-distributing questionnaire is used for collecting the data needed for the research.

#### 4.2 Source of Data

In this research, the sources of data are both primary and secondary data.

#### 4.2.1 Primary Data

Kotler (2000) stated that primary data are data gathered for a specific purpose or for a specific research project. Kotler further stated that primary data can be collected in five ways: observation, focus groups, surveys, behavioral data, and experiments. For this research, the researcher collected primary data by using surveys method with which the data are collected by using questionnaire. The respondents of this research are the buyers of Sunsilk who stay in Bangkok. The respondents were selected on the basis of convenience and availability.

# 4.2.2 Secondary Data

Secondary data are the data that were collected for another purpose and already exist somewhere (Kotler, 2000). Secondary data provide a starting point for research and offer the advantages of low cost and ready availability. For this research, the researcher collected secondary data by collecting from various sources such as textbooks, academic journals, magazine, newspaper, and also from the Internet Website.

# 4.3 Sampling Designs

#### 4.3.1 Non-Probability Sampling

Non-Probability Sampling technique is used in this research. Non-probability sampling is a sample where there is no way of assessing what the probability is of selecting any particular element or unit into the sample asked (Proctor, 2003). In this study the respondents' chance of being included in the sample is unknown; therefore, the non-probability sampling is suitable for this research because there is no record for the list of people who are Shampoo buyers in Bangkok.

# 4.3.2 Target Population

The target population under this study refers to people who are the buyers of Sunsilk. The researcher collected data (by interview through questionnaires) from the respondents in supermarkets in Bangkok. The researcher selected ten locations of supermarkets as follows:

1)	Tops Supermarket: Mahboonkrong	40 Questionnaires
2)	Tops Supermarket: Central Lardprao	40 Questionnaires
3)	Tops Supermarket: Central Pinklao	40 Questionnaires
4)	Big C: Hua Mark	40 Questionnaires
5)	Big C; Rajdamri	40 Questionnaires
6)	Big C: Chaengwattana	40 Questionnaires
7)	Tesco Lotus: Ekamai	40 Questionnaires
8)	Tesco Lotus: Silom S&A	40 Questionnaires
9)	Tesco Lotus: Sukaphiban I	40 Questionnaires
10)	Tanghuaseng: Banglumpoo —	40 Questionnaires

# 4.3.3 Sampling frame

Sampling frame is a comprehensive list of people, business, or organizations from which a researcher intends to select a sample (Hester, 1996). It is not possible to find a list of people who have ever bought Sunsilk shampoo. Therefore, there is no sampling frame in this research.

#### 4.3.4 Sampling Units

The sampling unit is the element that makes up a population (Proctor, 2003). In this research, the sampling unit is the buyer of Sunsilk shampoo in Bangkok area.

# 4. 3.5 Determining Sampling Size

Due to the methodology that is used in this research, the nonprobability sampling method is applied by judgment technique. As there is no formula to calculate the sample size, this study calculates the number of sample sizeby estimating the population of the people who stay in Bangkok by comparing with the table of Anderson based on the expected rate of 95 percent confidence level and 5 percent sampling error. The amount of sample size's population of Bangkok is about 5.7 million (Appendixe B).

Table 4.1: Theoretical Sample Size for Different Sizes of Population and a 95 percent Level of Certainty.

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

Source: Anderson, G., Fundamentals of Education Research, 1996, p.202.

As can be seen, when comparing the amount of population in Bangkok with Anderson's table (table 4.2), the sampling size of this research is 384. Therefore, 384 sets of questionnaires were distributed to the target population.

# 4.4 Pretesting

The questionnaire of this research has been obtained from a previous published research (Yoo, Donthu and Lee, 2000). In order to avoid respondents' misunderstanding the questions, pre-testing of the questionnaire was conducted before the actual questionnaires were used. Thus, the researcher had done the pretest to find out possible problems before launching the questionnaires. Forty respondents or forty questionnaires were used for the pre-test. The researcher used Cronbach's Coefficient

Alpha Scales to test the reliability of questionnaires. The results are shown in Table 4.2.

Table 4.2: The Reliability Analysis

Determinants	Cronbach's Coefficient Alpha
Marketing Mix	
Price	0.7721
Store image	0.8578
Distribution intensity	0.8522
Advertising spending	0.7221
Price deals	0.7710
Brand Equity Dimension	A EU2/V
Perceived quality	0.7506
Brand loyalty	0.8241
Brand awareness/ associations	0,7899

According to Burns and Bush (2000), the reliability value at the level of 0.65 or 0.70 is often considered acceptable for the measurement. As can be seen in table 4.2, for the reliability of the questionnaires, the alpha values of all variables are greater than 0.65. Therefore, all measurement scales are reliable.

#### 4.5 Statistical Treatment of Data

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In order to analyze the data collected from the target respondents, Structural equation modeling (SEM) was used to estimate parameters of the structural model and the completely standardized solutions were computed by using the LISREL 8.54 maximum-likelihood method.

# Structural Equation Modeling (SEM)

Structural Equation Modeling or SEM, is a very general, chiefly linear, chiefly cross-sectional statistical modeling technique. The researchers are more likely to use SEM to determine whether a certain model is valid. SEM is a very general, very powerful multivariate analysis technique that includes specialized

versions of a number of other analysis methods as special cases. Structural equation modeling (SEM) enables the researcher to measure unmeasured or *latent variables* with empirical indicators. How well the indicators measure the latent variables can be assessed using confirmatory factor analysis. This analysis is confirmatory rather than exploratory because the indicators for each latent variable have to be specified in advance. Regular factor analysis and principal components analysis can be considered exploratory because the program allows all indicators to measure or load on any number of latent variables. These latent variables can also be incorporated into a structural equation model that assesses the structural relationships among the latent variables.<sup>2</sup>

#### Latent Constructs

In structural equation modeling, the key variables of interest are usually "latent constructs". A latent variable is a variable that cannot be measured directly, but is hypothesized to underlie the *observed variables*. Latent variables in path diagrams are usually represented by a variable name enclosed in an oval or circle.

#### Observed variables (Manifest Variable)

A manifest variable is a variable that is actual measures or directly observable. In path analysis diagrams used in structural modeling, manifest variables are usually represented by enclosing the variable name within a square or a rectangle.

A structural equation model may include two types of latent constructs--exogenous and endogenous.

- 1. Exogenous are independent variables.
- 2. Endogenous are dependent variables.

<sup>1</sup> http://www.statsoftinc.com/textbook/stsepath.html, retrieved November 1, 2003

<sup>&</sup>lt;sup>2</sup> http://www2.bc.edu/~stevenw/mb871 SEM.htm, retrieved September 15, 2003

Software program for doing structural equation model is LISREL. LISREL popularized SEM in sociology and the social sciences and is still the package of reference in most articles about structural equation modeling.

#### LISREL

LISREL or Linear Structural RELationship model is a program for estimating the coefficients in a set of structural equations. It is particularly designed to accommodate models that include latent variables, measurement errors, reciprocal causation, simultaneity, and interdependence.<sup>3</sup> LISREL provides the most comprehensive solution to the errors-in-variables problem. It combines multivariate measurement models for the dependent and independent latent variables with recursive or nonrecursive models for linear relationships between latent variables. The LISREL model, in its most general form, consists of a set of linear structural equations. Variables in the equation system may be either directly observed variables or unmeasured latent (theoretical) variables that are not observed but relate to observed variables. It is assumed in the model that there is a causal structure among a set of latent variables, and that the observed variables are indicators of the latent variables.<sup>4</sup>

In the LISREL model, the linear structural relationship and the factor structure are combined into one comprehensive model applicable to observational studies in many fields. The model allows

- multiple latent constructs indicated by observable explanatory (or *exogenous*) variables,
- recursive and nonrecursive relationships between constructs, and
- multiple latent constructs indicated by observable responses (or endogenous) variables.

