BRAND CHOICE DECISION OF MOTHERS IN BANGKOK ABOUT POWDERED MILK GROWING-UP FORMULA

By
SRIPRAPHA CHINGPRASERTSUK

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

December 2003

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Graduate School of Business
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ABSTRACT

Nowadays, powdered milk market is in a highly competitive situation. One of the main reasons is that mothers are more selective, and seeks for more information about what is the best milk or which ingredient of powdered milk is the best for their children. Concomitantly, the challenge for marketers is becoming much greater.

In looking for a powdered milk brand, mothers are often faced with a number of choices and decisions. Mothers must evaluate how each property's brand compares to the competition and also assess which brand best fits her needs and preferences.

The study is focused on the investigation of the relationship between key factors and brand choice decision of growing-up powdered milk formula by mothers in Bangkok. The research objective is to investigate those factors, which influences brand choice decision of growing up powdered milk by mothers in Bangkok.

This research is conducted to study and analyze factors that influence mothers' decision for growing-up powdered milk. The target population is the mothers who have children aged 1-6 years, who currently feed their children with growing-up powdered milk and who reside in Bangkok. The correlation statistics was utilized to measure the association between each factor (product classification, product nutrition, product image, product trustworthy, retail price, and recommendation from people) and brand decision.

There are six chapters in this research. Chapter one deals with the industrial feature about powdered milk product. Chapter two explains the references of all

relevant variables being formed in the conceptual model. Chapter three elaborates the conceptual framework. Research methodology is discussed in chapter four which encompasses; sampling survey, the sole research technique used in this studied. Data collection tools involve structured interview, in which 384 sets of closed-form questionnaire were used. Non-probability sampling technique is chosen. Population element is the mother who has child age 1-6 years old, currently feed their child with growing-up powdered milk, and residing in Bangkok Metropolis. Convenience sampling is implemented in this research.

The conceptual framework is consisted of eleven independent variables and one dependent variable. The independent variables are products' classification, products' nutrition (which are Prebio 1, DHA, and Calcium), product image, product trustworthiness, price of product per gram, and recommendation of husband, relatives, friend, and neighbour. The dependent variable is the brand choice decision on growing up powdered milk. Thus, this conceptual model involved only the brand choice decision. The statistical techniques used to test the association between each variable and the brand choice decision of mothers as well as interpret all the hypothesis testing are descriptive analysis, and Cramer's V correlation coefficient.

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CHAPTER 1

Generalities of the Study

The purpose of this chapter is to provide an overview of topic and problem of this research. In section one, the focus is on the background relating to the topic and problem. Section two covers the statement of the problem. Section three is the objectives of the research. Section four emphasizes on scope of this study. Section five explains about limitation of this study. Section six is the importance of the study and section seven provides definition terms.

INTRODUCTION

Powdered milk plays an important role in the development of children's physical, and intellectual growth. All mothers claimed to have observed closely each stage of their baby's development. If their babies developed properly according to normally expected development patterns or faster, then mothers would feel happy and motivated. If their baby's development had shown some sign of delay or slowness, mothers would feel worried and concerned. If the sign of slow development persisted, mothers would then consult the doctor.[1]

---

[1] www.ams.in.th/Mothers' Digest

All mothers agreed that proper physical and mental development of their babies mainly depend on

1. Food, which proper care and rearing, "tender loving care"
    a. Milk
    b. Baby Food Supplement
2. Environment, which genetics, and come from heredity:
    a. Safety
    b. Clearness
    c. Light
    d. Good ventilation

Milk will be the first concern when a baby is born. Breast milk plays is important role in the development of children's spiritual, physical, and intellectual growth. But not all mothers can feed their child with their breast milk.[2]

After mother stops feeding their children with breast milk, the mother will use powdered milk like substitution to promote their children's growth and development physically, mentally and emotionally.

Powdered milk will become closer to commodity and there will be an increasing demand for more as well as higher nutrition, which will stimulate the industry to introduce innovative products serving specific needs in the convenient format.

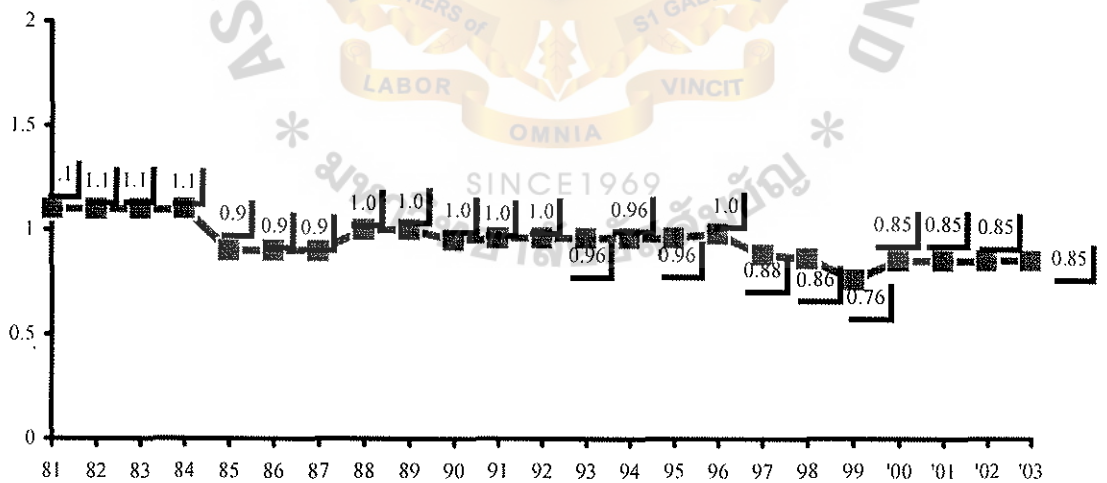
---

[2] www.lhj.com/home/Stages-of-Child -Development.html

1.1 BACKGROUND RELATING TO THE TOPIC AND PROBLEM

The powdered milk market in Thailand has been driven by 3 major players, which accounted for 90% of growing-up powdered milk. Namely Nestle, Dumex, and Mead Johnson.[3] They try to educate mothers on the segmentation of powdered milk market to increase consumer consumption. The important factor that manufacturers want to prolong usage is because of stagnant number of birth rates, 850,000 live births per year.[4]