The connections between the latent constructs compose the structural equation model; the relationships between the latent constructs and their observable indicators or outcomes compose the factor models. All parts of the comprehensive

<sup>3</sup> http://www.philscience.com/economics/ssicentral/lisrel/word.htm, retrieved September 15, 2003

<sup>4</sup> http://www.ecnet.net/users/xwww/ecn/users.guide/unix/lisrel.shtml, retrieved September 1, 2003

model may be represented in the path diagram and all factor loadings and structural relationships appear as coefficients of the path.

The model consists of two parts, the measurement model and the structural model

#### 1. The measurement model

The measurement model specifies how latent variables or hypothetical constructs depend upon or are indicated by the observed variables. In SEM, each latent construct is usually associated with multiple measures. SEM researchers most commonly link the latent constructs to their measures through a factor analytic measurement model.<sup>5</sup> That is, each latent construct is modeled as a common factor underlying the associated measures. These "loadings" linking constructs to measures have linear regression relationship.

Observed variables

Latent variables

PR1

PR2

PR3

Figure 4.1: The example of measurement model

Note: Adapt from World Wide Web: http://www.gsu.edu/~mkteer/sem.html

<sup>5</sup> http://www.gsu.edu/~mkteer/sem.html, retrieved September 15, 2003

# 2. The structural model

The structural model specifies the causal relationships among the latent variables, describes the causal effects, and assigns the explained and unexplained variance. The relationships between the latent variables are linear regression.

Latent variables

Price

Perceived quality

Store image

Distribution intensity

Advertising spending

Price deals

SINCE 1969

Figure 4.2: The example of the structural model

Note: Adapt from World Wide Web: http://www.gsu.edu/~mkteer/sem.html

# Chapter V Data Analysis

This chapter presents the analysis of data collected from the respondents. The data was interpreted by using the LISREL 8.54 program. The first section presents the goodness of fit measures. The second section presents the measure of the measurement model. And the last section presents hypothesis testing and the measure of the structural model.

# 5.1 Goodness of Fit Measures

The LISREL 8.54 output furnishes a number of measures which allow assessment of the absolute and incremental fit of the proposed model (see Table 5.1). Goodness of fit measures are related to the ability of the model to account for the sample covariance and therefore assume that all measures are reflective. If the Goodness of fit statistics value shows a good fit, it can indicate that the model fits the data.

Table 5.1: Goodness of Fit Measures

Goodness of fit statistics	Results
22 SING	CE1969 ,
GFI 75000	0.71
RMR	all 0.07
NNFI	0.86
NFI	0.86
CFI	0.88

#### Results

#### 1. Goodness of Fit Index (GFI)

A goodness of fit index (GFI) value close to 0.90 reflects a good fit (Schumacker and Lomax, 1996). Therefore, from Table 5.1, a goodness of fit index (GFI) of 0.71 was observed for the model, hence, acceptable to be fit.

#### 2. Root Mean Square Residual (RMR)

A root mean square residual (RMR) value of less than 0.08 is offered by Hu and Bentler (1999) as evidence of acceptable overall model fit. Therefore, from Table 5.1, a root mean square residual (RMR) of 0.07 was observed for the model, suggesting an acceptable fit.

# 3. Non-Normed Fit Index (NNFI)

A non-normed fit index (NNFI) value close to 0.95 is cited as indication of acceptable fit (Hu and Bentler, 1999). Therefore, from Table 5.1, a non-normed fit index (NNFI) of 0.86 was observed for the model, acceptable to be fit.

# 4. Normed Fit Index (NFI)

A normed fit index (NFI) value close to 0.90 reflects a good fit (Schumacker and Lomax, 1996). Therefore, from Table 5.1, a normed fit index (NFI) of 0.86 was observed for the model, acceptable to be fit.

# 5. Comparative Fit Index (CFI)

A comparative fit index (CFI) value close to 0.95 is cited as indication of acceptable fit (Hu and Bentler, 1999). Therefore, from Table 5.1, a non-normed fit index (NNFI) of 0.88 was observed for the model, acceptable to be fit.

In conclusion, the goodness of statistics from table 5.1 shows that all measures pass the minimum required level. These indicate a reasonable level of fit of the model.

#### Structural Equation Modeling (SEM)

The structural equation model consists of two parts, the measurement model and the structural model. The figure of the structural equation model of this study is shown at the end of this chapter (see Figure 5.1).

#### 5.2 Measurement Model

The measure of the measurement model includes the parameters (Standardized loading) between the latent construct and its observed variables and the t-values. In Structural equation modeling (SEM) the relationship among the latent construct and observed variables is a regression relationship. According to Schumacker and Lomax (1996), the larger the value of Standardized loading, the stronger the impact of that observed variable on the latent constructs.

For the measurement model of this study, there are eight latent variables that are five latent variables of the marketing mix elements and three latent variables of the dimension of brand equity while observe variables are the questionnaire of each latent variable.

PR stands for the questionnaire of price.

IM stands for the questionnaire of store image

DI stands for the questionnaire of distribution intensity

AD stands for the questionnaire of advertising spending

DL stands for the questionnaire of price deals

QL stands for the questionnaire of perceived quality

LO stands for the questionnaire of brand loyalty

AA stands for the questionnaire of brand association/awareness

Table 5.2: Estimate of the measurement model

Item	Standardized Loading	t Value
Price PR1: I think the price of Sunsilk is higher than other brands	0.92	28.60
PR2: I think the price of Sunsilk is higher than other brands.	-0.64	-16.17
PR3: I think Sunsilk is more expensive than other brands.	0.88	24.38
r RS. I think Sulishk is more expensive than other orange.	0.00	24.50
Store Image		
IM1: The stores where I can buy Sunsilk carry products of high quality.	0.66	22.86
IM2: The stores where I can buy Sunsilk would be of high quality.	0.72	22.26
IM3: The stores where I can buy Sunsilk have well-known brands.	0.43	12.72
MERCI		
Distribution Intensity	Ann 151.51	
DH: More stores sell Sunsilk, as compared to its competing brands.	0.61	15.59
DI2: The number of the stores that deal with Sunsilk is more than that of its	0.90	24.36
competing brands.		
D13: Sunsilk is distributed through as many stores as possible.	0.44	11.69
Advertising Spending	0.62	18.71
AD1: Sunsilk is intensively advertised.  AD2: The ad campaigns for Sunsilk seem very expensive, compared to campaigns for	0.62	8,34
competing brands.	0.55	0,54
AD3: The ad campaigns for Sunsilk are seen frequently.	0.49	16.87
7155. The do campaigns for building de seen requestry.		1
Price Deals		
DL1: Price deals for Sunsilk are frequently offered.	1.00	17.05
DL2: Too many times price deals for Sunsilk are presented.	0.67	13.02
DL3: Price deals for Sunsilk are emphasized more than seems reasonable.	0.17	4.30
n i io iii ala		
Perceived Quality OMNIA	0.63	30.01
QL1: Sunsilk is of high quality. QL2: The likely quality of Sunsilk is extremely high.	0.69	33.88
QL2: The likelihood that Sunsilk would be functional is very high.	0.57	30.72
QL4: The likelihood that Sunsilk is reliable is very high.	0.56	30.63
QL5: Sunsilk must be of very good quality.	0.62	26.49
QL6: Sunsilk appears to be of very poor quality.	-0.43	-15.54
, per que		
Brand Loyalty		
LO1: I consider myself to be loyal to Sunsilk.	0.58	14.92
O2: Sunsilk would be my first choice.	0.69	16.55
LO3: I will not buy other brands if Sunsilk is available at the stores.	0.55	13.93
Brand Association/Awareness		
AA1: I know what Sunsilk looks like.	0.55	14.23
AA2: I can recognize Sunsilk among other competing brands.	0.33	12.98
AA3: I am aware of Sunsilk.	0.38	13.75
AA4: Some characteristics of Sunsilk come to my mind quickly.	0.53	17.99
AA5: I can quickly recall the symbol or logo of Sunsilk	0.58	18.74
AA6: I have difficulty in imagining Sunsilk in my mind.	-0.43	-13.19

#### Results

The t-value less than -1.96 or greater than +1.96 at a 0.05 level of significance means that the observed variable and latent construct are closely related (Schumacker and Lomax ,1996). The result from Table 5.2 shows that all variables had t values greater than 1.96 and also less than 1.96 at a 0.05 level of significance, which means that all the observed variables and their latent constructs are closely related.

# 5.3 Hypothesis Testing and the Measure of Structural Model

# Hypothesis Testing

The purpose of hypothesis testing is to determine which of the two hypotheses (Ho and Ha) is correct. The main purpose of this study is to study the relationships between marketing mix elements and brand equity of Sunsilk. For the conceptual frame work, this study has eleven hypotheses. LISREL 8.54 was used to identify the relationships between the constructs of interest and to test the hypotheses in this study.

#### The Measure of Structural Model

The structural model includes the relationships among the latent variables. The relationships between the latent variables are linear regression. In this study the latent variables are the independent variables and dependent variables. The independent variables are the marketing mix elements and the dependent variables are the brand equity dimensions. The effective size (parameter estimate) of marketing mix on brand equity dimensions was computed by using LISREL. According to Schumacker and Lomax (1996), the larger the value of parameter estimates means the stronger the impact among the latent variables.

# Hypothesis Testing Results

# Hypothesis 1:

Ho<sub>1</sub>: There is no relationship between price of Sunsilk and perceived quality of Sunsilk.

Ha<sub>1</sub>: There is a relationship between price of Sunsilk and perceived quality of Sunsilk.

Table 5.3: Structural model estimates of price and perceived quality

Hypothesized relationship	Parameter Estimate	t Value	Conclusion
Price Perceived quality	0.19	4.15	Reject Ho

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#### Results:

# Hypothesis testing

The t-value less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995).

The result from the test of the first hypothesis in table 5.3 shows that the t value is 4.15, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between the price of Sunsilk and the perceived quality of Sunsilk.

#### The measure of structural model

The parameter estimates value, which represents a regression relation between price and perceived quality, shows that the parameter estimate is 0.19, which means that there is weak (0.19) influence of price on perceived quality

# Hypothesis 2:

Ho<sub>2</sub>: There is no relationship between store image of Sunsilk and perceived quality of Sunsilk.

Ha<sub>2</sub>: There is a relationship between store image of Sunsilk and perceived quality of Sunsilk.

Table 5.4: Structural model estimates of Store image and perceived quality

Hypothesized relationship	Parameter	t Value	Conclusion
WINIAE	Estimate	Face - Make give not a change and a sub-state or described or of some face of the source Area.	ago - mandrambanan esta antine esta esta a sua descripción de la constitución de la const
Store image Perceived quality	0.53	9.89	Reject Ho

#### Results:

# Hypothesis testing

The t-value less than -1.96 or greater than +1.96 at a 0.05 level of significance means that the null hypothesis (Fink, 1995) is rejected.

The result from the test of the second hypothesis in table 5.4 shows that the t value is 9.89, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between store image of Sunsilk and perceived quality of Sunsilk.

#### The measure of structural model

The parameter estimate, representing a regression relation between store image and perceived quality, shows that the parameter estimate is 0.53, which means that there is strong (0.53) influence of store image on perceived quality.

# Hypothesis 3:

Ho<sub>3</sub>: There is no relationship between store image of Sunsilk and brand awareness/associations of Sunsilk,

Ha<sub>3</sub>: There is a relationship between store image of Sunsilk and brand awareness/associations of Sunsilk.

Table 5.5: Structural model estimates of Store image and brand awareness/associations

Hypothesized relationship	Parameter	t Value	Conclusio
	Estimate		n
Store image Brand association/awareness	0.43	7.63	Reject Ho

#### Results:

#### Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995).

The result from the test of the third hypothesis in table 5.5 shows that the t value is 7.63, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between store image of Sunsilk and Brand association/awareness of Sunsilk.

# The measure of structural model

The parameter estimates, representing a regression relation between store image and Brand association/awareness, show that the parameter estimate is 0.43, which means that there is weak (0.43) influence of store image on Brand association/awareness.

# Hypothesis 4:

Ho<sub>4</sub>: There is no relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.

Ha<sub>4</sub>: There is a relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.

Table 5.6: Structural model estimates of distribution intensity and perceived quality

Hypothesized relationship	Parameter	t Value	The state of the s
	Estimate		Conclusion
Distribution Perceived	-0.03	-0.78	Accept Ho
Intensity quality		I	

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#### Results:

#### Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the fourth hypothesis in table 5.6 shows that the t value is -0.78, which is greater than -1.96 at a 0.05 level of significance. Therefore, the null hypothesis failed to reject. This means that there is no relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.

#### The measure of structural model

The parameter estimates, representing a regression relation between distribution intensity and perceived quality shows that the parameter estimate is -0.03, which means that the influence of distribution intensity of Sunsilk on perceived quality of Sunsilk is not significant.

# Hypothesis 5:

Ho<sub>5</sub>: There is no relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk.

Ha<sub>5</sub>: There is a relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk.

Table 5.7: Structural model estimates of distribution intensity and brand loyalty.

Hypothesized relationship	Parameter	t Value	Conclusion
11/1/	Estimate		
11.		w	***************************************
Distribution Brand	0.17	3.22	Reject Ho
Intensity Loyalty		1	

# Results:

# Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the fifth hypothesis in table 5.7 shows that the t value is 3.22, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there a relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk

#### The measure of structural model

The parameter estimates, representing a regression relation between distribution intensity and brand loyalty shows that the parameter estimate is 0.17, which means that there is weak (0.17) influence of distribution intensity on brand loyalty.

# Hypothesis 6:

Ho<sub>6</sub>: There is no relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk,

Ha<sub>6</sub>: There is a relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk.

Table 5.8: Structural model estimates of distribution intensity and brand awareness/associations

Hypothesized relationship	Pārameter Estimate	t Value	Conclusion
Distribution Brand associations/ Intensity awareness	0.01	0.25	Accept Ho

#### Results:

# Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the sixth hypothesis in table 5.8 shows that the t value is 0.25, which is lower than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was failed to reject. This means that there is no relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk.

#### The measure of structural model

The parameter estimates, representing a regression relation between distribution intensity and brand awareness/associations shows that the parameter estimate is 0.01, which means that the influence of distribution intensity on brand awareness/associations is not significant.

# Hypothesis 7:

Ho<sub>7</sub>: There is no relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.

Ha<sub>7</sub>: There is a relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.

Table 5.9: Structural model estimates of advertising spending and perceived quality

Hypothesized relationship	Parameter Estimate	t Value	Conclusion
Advertising Perceived Spending quality	0.02	0.38	Accept Ho

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#### Results:

# Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the seventh hypothesis in table 5.9 shows that the t value is 0.38, which is lower than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis failed to reject. This means that there is no relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.