Figure 1.1: Thailand's Birth Rate per Year



Birth rate (%)

Source: Institute of population studies, Chulalongkorn University

---

3 ACNielsen Data as of MAT 2003

4 Chulalongkorn University, Institute of population studies.

In the past, consumers did not divide milk powdered by age, they will use only one brand and use it for children at age 6months until 3year and after that they will stop feeding their children with powdered milk because they believe that when children grow up, they will consume others food that has enough nutrition.

But in the manufacturers view, they cannot accept that behavior; they want to increase sales value and volume, continue to keep growing the category. Then the manufacturer uses product segment strategy, by using age segmentation, as follows:[5]

1. Infant formula: Powdered milk for new born to baby age 6 month
2. Follow on formula: Powdered milk for baby age 6 month to 1 year
3. Growing up formula: Powdered milk for children age 1 year on wards, which can be separated into 2 segments
    a. 1 Plus segment: for children age 1-3 years.
    b. 3 Plus segment: for children age 3 years on wards.

They have educated consumer that each stage of children development need different nutrition, and mothers should be concerned when buying powdered milk for their children, such as,

New born to 1year need nutrition the same as breast milk because children at this age are very sensitive. [6]

Children age 1 year on ward, start walking and 'exploring the world' and putting things in their mouths they need nutrition that can protect their children to prevent diarrhea and increase immunity to gut infection.

---

[5] ACNielsen data as of 2003

[6] www.lhj.com/home/Stage-of-Child-Development.html

Children age 3 year on wards, start kindergarten and performing with their peers. Then the nutrition in this stage must ensure their children's development, especially their brain.

The growing up milk market in Thailand is highly competitive. There are 3 major players, which accounted for 90% of growing up powdered milk namely Nestle 46%, Mead Johnson 17%, and Dumex 30% share in market.[7] All the 3 key players carry full product range including Infant, Follow on, and growing up powdered milk and UHT.

After manufacturer in powdered milk market launched this strategy, they get very successful results because mothers believe that information and make the market grow year by year. Moreover they can improve the category especially in growing up formula (full cream formula), which is divided into two sub segments, 1 plus, and 3 plus. The growing up segment due to WHO code has commitment with powdered milk manufacturer that the company will not contact directly the mother that powdered milk is better than breast milk, breast milk is the best for the baby. For Infant and Follow on segment, the manufacturer cannot make any marketing activity with the end consumer, except Growing up segment because the children is grown up and breast milk is not enough any longer. That is why growing up segment has grow more than other segment.

---

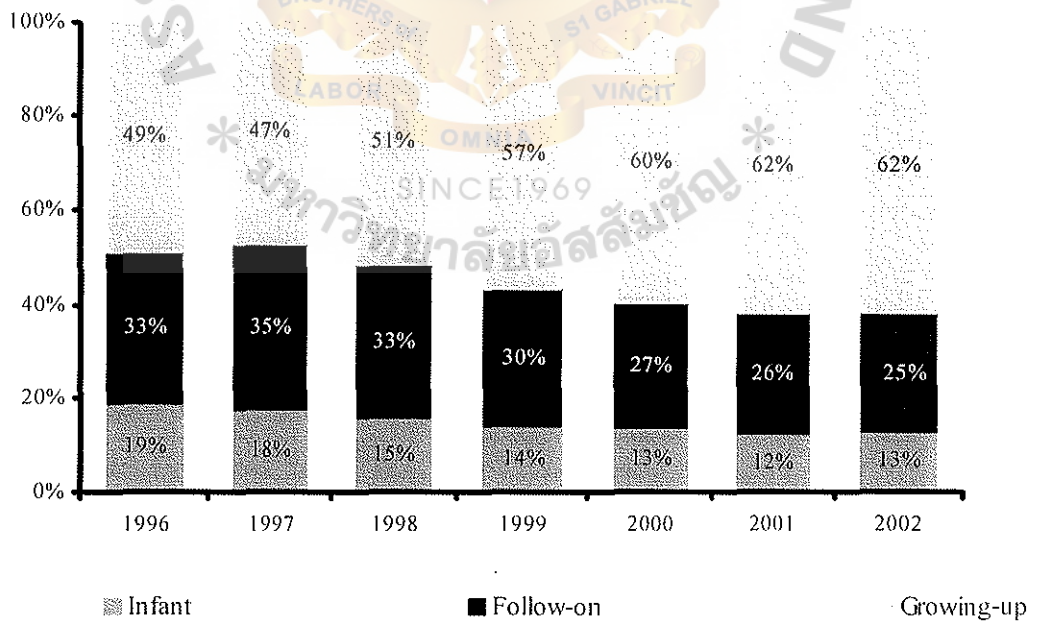
[7] ACNielsen data as of MAT 2003

The powdered milk market in Thailand has value at 6,477MB in year2002 and grows at 11% when compared with last year.[8]

1. Infant formula has value at 1,018MB. in year2002 and growth at 15% when compared with year2001.
2. Follow on formula that has value at 1,738MB in year2002 and growth at 5% when compared with year2001.
3. Growing up formula that has value at 3,720MB in year 2002 and growth at 14% when compared with year 2001.