#### The measure of structural model

The parameter estimates, representing a regression relation between advertising spending and perceived quality, shows that the parameter estimate is 0.02, which means that the influence of advertising spending on perceived quality is not significant.

# Hypothesis 8:

Ho<sub>8</sub>: There is no relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.

Ha<sub>8</sub>: There is a relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.

Table 5.10: Structural model estimates of advertising spending and brand loyalty

Hypothesized relationship	Parameter	t Value	Conclusion
TANDETTE STREET STREET,	Estimate		
Advertising Brand	0.13	2.13	Reject Ho
Spending loyalty		1	

#### Results:

# Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the eighth hypothesis in table 5.10 shows that the t value is 2.13, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.

# The measure of structural model

The parameter estimates, representing a regression relation between advertising spending and brand loyalty, shows that the parameter estimate is 0.13, which means that there is weak (0.13) influence of advertising spending on brand loyalty.

# Hypothesis 9:

Ho<sub>2</sub>: There is no relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.

Hag: There is a relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.

Table 5.11: Structural model estimates of advertising spending and brand awareness/associations

Hypothesized relationship	Parameter Estimate	t Value	Conclusion
Advertising Brand associations/ spending awareness	0.12	2.23	Reject Ho

# Results:

#### Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995)

The result from the test of the second hypothesis in table 5.11 shows that the t value is 2.23, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.

#### The measure of structural model

The parameter estimates, representing a regression relation between advertising spending and brand awareness/associations, show that the parameter estimate is 0.12, which means that there is weak (0.12) influence of advertising spending on brand awareness/associations.

# Hypothesis 10:

Ho<sub>10</sub>: There is no relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.

Ha<sub>10</sub>: There is a relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.

Table 5.12: Structural model estimates of price deals and perceived quality

		1
Estimate		
	A DESCRIPTION DESCRIPTION	2 646 8 8 616 8
0.09	2.79	Reject Ho
		a reason o todoure

#### Results:

#### Hypothesis testing

The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995).

The result from the test of the tenth hypothesis in table 5.12 shows that the t value is 2.79, which is greater than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis was rejected. This means that there is a relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.

#### The measure of structural model

The parameter estimates, representing a regression relation between frequency of price deals and perceived quality, shows that the parameter estimate is 0.09, which means that there is weak (0.09) influence of frequency of price deals on perceived quality.

# St. Gabriel's Library, Au

# Hypothesis 11:

Ho<sub>11</sub>: There is no relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.

Ha<sub>11</sub>: There is a relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.

Table 5.13: Structural model estimates of price deals and brand awareness/associations

Hypothesized relationship	Parameter Estimate	t Value	Conclusion
Price deals Brand associations/ awareness	0.00	0.11	Accept Ho

#### Results:

#### Hypothesis testing

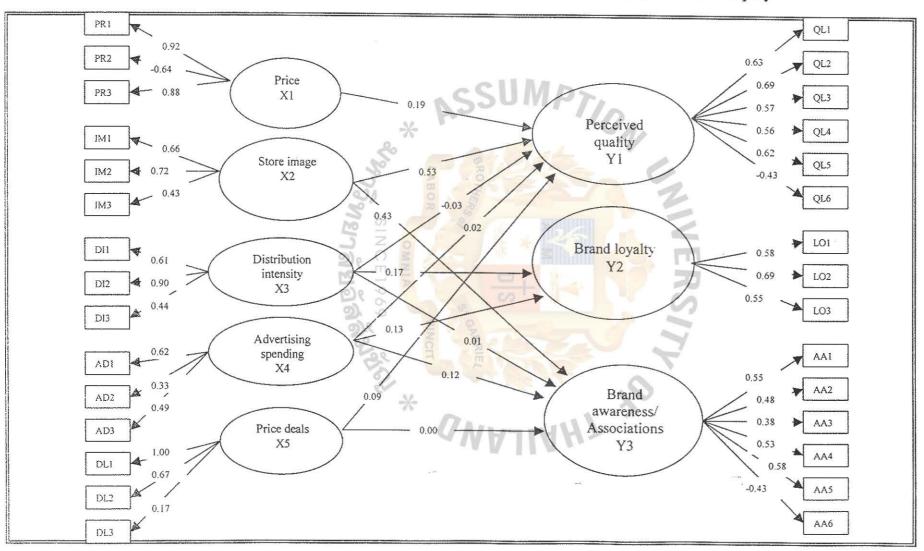
The t-value that less than -1.96 or greater than +1.96 at a 0.05 level of significance means that it will reject the null hypothesis (Fink, 1995).

The result from the test of the eleventh hypothesis in table 5.13 shows that the t value is 0.11, which is lower than 1.96 at a 0.05 level of significance. Therefore, the null hypothesis failed to reject. This means that there is no relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.

#### The measure of structural model

The parameters estimate, representing a regression relation between frequency of price deals and brand awareness/associations, shows that the parameter estimate is 0.00, which means that the influence of frequency of price deals on brand awareness/associations is not significant.

Figure 5.1: Structural Equation Model: Marketing Mix Elements and the Dimensions of Brand Equity



#### Chapter VI

#### Conclusions and Recommendations

This part aims to provide the conclusions and recommendations of the study. The first section presents the summary of hypothesis tests. The second section presents conclusions of the findings. The third section presents the recommendations of the study and the last section presents suggestions for further studies.

# 6.1 The summary of hypothesis tests

This research is conducted in order to study the relationship between marketing mix elements and the dimensions of brand equity. The respondents of this research are the buyers of Sunsilk in Bangkok. The researcher collected data by interviewing through questionnaire from the respondents in supermarkets in Bangkok. The researcher selected ten locations of supermarket to distribute the questionnaires.

In order to find the relationships between marketing mix elements and the dimensions of brand equity, this study has eleven hypotheses. The LISREL 8.54 was used to identify the relationships between the constructs of interest and to test the hypotheses in this study. The results of hypothesis testing are listed in table 6.1.

\* จัดกาล SINCE 1969 ราววิทยาลัยอัสสัญจักม

Table 6.1: Summary of the hypothesis testing results

Hypothesized Relationship	Estimate	t Value	Conclusion
Ho <sub>1</sub> : There is no relationship between price of Sunsilk and perceived quality of Sunsilk.	0.19	4.5	Reject Ho
Ho <sub>2</sub> : There is no relationship between store image of Sunsilk and perceived quality of Sunsilk.	0.53	9.89	Reject Ho
Ho <sub>3</sub> : There is no relationship between store image of Sunsilk and brand awareness/associations of Sunsilk.	0.43	7.63	Reject Ho
Ho <sub>4</sub> : There is no relationship between distribution intensity of Sunsilk and perceived quality of Sunsilk.	-0.03	-0.78	Ассері Но
Ho <sub>5</sub> : There is no relationship between distribution intensity of Sunsilk and brand loyalty of Sunsilk.	0.17	3.22	Reject Ho
Ho <sub>6</sub> : There is no relationship between distribution intensity of Sunsilk and brand awareness/associations of Sunsilk.	0.01	0.25	Ассер1 Но
Ho <sub>7</sub> : There is no relationship between advertising spending of Sunsilk and perceived quality of Sunsilk.	0.02	0.38	Accept Ho
Ho <sub>8</sub> : There is no relationship between advertising spending of Sunsilk and brand loyalty of Sunsilk.	0.13	2.13	Reject Ho
Ho <sub>9</sub> : There is no relationship between advertising spending of Sunsilk and brand awareness/associations of Sunsilk.	0.12	2.23	Reject Ho
Ho <sub>10</sub> : There is no relationship between frequency of price deals of Sunsilk and perceived quality of Sunsilk.	0.09	2.79	Reject Ho
Ho <sub>11</sub> : There is no relationship between frequency of price deals of Sunsilk and brand awareness/associations of Sunsilk.	0.00	0.11	Ассері Но

As can be seen, from table 6.1, seven of the null hypotheses are rejected and four of the null hypotheses are accepted. The results indicate that there is relationship between price, store image, frequency of price deals and perceived quality.