Powdered Milk Market in Thailand

Figure 1.2: Powdered Milk Market: Volume Contributions by Segment



Source: ACNielsen , Thailand

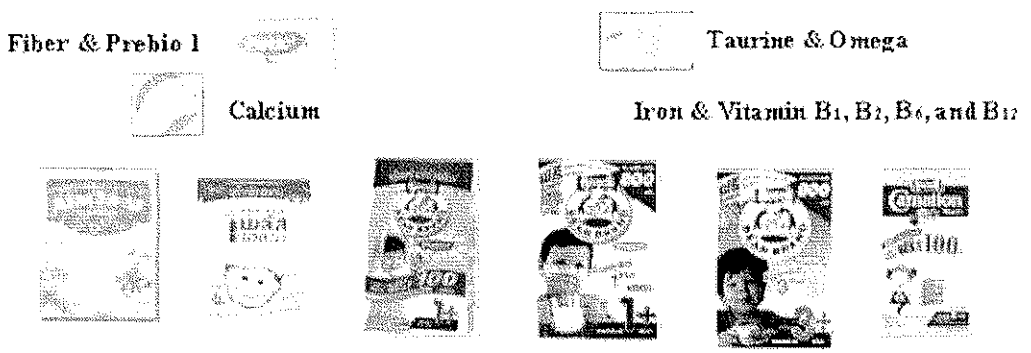
8 ACNielsen data as of MAT 2003

The graph shows volume contribution of each segment, as seen that pre-school milk has important key player of milk powder market which has increased contribution year by year (contributed from 49% in year1996 to 62% in year 2002) because consumer has clearer picture in milk powder segmentation, then they will entry earlier from Follow-on to Growing-up formula.

Growing-up milk has fantastic growth more than other segments, because infant and follow on formula cannot create any direct consumer promotion. According to FDA rules, doctors has influence for decision making of mother which will happen at hospital as mentioned earlier. Then infant and follow on segment do not have any competitive market as growing up segment. Then growing up segment is the key driver of powdered milk market in Thailand.

In year 2002, the manufacturer of growing up milk market has promoted their product as follows:

- Focus on nutrition and claim that each nutrition suits for each age



- Product classify by age

1Plus

3Plus

- Price: more bonus pack was launched

Bonus Pack

Coupon Discount

Loyalty Program

- Promotion: free premium focus on brain development

Legopuzzle

Story for children

Color pencil

Toy

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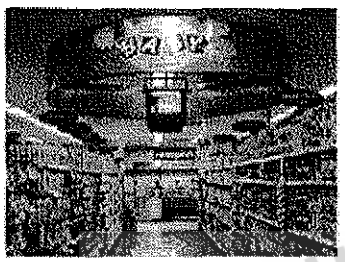
- Place: suppliers are support outlets in "Baby Zone" decoration concept

Korat



Bangkok

1.2 STATEMENT OF THE PROBLEM

Now days, mothers spontaneously identify changes in the powdered milk as greater than before. This is perhaps due to a combination of external and internal factors.

External Factor (market side)[9]

- Government policy: - Massive promoting child to drink milk
- More Competition in market.
- Continuous development of products via more innovative products new product benefits, innovative packaging
- Advertising to provide information on available brands and products more convincing advertising, more variety of sources of information

9 www.nncc.org/Nutrition/feed.baby.html

- Sales promotion to stimulate trials, larger purchase quantity

Internal Factor (mother side)

- Intention to have less number of children (only 1-2 max) : results into greater commitment to provide the best quality products for child
- Higher level of education: mothers seem to be better educated and informed

Consumers acknowledge a shift of the powdered milk market in terms of greater products and stronger competition among brands, illustrated as follows:

- Powder milk ssegmentation by age, mother can segment powder milk
- Extra and special ingredients such as: Fiber, Prebio1, Oligofuctose, DHA lsitin, Calciu Phosphorous / Zinc / Potassium in almost all brands, Fish oil / Taurine / Omega / DHA
- Package type: Stick pack, Tin pack size, Box pack size,
- Attractive package design
- Powdered milk flavor: Honey, Chocolate, Plain, and Vanilla
- New brand and variant
- Communications, more attractive and frequent promotional activities
- Convincing TVC

Based on external and internal factors, the consumer behaviors tend to move towards:

- More selective on any child products

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- Quicker response to any change related to products for child
- More involvement in outdoor activities provided for child (particularly these related to child development)
- More knowledgeable in available child products and brands
- More expectation in child's development

In the present context, mothers have become very careful in selecting and purchasing growing up powdered milk. Several factors significantly influence their decision in this regard. They gather several relevant information before making such a decision. Subsequently, powdered milk market has become highly competitive. The manufacturers and marketers of this product require clear information about factors relate to purchases' buying decision in order to gain competitive ability. Within the market of powdered milk, the growing up powdered milk shares 62% of the market. Therefore, it will be very useful to investigate factors that specifically relate brand choice purchasers buying behavior. The revelations of such information will be very useful for marketers of such product for designing effective marketing strategies. Following is the statement of problem for proposed research:

"What are those factors that relate to brand choice decisions of mothers in Bangkok about powdered milk growing up formula".