There is relationship between store image, advertising spending and brand awareness/associations. There is relationship between distribution intensity, advertising spending and brand loyalty. The result also indicated that there is no relationship between distribution intensity, advertising spending and perceived quality. There is no relationship between distribution intensity, frequency of price deals and brand awareness/associations.

### 6.2 Conclusions

### 1) Relationships of marketing mix elements to brand equity dimensions

The first objective of this research "To examine the relationship between the elements of marketing mix and the dimensions of brand equity that are perceived quality, brand loyalty, brand awareness, and brand associations of Sunsilk.". The results indicate that there is a relationship between five marketing mix elements and brand equity dimensions.

### 2) The effect of marketing mix elements on brand equity dimensions.

According to the second objective of this research "To know how each the marketing mix elements affect the dimensions of brand equity of Sunsilk", the findings can be interpreted as follows:

The effect of store image on perceived quality is much stronger than the effect on other marketing mix elements with a parameter estimate value of 0.53, t-value 8.98. The second strong effect is the effect of store image on brand awareness/associations with a parameter estimate value of 0.43, t-value 7.63. While the effect of price on perceived quality (a parameter estimate value of 0.19, t-value 4.15), distribution intensity on brand loyalty (a parameter estimate value of 0.17, t-value 3.22), advertising spending on brand loyalty (a parameter estimate value of 0.13, t-value 2.13), advertising spending on brand awareness/associations (the parameter estimate value is 0.12, t-value 2.23) are much weaker than the effect of store image on perceived quality and brand awareness/associations. The last is the effect of price deals on perceived quality with a parameter estimate value of 0.09, t-value 2.79 which is the weakest effect.

However, there are some marketing mix elements that have no relationship with the dimensions of brand equity. Those are the relationships between

distribution intensity and perceived quality, distribution intensity and brand awareness/associations, advertising spending and perceived quality, and, lastly, is the relationship between price deals and brand awareness/associations. The result indicated that these marketing mix elements do not have significant influence on brand equity dimensions.

Table 6.2: The range relationship between five marketing mix elements and brand equity dimensions

Relationship	WEDON	Estimate	t Value	Range	
Store image	Perceived quality	0.53	9.89	1(Strongest)	
Store image	Brand association/awareness	0.43	7.63	2	
Price	Perceived quality	0.19	4.15	3	
Distribution intensity ->	Brand loyalty	0.17	3.22	4	
Advertising spending ->	Brand loyalty	0.13	2.13	5	
Advertising spending>	Brand association/awareness	RIE 0.12	2.23	6	
Price deals	Perceived quality	0.09	2.79	7 (Weakest)	

\*

According to the third objective of this research "To know which marketing mix elements have a major effect on brand equity which Sunsilk's company should give more attention in order to persuade their consumers in a more effective way", Table 6.2 shows the range effect of five marketing mix elements on brand equity dimensions. The marketing mix element that Sunsilk Company should give more attention to is store image because the result indicated that it is a major effect on brand equity.

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### 6.3 Recommendations

This section provides some recommendations from the findings in order to provide benefits for Sunsilk Company. In Thailand, Sunsilk is the market leader. To remain dominant, Sunsilk Company should hold competitive advantage over its competitors. Creating brand equity can make the firm gain competitive advantage. And enhancing equity depends on the suitability of all marketing mix elements. The results of hypotheses testing indicated that marketing mix elements are related to brand equity. High advertising spending, high price, good store image, and high distribution intensity are related to high brand equity. The results also show that among five marketing mix elements, store image has a major effect on brand equity. However, even the other marketing mix has minor effect on brand equity so Sunsilk Company should not neglect it.

### Store Image

Store image is one channel of distribution policy. According to the results, store image has a major effect on brand equity dimensions that are perceived quality and brand association/awareness. Sunsilk Company should give more attention to store image because consumer perceive that good image of a store implies Sunsilk have good quality and create more positive brand association/awareness. Therefore, Sunsilk Company should distribute Sunsilk shampoo through the outlet with good image. Moreover, Sunsilk Company should give an advice to these outlets about how to create display in order to attract their consumers. Good-image stores attract more attention, contacts, and visits from potential customers. In addition, such stores provide greater consumer satisfaction and stimulate active and positive word-of-mouth communications among consumers.

### Price

Price has been used as a major positioning tool to differentiate a product. According to the findings, there is a relationship between price and perceived quality. Which means that consumer uses price as an indicator for product quality. Therefore, Sunsilk Company should try to maintain their price of Sunsilk. They should also be careful in setting the price because consumers perceive high price to be

high quality of product, while low price implies low product quality. Consumers may perceive that a lower price is made by cutting costs and product quality to maintain profit margins. If possible, managers should avoid frequent price cuts or a consistent low-price strategy because they lower perceived quality and product image. While maintaining the price level, managers can capitalize on technological progress, managerial efficiency, and customer service to enhance the value of the product. Combining an equal or higher price level with more advanced product features may be the desirable pricing strategy from a brand equity perspective.

### **Distribution Intensity**

From the findings, intensive distribution influences brand loyalty. Therefore, Sunsilk Company should make Sunsilk shampoo available in as many retail outlets as possible. Intensive distribution does not necessarily mean selling through bad image stores, however. Making a product available in more stores affords convenience, time savings, speedy service, and service accessibility, thus increasing customer satisfaction. , perceived quality, and brand loyalty and finally, greater brand equity.

### Advertising Spending

From the findings, advertising spending influences both brand loyalty and brand association/awareness. Frequently advertising of Sunsilk shampoo may make the consumers aware of the brand and reinforce them to be loyal to the brand. Therefore, Sunsilk Company should invest more on advertising and try to frequently advertise Sunsilk shampoo through all media in order to encourage consumers. Hence, as consumers are exposed to a brand's advertising more frequently, they develop not only higher brand awareness and associations but also a more positive perception of brand quality, which leads to strong brand equity.

### 6.4 Further Study

This research studies the relationship between elements of marketing mix and the dimensions of brand equity. Therefore the researcher recommends the following items for future research:

- 1. This study investigates consumers' perceptions of five selected strategic marketing elements: price, store image, distribution intensity, advertising spending, and frequency of price promotions. The selected factors do not embrace all types of marketing elements. Therefore, the results may not be identical for the other marketing elements that are not included in this research. Thus, the future study should examine the other marketing elements, such as, product, design, packaging, sales force and locations.
- 2. The target population in this study is only people who are shopping in ten locations of supermarkets in Bangkok. Thus, the results may not be identical to other studies undertaken in other areas. Thus, the future study should collect information from consumers in other supermarkets or other provinces.
- 3. The role of brand equity in the firm's success also needs to be studied. Brand equity may generate value not only to the firm and the customer but also to the employees, the shareholders, and management, because it is the only common integrating factor with which the organization can succeed. When every strategy and business decision is made to enhance brand equity, all stakeholders are likely to win. This stream of thought needs to be further elaborated.

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# APPENDICES BROTHER VINCIT OMNIA SINCE 1969

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# Questionnaire

# The Relationship between the Elements of Marketing Mix and Brand Equity of Sunsilk in Bangkok

Dear Respondents:

This questionnaire is the instrument used for gathering data for a Master thesis in the MBA program at Assumption University. Your cooperation by filling in the questionnaire will be highly appreciated. Please kindly answer all the questions. All information will be kept confidential. Therefore, you can feel free to respond to every item honestly.