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1.3RESEARCH OBJECTIVES

The market for growing up powdered milk has become highly competitive. Mothers in Bangkok conduct the present research to explore relevant information about those factors which influence purchasing decisions for growing up powdered milk. For this viewpoint, the following are the objectives of the proposed research:

"To investigate those factors that relate to brand choice decisions of mothers in Bangkok about powdered milk growing up formula".

1.4 SCOPE OF THE RESEARCH

This research is intended to identify the criteria that relate to mothers' evaluation and selection of growing up powdered milk for their children. Thus, the survey will be conducted only on the mothers who select the growing up powdered milk for their children. The analysis of the study will be based on the responses provided by the respondents in survey. In this case, the respondents will be the mothers whose children are currently using growing up powdered milk. The research will cover only growing up powdered milk segment and survey will be conducted in Bangkok area only.

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1.5 LIMITATIONS OF THE RESEARCH

1.5.1 This research is limited to examine the relationship between brand choice and consumer's brand choice decision on growing up powdered milk; therefore its findings may be generalized for other factors affecting purchase decisions.

1.5.2 This research is focused only on mothers who have a child aging 1-6years old, therefore the findings may not be generalized for other groups of mothers.

1.5.3 This research is focused only on consumer's purchase decision on growing up powdered milk therefore it may not be generalized for other products.

1.5.4 This research is conducted on respondents who are located in Bangkok area only, therefore its findings may not be generalized for the respondents in other areas of Thailand.

1.5.5 This research is limited to a particular time frame, so its results may not be generalized for all times.

1.6 SIGNIFICANCE OF THE STUDY

From the findings of this study companies can know the consumers' perception, attitude, usage, and understand consumers' needs better. Then the company can develop the product and marketing strategy to match with the consumers' needs in order to get the achievement.

In addition, this research will be conducted through extensive search of literatures and statistical analysis. It provides an insightful knowledge of mother's perception toward growing up powdered milk and the characteristic of today growing

up powdered milk product. Hence, this research will provide an opportunity to other researchers and students with a cumulative understanding of mothers' evaluation and selection of growing up powdered milk. It will make a contribution to furthering the aims of education.

1.7 DEFINITION OF TERMS

Brand reputation: Brand image and trustworthy that consumers perceive towards product (Kotler, 2003)

Growing up Milk Formula: Powdered milk for child age1year on wards, which can be separated by 2 segments:

-1Plus segment: growing-up powdered milk for child 1-3 years age.

-3Plus segment: growing-up powdered milk for child 3 years on wards.

Influencers: the person whose recommendation can influence to mothers' purchasing decision. (Steven L., 2002)

Mother: Mother, who has child age 1-6years old, lives in Bangkok area.

Powdered Milk: is milk in powder form for children, segmented by children age, which has sales in normal shelf of super/hypermarket in Thailand.

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Product: anything that can be offered to a market for attention, acquisition, use of consumption that might satisfy a want or need. (Kotler, 2003)

Product classification: Powdered milk is classified by age.

Product nutrition: nutrition is added in the product providing different benefit to children development.

Price: the amounts of money customers have to pay to obtain the product. (Kotler, 2003)

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CHAPTER 2

Literature Review

The aim of this chapter is to review all literatures that are relevant in building up a conceptual model. In section one, the emphasis is on source of reference regarding explained variables and in section two on source of reference regarding influencing variables.

Theory

A theory can be defined as an interrelated set of statements of relationship whose purpose is to explain and predict of occurrences in reality. Theories are grouped in fact and supported by laws and other well-supported statements of relationship. Good theoretical research helps direct the investigator in the search for understanding. It is inherently practical and applied because it highlights the important concepts and relationships in a problem situation. Examples of extremely useful theoretical structures abound in all areas of business research. One of the major methods of theory construction is deductive theory. A deductive theory is a theory whose emphasis is distinctly upon the conceptual structure and its substantive validity. Deductive theories are developed largely through the process of deduction. Deduction is a form of inference that derives its conclusions by reasoning through premises,

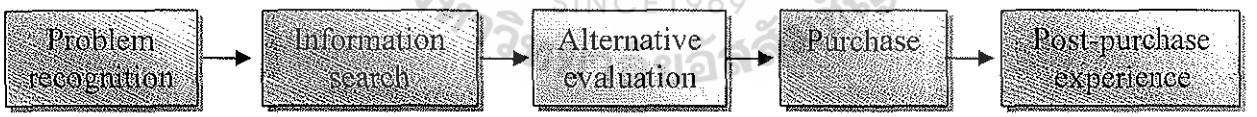
which serve as its proof. Deduction is a widely used form of inferential logic and is the basis by which many conclusions are drawn in business.

2.1 THEORIES AND STUDIES RELATED TO MAIN DEPENDENT VARIABLES

Customer Decision Process[10]

Kotler (1994) proposed a generic decision process model delineating consumers go through five stages at their decision, which is known as "consumer decision process". The decision process categorized into five recognizable steps as can be explained as follows:

Figure 2.1: CUSTOMER DECISION-MAKING PROCESS



Source: Kotler (1994).

10 Philip Kotler (1994). "Marketing Manangment: Analyzing Business Market and Business Buying Behavior". 8th Ed., Prentice-Hall International, Inc., P.211.

Step 1: Problem Recognition

The buying process starts with need recognition. The consumer recognizes they would like to change the current situation; they have a need to be satisfied. The kind of action taken by consumers in response to recognized problems relates directly to the situation, its importance to the consumer, and the dissatisfaction or inconvenience created by the problem. Consumers must then determine the type of product that could possibly satisfy the need.

Step 2: Information search

The need enters the consumer's memory as an item requiring satisfaction. The consumer looks for information either from external sources or from memory. Following the search process, the consumer has a group of brands that he sees as being possibly suitable to satisfy the identified need. This group of products has been called the evoked set or the consideration set. The consideration set is the group of brands that enter the next stage, the evaluation phase.

Step 3: Alternative evaluation

Consumers generally establish their beliefs about the features of the alternative products that they would consider and they always determine such option based on perceptions, and attitudes toward products. Evaluative criteria are typically product features or attributes associated either with benefits desired by consumers or the costs incurred. Evaluative criteria can differ in type, number, and importance. The type of evaluative criteria a consumer uses in a decision varies from tangible cost and

performance features to intangible factors such as style, taste, prestige, and brand image. The number of evaluative criteria used depends on the product, the consumer, and the situation. Naturally, for a low-involvement product, the numbers of evaluative criteria used are less than high-involvement product.

Step 4: Purchase

Purchase decision occurs after the consumer has examined the alternatives in the evoke set. At this stage, the consumer makes a choice among alternative based on the most preferred brand or service and develops purchase intention (Kotler 2000). The consumer also decides on the specific outlets. However, attitudes of others and unexpected situation factors can intervene the purchase intention and the purchase decision (Kotler and Armstrong 1994).

In executing a purchase intention, the person may make up to five purchase sub- decisions.

- A brand decision
- Vendor decision
- Quantity decision
- Timing decision
- Payment-method decision

According to the previous empirical research which most of the study mentions on brand decision only, this study will concentrate on brand in making purchase decision.

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Brand choice[11]

Walter and Bergiel (1989) said that following the buyer's purchase decision, consumers have a group of brands that they see as being possibly suitable to satisfy the identified need. This group of brands is evaluated and therefore a brand choice is selected. Consumer often makes choices among brands that share identical features. The consumers form preferences among brands in the choice set called brand choice. The consumers have established the criteria for making a choice among several specific brands. Limiting the brand choice to purchase decision allows easy information processing and simplifies the task of choosing.

Step 5: Post-Purchase Experience

Post purchase behavior is the final stage of consumer decision-making. At this stage, the consumer compares it with his or her expectations and produces one of two results. The consumer is either "satisfied" or "dissatisfied" with the product. Consumer satisfaction is defined as the attitude form toward a good or service as a result of its purchase. It is a post choice evaluation judgment resulting from a specific purchase selection (Mowen 1993).

---

11 Jagdish N. Sheth, Banwari Mittal, Brauce I. Newman (1999). "Customer Behavior: Business and Government Customer Decision Making". 1st Ed., The Dryden Press, London.

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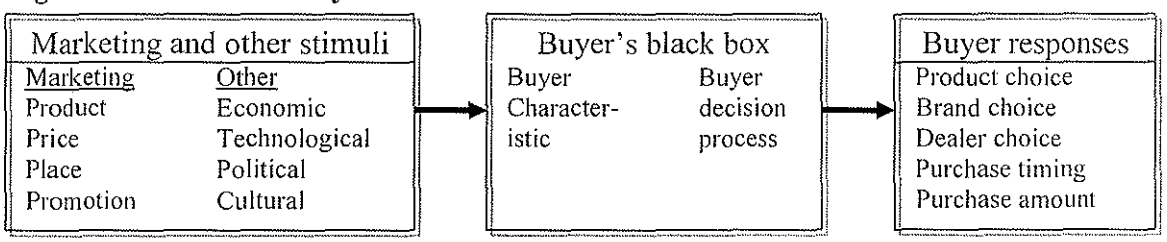
2.2 THEORIES AND STUDY RELATED TO THE MAIN INDEPENDENT VARIABLE

Consumers make many buying decisions every day. Most large companies research consumer buying decision in great detail to answer questions about what consumers buy, where they buy, how and how much they buy, when they buy, and why they buy. Marketers can study actual consumer purchases to find out what they buy, where, and how much. But learning about the *whys* of consumer buying behavior is not so easy – the answers are often locked deep within the consumer's head.

The central question for marketers is: How do consumers respond to various marketing efforts the company might use? The company that really understands how consumers will respond to different product features, prices, and advertising appeals has a great advantage over its competitors. The starting point is the stimulus – response model of buyer behavior shown in Figure 2.2.

Figure 2.2: Model of Buyer Behavior



Source: Kotler & Armstrong (2001), Principle of Marketing, Ninth ed, Prentice Hall, p171.

This figure shows that marketing and other stimuli enter the consumer's "black box" and produce certain response. Marketers must figure out what is in the buyer's black box.

Marketing stimuli consists of the four Ps: product, price, place, and promotion. Other stimuli include major forces and events in the buyer's environment: economic, technological, political, and cultural. All these inputs enter the buyer's black box, where they are turned into a set of observable buyer responses: product choice, brand choice, dealer choice, purchase timing, and purchase amount.

2.2.1 Product Classification:

Because buyers have unique needs and wants, each buyer is potentially a separate market. Ideally, then, a seller might design a separate marketing program for each buyer.

Three major steps in target marketing are shown as follows: [12]

1. Marketing segmentation – dividing a market into smaller groups of buyers with distinct needs, characteristics, or behaviors who might require separate products or marketing mixes. The company identifies different ways to segment the market and develops profiles of the resulting market segments.

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[12] Kotler & Armstrong (2001), Principle of Marketing, Ninth ed, Prentice Hall, p171.

2. Market targeting – evaluating each market segment's attractiveness and selecting one or more of the market segments to enter.
3. Marketing positioning – setting the competitive positioning for the product and creating a detailed marketing mix.