Thank you

### Screening Question:

- Are you the buyers of Sunsilk in Bangkok?
  - O Yes

O No (closed interview)

Listed below are a series of statements. Read each statement carefully and indicate your agreement and disagreement with these statements by selecting the appropriate response.

- 5 = Strongly agree
- 4 = Agree
- 3 = Neutral
- 2 = Disagree
- 1 = Strongly disagree

# Part 1: Elements of marketing mix

No.	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
	Price					
1.	I think the price of Sunsilk is higher than other brands					
2.	I think the price of <i>Sunsilk</i> is lower than other brands.					
3,	I think Sunsilk is more expensive than other brands.					
4,	Store image  The stores where I can buy Sunsilk earry products of high quality.	S//>				
5.	The stores where I can buy Sunsitk would be of high quality.		THE STATE OF THE S			
6.	The stores where I can buy Sunsilk have well-known brands.					
7.	More stores sell Sunsilk, as compared to its competing brands.	S		Z		
8.	The number of the stores that deal with Sunsilk is more than that of its competing brands.	e/ GNON		No		
9.	Sunsilk is distributed through as many stores as possible.					
10.	Advertising spending  Sunsilk is intensively advertised.	<sup>୨୪୨</sup>   อัสล์				A CONTRACTOR OF THE STATE OF TH
11.	The ad campaigns for <i>Sunsilk</i> seem very expensive, compared to campaigns for competing brands.					
12	The ad campaigns for Sunsilk are seen frequently.					
	Price deals	×		110000	1	
13.	Price deals for Sunsilk are frequently offered.					
14.	Too many times price deals for Sunsilk are presented.					
15.	Price deals for <i>Sunsilk</i> are emphasized more than seems reasonable.					

# Part 2: Brand Equity

No.	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3- 11 (Calla Ma	Perceived Quality					
16.	Sunsilk is of high quality.					
17.	The likely quality of Sunsilk is extremely high.					
18.	The likelihood that <i>Sunsilk</i> would be functional is very high.				1	
19,	The likelihood that Sunsilk is reliable is very high.					,
20.	Sunsilk must be of very good quality.		Y 0			V (A
21.	Sunsilk appears to be of very poor quality.					***************************************
	Brand Loyalty					
22.	I consider myself to be loyal to Sunsilk.			E		
23.	Sunsilk would be my first choice.	Ts H				
24.	I will not buy other brands if <i>Sunsilk</i> is available at the stores.	EV CVS	NEL)	3	).	
	Brand Awareness/Association	VIN	H J			
25.	I know what Sunsilk looks like.	A		*		
26.	I can recognize <i>Sunsilk</i> among other competing brands.	1969 යුතු <b>ක්කී</b>	78108			
27.	I am aware of Sunsilk.					
28.	Some characteristics of <i>Sunsilk</i> come to my mind quickly.					
29.	I can quickly recall the symbol or logo of Sunsilk		and the second second			
30.	I have difficulty in imagining Sunsilk in my mind.					

### แบบสอบถาม

# เรื่อง ความสัมพันธ์ของส่วนประสมทางการตลาดที่มีต่อมูลค่าแบรนด์ของ แชมพูชันซิล ในเขตกรุงเทพมหานคร

เรียน ท่านผู้คอบแบบสอบถาม

แบบสอบถามพูคนี้ได้จัดทำขึ้นเพื่อรวบรวมข้อมูลที่ใช้ในการวิจัย และเป็นส่วนหนึ่งของวิทยานิพนธ์ของนักศึกษา ปริญญาโท คณะบริหารธุรกิจ มหาวิทยาลัยอัสสัมชัญ (ABAC) ขอความกรุณาท่านช่วยสละเวลาตอบ แบบสอบถามฉบับนี้ ข้อมูลของท่านจะ ถือเป็นความลับ และจะนำไปใช้เพื่อการศึกษาเท่านั้น

ขอบพระคุณเป็นอย่างสูง

### 👫 คำถามกัดต่วน

คุณเป็นผู้ชื่อ *แขมพูชันซิล* ในเขตกรุงเทพมหานครใช่หรือไม่

O 1ri

O ไม่ใช่ (ปิดการสัมภาษณ์)

# ส่วนที่ 1 ส่วนประสมทางการคลาด (Marketing Mix)

อรุกเก 🗸 สาในที่ตาที่พราภัยภายที่พนีโทขกรที่บนที่ไวในผลักรวะดับมีกายหนายตัวค่าไปปั

5 = เห็นด้วยอย่างยิ่ง

2 = ไม่เห็นด้วย

4 = เก็นตัวย

1 = ไม่เห็นด้วยอย่างยิ่

3 = เกยๆ

ข้อ	ข้อความ	เห็นด้วย อย่างยิ่ง (5)	เห็น ด้วย (4)	(3)	ไม่เห็น ด้วย (2)	ไม่เห็น ด้วย อย่างยิ่ง (1)
1	ข้าพเจ้าคิดว่า <b>แชมพูซันซิล</b> มีราคาสูงกว่าแช <mark>มพูยี่ห้</mark> ออื่ <mark>น</mark>	(3)	(4)		\2/	(17
2	ข้าพเจ้าคิดว่าแชมพูซันซิล มีราคาต่ำกว่าแชมพูยี่ห้ออื่น	BRIEL				
3	ข้าพเจ้ากิดว่า <b>แชมพูชันซิล</b> มีราคาแพงกว่าแ <mark>ชม</mark> พูยี่ห้ออื่น			9		
4	ข้าพเจ้าคิดว่าร้านที่ข้าพเจ้าซื้อ แขมพูซัมซิฉ เป็นร้านที่ขา <mark>ยแค่</mark> สินค้าที่มีคุณภาพ		*			
5	ข้าพเจ้าคิดว่าร้านที่ข้าพเจ้าซื้อ แชมพูซันซิล เป็นร้านที่มีแต่สินค้าที่มีคุณภาพสูง	46	2			***************************************
6	ข้าพเจ้าคิดว่าร้านที่ข้าพเจ้าซื้อ แชมพูซันซิอ มีแต่แชมพูยี่ห้อที่เป็นที่นิยมวางขาย	1870				MA ALCOHOL ACCO
7	ข้าพเจ้าลิคว่า แชมพูซันซิล มีวางขายอยู่ทั่วไป และหาซื้อง่ายกว่าแชมพูยี่ห้ออื่น		***************************************			***************************************
8	ข้าพเจ้าพบว่ามีร้านที่ขาย แชมพูซันซิล หลายร้านกว่าแชมพูยี่ห้ออื่น					
9	ข้าพเจ้าพบว่าร้านใหนๆ ก็มี แชมพูซันซิล วางขาย					
10	แชมพูชันซิอ มีการโฆษณาถื่มาก		MATERIAL CONTROL CONTROL CONTROL		TIT (TAMES 200)	
11	ข้าพเจ้ารู้สึกว่าโฆษณาของ แชมพูชันซิล ใช้งบในการโฆษณาสูงมากเมื่อเปรียบ เทียบกับโฆษณาของแชมพูยี่ห้ออื่นๆ					
12	ข้าพเจ้าเห็น โฆษณาของ แชมพูชันซิถ อยู่เสมอๆ					rend at the artifle in talk them to the more
13	แชมพูชันซิล มีการ ลดราคา บ่อยมาก		THE TAX POLICE AND LABORATE SECTION		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e agail ann agus ann agus prìotha i aire 1740 F. Rad Sa
1'4	ข้าพเจ้าพบว่ามีหลายครั้งที่ แชมพูชันซิล มีการ ลดราคา					
15	ข้าพเจ้าคิดว่ามีการเน้นการ ถดราคา ของ แชมพูซันซิอ บ่อยมากจนเกินไป		THE ROLL WAS A SHOP THE SHOP T			- CONTRACTOR OF CONTRACTOR

# ช่วนที่ 2 มูลค่าแบรนค์ (Brand Equity)

ซ้อ	ข้อความ	เห็นด้วย อย่างยิ่ง (5)	เห็น ด้วย (4)	(3)	ไม่เห็น ด้วย (2)	ไม่เห็บ ด้วย อย่างซึ่ง (1)
16	แชมทูซันซิล เป็นแชมพูที่มีคุณภาพสูง			(0)	(-/	
17	ข้าพเจ้าคิดว่า <b>แชมพูชันซิล</b> เป็นแชมพูที่มีคุณภาพสูงมาก					
18	ข้าพเจ้าคิดว่า <b>แชมพูชันซิล</b> เป็นแชมพูที่ใช้แล้วมีประสิทธิภาพดี(เช่น ทำให้ผมเงา งาม,นุ่มสลวย ฯลฯ)					4, 44, 44, 44, 44, 44, 44, 44, 44, 44,
19	ข้าพเจ้าคิดว่า แ <b>ชมพูชันพิล</b> เป็นแชมพูที่ข้าพเจ้าไว้วางใจ และเชื่อมั่นในประสิทธิ ภาพ					A Company of the Comp
20	แชมพูชันซิถ มีคุณภาพคีมาก	14				
21	แชมพูชันซิล มีกุณภาพค่ำมาก					*********
22	ข้าพเจ้าคิดว่าข้าพเจ้าจะใช้ แชมพูซันซิต ค่อไปเรื่อย <mark>ๆ</mark>			A.		
23	แชมพูซัน <b>ซิล จะ</b> เป็นแชมพูอี่ห้อแรกที่ข้าพเจ้าจ <mark>ะเลือกซื้ย</mark>		1	S		
24	ข้าพเจ้าจะไม่ซื้อแชมพูยี่ห้ออื่น ถ้ามี แชมพูซันซ <mark>ิล วางขายอ</mark> ยู่ในร้าน		***************************************			
25	ข้าพเจ้ารู้ว่า แ <b>ชมพูซันซิล มีลักษณ</b> ะเป็นอย่า <mark>งไร (เช่น ลักษณ</mark> ะขวค,กลิ่ <mark>น,สี ฯลฯ )</mark>					
26	เมื่อนึกถึงแชมพู ข้าพเจ้าจะนึกถึง แชมพูชันช <mark>ิล ได้เป็นอันคับแรก</mark>	sRIE/				
27	ข้าพเจ้ารู้จัก แชมพูชันซิล		Å			
28	แชมพูซันซิล มีลักษณะบางอย่างที่ทำให้ข้าพเจ้านึกถึงได้อย่างรวดเร็ว(เช่น มีกลิ่น พ หอม,มีขวดสวยงาม,ทำให้ผมนุ่มสลวย ฯลฯ)	verr	*			
29	สัญถักษณ์หรือตราสินค้าของ แชมพูซันซิฉ มีถักษณะที่ทำให้ข้าพเจ้าจดจำได้ง่วย	91916	>			
30	ข้าพเจ้านึกไม่ออกว่า แชมพูชันซิล มีลักษณะเป็นอย่างไร					

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### **จานวนประชากรปี 2545**



# ประกาศสำนักทะเบียนกลาง กรมการปกครอง เรื่อง จำนวนราษฎรทั่วราชอาณาจักร แยกเป็นกรุงเทพมหานคร และจังหวัดต่าง ๆ ตามหลักฐานการทะเบียนราษฎร ณ วันที่ 31 ธันวาคม 2545

# อาศัยอำนาจตามค<mark>วามในมาตรา 45 แห่งพ</mark>ระราชบัญญัติ การทะเบียนราษฎร พ.ศ.2534 จึงประก<mark>าศ จำนวนราษฎรทั่วราชอาณ</mark>าจักรแยกเป็น กรุงเทพมหานคร และจังหวัด ต่าง ๆ ตามหลักฐ<mark>านการทะเบียนราษฎร ณ วันที่ 31</mark> ธันวาคม 2545 ดังต่<mark>อไปนี้</mark>

ลำดับ	จังหวัด		จำนวนราษฎร	
	*	vie	หญิง	2311
	ทั่วประเทศ	31,139,647	31,660,225	62,799,872
1	กรุงเทพมหานคร	2,796,409	2,985,750	5,782,159
2	จังหวัดกระบี่	190,451	187,503	377,954
3	จังหวัดกาญจนบุรี	405,787	396,049	801,836
4	จังหวัดกาพสินธุ์	494,537	495,675	990,212
5	จังหวัดกำแพงเพชร	382,183	385,947	768,130
6	จังหวัดขอนแก่น	881,465	886,178	1,767,643
7	จังหวัดจันทบุรี	251,771	254,240	506,011
8	จังหวัดฉะเชิงเทรา	320,365	329,393	649,758
9	จังหวัดชกบุรี	566,350	563,536	1,129,886
10	จังหวัดชัยนาท	170,261	180,286	350,547

# **จานวนประชากรปี 2545**

11	ดังหวัดชัยภูมิ	566,480	570,028	1,136,508
12	จังหวัดชุมพร	237,894	235,924	473,818
13	ขังหวัดเชียงราย	634,959	639,255	1,274,214
14	จังหวัดเชียงใหม่	787,591	808,264	1,595,855
15	จังหวัดครั้ง	298,879	304,193	603,072
16	ขังหวัดตราค	113,794	111,501	225,295
17	า้งหวัดตาก	257,514	249,857	507,371
18	จังหวัดนครนายก	124,790	126,274	251,064
19	ขับกวัพบกรปฐบ	390,343	411,613	801,956
20	จังหวัดนกรพนม	360,525	361,015	721,540
21	จังหวัดนกรราชสีมา	1,280,671	1,300,573	2,581,244
22	พังหวัดนณรณ์รี่ธรรมรา <mark>ช</mark>	764,615	769,279	1,533,894
23	จังหวัดนกรสวรรก์	556,598	574,243	1,130,841
24	จังทวั <b>ด</b> นมทา/ูร์	432,712	472,485	905,197
25	จังหวัดนราชิวาส	347,870	352,081	699,951
26	จังหวัดน่าน	246,553	241,189	487,742
27	จังหวัดบุรีรับย์	772,168	773,611	1,545,779
28	จังหวัดปทุมธานี	344,149	364,760	708,909
29	จังหวัดประจวบดีรีจันท์	248,551	239,926	488,477
30	จังหวัดปราจีนบุรี	227,012	225,810	452,822
31	จังหวัดปักตานี	310,043	317,912	627,955
32	จังหวัดพระนครศรีอยุธยา	364,383	383,860	748,243
33	จังหวัดพะเยา	251,475	257,079	508,554
34	จังหวัดพังงา	121,147	118,254	239,401
35	จังหวัดพัทยุง	248,702	255,752	504,454
36	จังหวัดพิจิตร	290,810	301,143	591,953
37	จังหวัดพิษณุโลก	430,049	437,636	867,685
38	จังหวัดเพชรบุรี	224,942	236,397	461,339