Figure 2.3 Step of Target Marketing

Source: Source: Kotler & Armstrong (2001), Principle of Marketing, Ninth ed, Prentice Hall.

Segment marketing isolates broad segments that make up a market and adapts its offers to more closely match the needs of one or more segments. It offers several benefits over mass marketing. The company can market more efficiently, targeting its products or services, channels, and communications programs toward only consumers that it can serve best and most profitably.

Segmenting Consumer Markets

A marketer has to try different segmentation variables, alone and in combination, to find the best way to view the market structure.

1. Geographic Segmentation – Dividing a market into different geographical units such as nations, states, regions, counties, cities, or neighborhoods.

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2. Demographic Segmentation – Dividing the market into groups based on demographic variables such as age, gender, family size, family life cycle, income, occupation, education, religion, race, and nationality. Demographic characteristics must be known in order to assess the size of the target market and to reach it efficiently.

Age and Life-Cycle Stage

Consumer needs and wants change with age. Age and Life-Cycle Segmentation offers different products or using different marketing approaches for different age and life-cycle groups. Marketers must be careful to guard against stereotypes when using age and life-cycle segmentation. Companies marketing to mature consumers usually employ positive images and appeals.

3. Psychographic Segmentation – Dividing a market into different groups based on social class, lifestyle, or personality characteristics.
4. Behavioral Variables Segmentation – Dividing a market into groups based on consumer knowledge, attitude, use, or response to a product.

2.2.2 Product's Nutrition:

Product Attributes

Developing a product or service involves defining the benefits that it will offer. These benefits are communicated and delivered by product attributes such as quality, features, and style and design.

Product Quality

Quality is one of the marketer's major positioning tools. Product quality has two dimensions – level and consistency. Product quality means performance quality – the ability of a product to perform its functions. Companies should choose a quality level that matches target market needs and the quality levels of competing products.

Product quality means conformance quality – freedom from defects and consistency in delivering a targeted level of performance.

Product Features

A product can be offered with varying features. The company can create higher-level models by adding more features. Features are a competitive tool for differentiating the company's product from competitors' products. Being the first producer to introduce a needed and valued new feature is one of the most effective ways to compete.

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2.2.3 Brand Image:

Branding

A brand is a name, term, sign, symbol, or design, or a combination of these, that identifies the maker or seller of a product or service. Consumers view a brand as an important part of a product, and branding can add value to a product.

2.2.4 Brand Trustworthy:

Brand Equity

The value of a brand, based on the extent to which it has high brand loyalty, name awareness, perceived quality, strong brand associations, and other assets such as patents, trademarks, and channel relationships.

High brand equity provides a company with many competitive advantages. A powerful brand enjoys a high level of consumer brand awareness and loyalty. Because the brand name carries high credibility, the company can more easily launch line and brand extensions. Above all, a powerful brand offers the company some defense against fierce price competition.

2.2.5 Price:

Kotler (1994) noted that price is the amount of money customers have to pay to obtain the product. It has operated as the major determinant of buyer choice. This is still the case with commodity-type products.

UC Business and Finance Bulletin (1998) stated that reasonable price is an important factor for buying decision. It is a price that does not exceed that which would be incurred by a prudent person in the conduct of a competitive business. Market test, price-cost analysis, consumers' experience, and consumers' judgments can establish reasonable price. Such judgments consider total value to the consumers. There is value to the consumers in purchasing which meet the consumer's need, such as those involving quality, quantity, delivery and service. A reasonable price need not

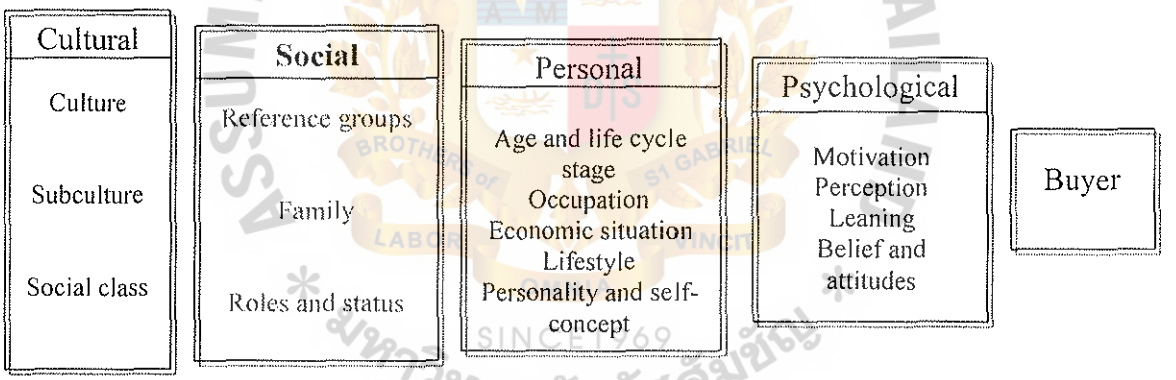
be the lowest price available, but is one that offers the highest total value to the consumers.

2.2.6 Influencers:

Consumer purchases are influenced strongly by cultural, social, personal, and psychological characteristics, as shown in Figure 2.4

Characteristics Affecting Consumer Behavior

Figure 2.4 Factors influencing consumer behavior



Source: Philip Kotler, Gary Amstrong (2001), Principle of Marketing Ninth edition, Prentice Hall, p172.

Most of the study of mothers purchasing on children's product decision shows that social factor has become a more key driver in her own decision.

Social Factors

A consumer's behavior also is influenced by social factors, such as the consumer's small groups, family, and social roles and status.

1. Groups: many small groups influence a person's behavior. Groups that have a direct influence and to which a person belongs are called membership groups. In contrast, reference groups serve as direct (face-to-fact) or indirect points of comparison or reference in forming a person's attitudes or behavior. Reference groups to which they do not belong often influence people.

The importance of group influence varies across products and brands. It tends to be strongest when the product is visible to others whom the buyer respects. Purchases of products that are bought and used privately are not much affected by group influences because others will notice neither the product nor the brand.

2. Family: Family members can strongly influence buyer behavior. The family is the most important consumer buying organization in society, and it has been researched extensively. Marketers are interested in the roles and influence of the husband, wife and children on the purchase of different products and services.

Husband involvement varies widely by product category and by stage in the buying process. Buying roles change with evolving consumer lifestyles. In the United States, the wife traditionally has been the main purchasing agent for the family, especially in the areas of food, household products, and clothing. But with 70% of women holding jobs outside the home and the willingness of husbands to do more of

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the family's purchasing, all this is changing. For example, women now buy about 45% of all cars and men account for about 40% of food-shopping dollars. Children may also have a strong influence on family buying decision. In the case of expensive products and services, husbands and wives often make joint decision.

3. Role and Status: A person belongs to many groups – family, clubs, and organization. The person's position in each group can be defined in terms of both role and status. A role consists of the activities people are expected to perform according to the persons around them. Each role carries a status reflecting the general esteem given to it by society. People often choose products that show their status in society.

2.3 PREVIOUS EMPIRICAL RESEARCH

D. Clayton and S. Orwell, M.I.L. Research, London (1999) studies about "Infant feeding in the Ivory Coast". Study in traditional societies breast-feeding, either by the mother or a wet nurse, is essential for the survival of the infants, but infant mortality is often high . The changes in education, pattern of living, and expectations of women, particularly in urban areas, have all led to changing practices in child rearing. In rapidly developing countries like the Ivory Coast, where many urban mothers seek work to maintain reasonable nutrition and standards of living for their whole family, the solution of the immediate economic problem often takes precedence over custom and long-term goals. Even in rural areas, cash cropping is replacing subsistence farming, with new demands upon mothers. There has been concern that the health and well being of infants in the Ivory Coast may be sufferings

in this process. Studies of the traditional patterns of child care show that most infants in the Ivory Coast are breast-fed until they can walk. Many preschool children have had considerable growth deficits by Western standards. The Ivory Coast is one of the most prosperous countries in West Africa and is rapidly developing a cash economy. In 1977 it was the world's largest producer of palm oil, and the poultry industry is expanding. It is therefore desirable at this time to review current practices of infant feeding and to examine the factors that influence the choices made by mothers. Some of the study shows the influence to make powdered milk purchasing decision as the followings:

- This group of mothers concerns about convenience then they appreciate to feed their child with powdered milk.
- Received advice from hospital.
- This group of mothers believed that each stage of child development needs the different of nutrition.

Dickin, K. et al. (1997) studies about "Infant and Young Child Feeding". This research is talking about supporting households in the production of optimal infant and young child nutrition status is a critical objective of many World Bank projects. Immediate determinants of young child under nutrition include inadequate dietary intake and excessive disease. Underlying these immediate causes are myriad behaviors (including hygiene practices and utilization of health care) and lack of basic social infrastructure (water and sanitation). This section provides information about the

particular care giving behaviors associated with the feeding of young children frequently the cornerstone of optimal nutrition even in the presence of severe resource and environmental constraints—including ideal practices and common feeding problems. Which child feeding practices to target for change? Field experience in varying regions shows good results in the following areas:

• When to introduce non-breast milk food and liquids (complementary foods)

• Nutrient density of complementary foods

• Frequency of meals/feedings

• Active feeding of reluctant eaters

Another important finding from projects in countries such as Cameroon and Indonesia: Mothers are willing to change feeding behaviors, and can do so quickly and the others factor that influenced to mother's decision making on powdered milk are the following:

- Aging of children
- Recommendation from medical adviser
- Recommendation from relatives
- Product's nutrition
- Brand well-known

Gail Grigsby Harrison (1989) mentions that mother will concern about weight of their child, they believe that if their child is plump, it is a sign of good health.

- Product's nutrition will influence mother's decision making in milk powder

- Well know brand can create reliability to making purchase

Popkin and Solon (1978) "Women's Employment and the Feeding of Infants" This research study about the outset is important to note that "employment" is often far from being a simple variable in its effect on women's lives and roles. We tend to think of people in our society as either employed or "unemployed" in relation to "jobs" that earn wages or salaries. In much of the world (including major sectors of North American society) the gradations of "jobs" and "employment" (in and outside the home) can be complex indeed.

One of the few studies that directly addressed the interrelations of women's employment and infant feeding is the work of Popkin and Solon. Their study is focused on the Philippines, where they note first of all that women are more actively involved in trade, service, professional, industrial and other work which draws her [sic] outside the home for employment.... Nevertheless market related activities, which take place in the home such as embroidery, basket weaving and sari-sari store management play a major role in her economic activities. The data are interesting because they are roughly comparable to situations in many other developing nations, especially in Asia. Focusing on the data for families of two to four children (the modal category) in 1965, according to the different ethnicities, we find that the income variable is important in each of the ethnic groups, with the higher income (higher socio-economic status) women breast-feeding less often land for shorter duration) than the lower status mothers.