# จำนวนประชากรปี 2545

	97-21			
39	จังหวัดเพชรบูรณ์	521,422	519,364	1,040,786
40	จังหวัดแพร่	238,650	246,471	485,121
41	ขังหวัดภูเก็ต	131,187	139,251	270,438
42	ข้งหวัดมหาสารกาม	469,531	473,378	942,909
43	จังหวัดมูกคารกร	169,727	168,549	338,276
44	จังหวัดแม่ฮ่องสอน	124,295	115,719	240,014
45	จังหวัดยโสธร	278,300	275,564	553,864
46	ข้าหวัดยะถา	229,862	229,797	459,659
47	ขับหวัดร้อยเอ็ก	661,716	661,148	1,322,864
48	จังหวัคระนอง	83,898	79,262	163,160
49	จังหวัดระยอง	272,807	273,763	546,570
50	จังหวัดราชบุรี	408,255	422,020	830,275
51	จังหวัดสพบุรี	388,737	379,248	767,985
52	จังหวัดถ้าปาง	397,764	403,011	800,775
53	จังหวัดถำพูน	199,571	207,631	407,202
54	จังหวัดเถย	322,665	312,922	635,587
55	จังหวัดศรีสะเกษ	AB 0729,186	729,783	1,458,969
56	จังหวัดสกลนคร	552,899	554,853	1,107,752
57	จังหวัดสงขลา	624,363	646,704	1,271,067
58	จังหวัดสตูล	135,544	135,258	270,802
59	จังหวัดสมุทรปราการ	499,011	528,708	1,027,719
60	จังหวัดสมุทรสงคราม	99,454	105,681	205,135
61	จังหวัคสมุทรสาคร	216,646	226,268	442,914
62	จังหวัดสระแก้ว	271,751	267,356	539,107
63	จังหวัดสระบุรี	311,761	310,233	621,994
64	จังหวัดสิงห์บุรี	107,772	115,580	223,352
65	จังหวัดสุโขทัย	305,488	319,611	625,099
66	จังหวัดภูพรรณบุรี	420,807	442,497	863,304
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### จำนวนประชากรปี 2545

67	จังหวัดสุราษฎร์ธานี	458,729	461,554	920,283
68	จังหวัดสุรินทร์	700,417	698,960	1,399,377
69	จังหวัดหนองกาย	457,870	451,673	909,543
70	จังหวัดหนองบัวกำภู	251,471	247,042	498,513
71	จังหวัดย่างทอง	140,534	149,889	290,423
72	จังหวัคอำนาจเจริญ	185,836	184,524	370,360
73	จังหวัดอุครธานี	771,441	764,030	1,535,471
74	ขังหวัคอุตรคิตถ์	240,480	244,504	484,984
75	จังหวัดถุทัยชานี	165,997	170,179	336,176
76	จังหวัดถูบกราชธานี	899,005	893,769	1,792,774

จึงประกาศ<mark>มาเพื่อทราบโดยทั่วกัน</mark>

ประกาศ ณ วันที่ 14 มีนาคม พ.ศ. 2546

Q210 Ianim

(นาย**่สุจริต ปัจฉิมนันท์)** อธิบดีกรมการปกครอง

ผู้อำนวยการทะเบียน กลาง

# Population Year 2002

# Declaration of Department of Provincial Administration Ministry of Interior As 2002, December 31

No.	Province	Population				
		Male	Female	Total		
	Thailand	31,139,647	31,660,225	62,799,872		
1	Bangkok	2,796,409	2,958,750	5,782,159		
2	Krabi	190,451	187,503	377,954		
3	KanchanaBuri	405,787	396,049	801,836		
4	Kalasin	494,537	495,675	990,212		
5	KamphaengPhet	382,183	385,947	768,130		
6	KhonKaen	881,465	886,178	1,767,643		
7	ChanthaBuri	251,771	254,240	506,011		
8	Chachoengsao	320,365	329,393	649,758		
9	ChonBuri	566,350	563,536	1,129,886		
10	Chainat	170,261	180,286	350,547		
11	ChaiyaPhum	566,480	570,028	1,136,508		
12	Chumphon	237,894	235,924	473,818		
13	ChiangRai	634,959	639,255	1,274,214		
14	ChiangMai	787,591	808,264	1,595,855		
15	Trang	298,879	304,193	603,072		
16	Trat	113,794	111,501	225,295		
17	Tak	257,514	249,857	507,371		
18	NakhonNayok	124,790 E	96126,274	251,064		
19	NakhonPathom	390,343	411,613	801,956		
20	NakhonPhanom	360,525	361,015	721,540		
21	NakhonRatchaSima	1,280,671	1,300,573	2,581,244		
22	NakhonSiThammaRat	764,615	769,279	1,533,894		
23	NakhonSawan	556,598	574,243	1,130,841		
24	NonthaBuri	432,712	472,485	905,197		
25	Narathiwat	347,870	352,081	699,951		
26	Nan	246,553	241,189	487,742		
27	Buriram	772,168	773,611	1,545,779		
28	PathumThani	344,149	364,760	708,909		
29	Prachuap	248,551	239,926	488,477		
30	PrachinBuri	227,012	225,810	452,822		

No.	Province	Population				
		Male	Female	Total		
31	Pattani	310,043	317912	627955		
32	Ayuthaya	364,383	383,860	748,243		
33	Phayao	251,475	257,079	508,554		
34	PhangNga	121,147	118,254	293,401		
35	Phatthalung	248,702	255,752	504,454		
36	Phichit	290,810	301,143	591,953		
37	PhitsanuLok	430,049	437,636	867,685		
38	PhetBuri	224,942	236,397	461,339		
39	PhetchaBun	521,422	519,364	1,040,786		
40	Phrae	238,650	246,471	485,121		
41	Phuket	131,187	139,251	270,438		
42	MahaSarakham	469,531	473,378	942,909		
43	Mukdahan	169,727	168,549	338,276		
44	MaeHongSon	124,295	115,719	240,014		
45	Yasothon	278,300	275,564	553,864		
46	Yala	229,862	229,797	459,659		
47	RoiEt	661,716	661,148	1,322,864		
48	Ranong	83,898	79,262	163,160		
49	Rayong	272,807	273,763	546,570		
50	RatchaBuri	408,255	422,020	830,275		
51	LopBuri	388,737	379,248	767,985		
52	Lampang	397,764	103,011	800,775		
53	Lamphun	199,571	207,631	407,202		
54	Loei	322,665	312,922	635,587		
55	SiSaket	729,186	729,783	1,458,969		
56	SakonNakhon	552,899	554,853	1,107,752		
57	Songkhla	624,363	646,704	1,271,067		
58	Satun	135,544	135,258	270,802		
59	SamutPrakan	499,011	528,708	1,027,719		
60	SamutSongkhram	99,454	105,681	205,135		
61	SamutSakhon	216,646	226,268	442,914		
62	Sakaeo	271,751	267,356	539,107		
63	SaraBuri	311,761	310,233	621,994		
64	SingBuri	107,772	115,580	223,352		
65	Sukhothai	305,488	319,611	625,099		

No.	Province	Population				
		Male	Female	Total		
66	SuphanBuri	420,807	422,497	863,304		
67	SuratThani	458,729	461,554	920,283		
68	Surin	700,417	698,960	1,399,377		
69	NongKhai	457,870	451,673	909,543		
70	NongBuaLamphu	251,471	247,042	498,513		
71	AngThong	140,534	149,889	290,423		
72	AmnatCharoen	185,836	184,524	370,360		
73	UdonThani	771,441	765,030	1,535,471		
74	Uttaradit	240,480	244,504	484,948		
75	Uthai Thani	165,997	170,179	336,176		
76	UbonRatchaThani	899,005	893,769	1,792,774		