This group of mothers has brought up their child differ from mothers who is housewife. The result of research shows that factors that associate to mother making decision on milk powder are following things:

- Pricing is the criteria to select the milk powder brand
- Advice from influencers such as relatives, doctor, neighborhood

May (1965) mentions personal contacts with friends, relatives, or neighbors, or professional contacts are frequently used as sources of information.

Belk (1975) says situational variables and consumer behavior are used to focusing on growing recognition of limitations in the ability of individual consumer characteristics, which explain variation in buyer behavior. It has prompted a number of appeals to examine situational influences on behavior. This research uses stimulus into an object and a situation.

Engel, Kegerreis, and Blackwell (1969) mention friends and relatives are the recipients of product information from word-of mouth communication.

Panyawong (1996) mentions modern Thai parents have more purchasing power and need more convenience in taking care of their babies.

Gardial, et al. (1994) mentions evaluation criteria are the relevant set of product characteristics describing consumers' desired product features, as well as their

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desired product performance levels. These criteria guide both the amount and type of information acquired and how they are weighed in an evaluation/ choice decision. Consumers also rarely mention their pre-purchase evaluation criteria when recalling post-purchase thoughts.

Burke, et al. (1992) research shows the alternative evaluation stage, price and in-store promotions can exert an independent influence on choice.

Gupta (1991) research shows price and promotions accelerate consumers' purchase.

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CHAPTER 3

Research Framework

This chapter discusses the theoretical framework, the conceptual framework, research hypothesis and operationalisation of the variables.

3.1 ELABORATING THE CONCEPTUAL MODEL

The conceptual framework is defined as any highly formalized representation of a theoretical network, usually designed through the use of symbols or other such physical analogues. Models are used as representations of theoretical systems so that they can be tested, examined, and generally analyzed.

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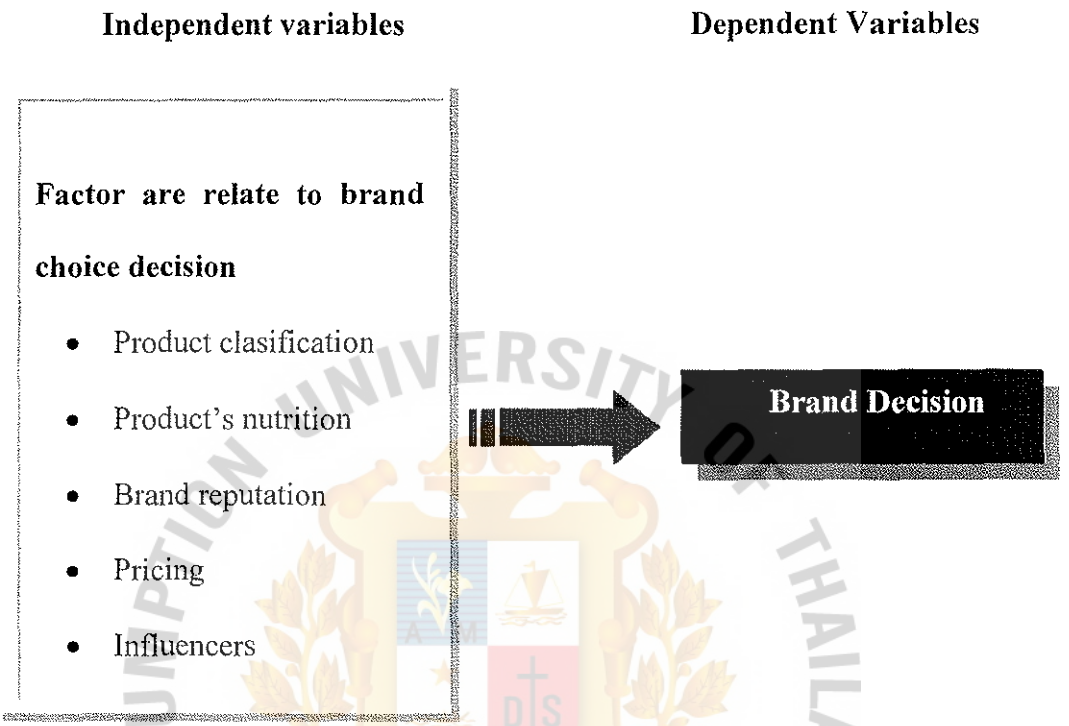
Figure 3.1: Conceptual Framework of Variables



The component of the conceptual model

Explanation of Selected Variables

From chapter 2, the information shows that many factors are relate with mother's decision making for purchasing milk powder product but the researcher has selected five main factors to be studied in this research. Several unpublicized and empirical researches have shown that these five factors have prominently influenced decision-making by mothers for purchasing growing up powdered milk for children.

1. Product Classification

The growing up powdered milk can be segmented in the following two categories:

1. Child age 1-3years
2. Child age 3years on ward

In both stages, the child grows his/her physical structure differently and requires different qualities of milk for proper physical growth. Referring to D. Clayton and S. Orwell, M.l.L.(1999), and Dickin, K. et al. (1997).research also shows the relation of aging of children. Most of mothers believe that children have different development in each stage of aging both physical and logical, the nutrition should match with child aging, then mothers will chose the milk powder that match with the aging such as:

Child age 1-3 year start learning the world, they try to put the things to their mouth, then children in this stage will face with bowel problems, then the product's nutrition in this stage should concentrate protection on bowel system.

Child 3-6years has focus on brain development.

Child 6year on wards has focus on height development.

2. Products' Nutrition

The research conducted by D. Clayton and S. Orwell, M.l.L.(1999), Dickin, K. et al. (1997), and Gail Grigsby Harrison (1989) research show that nutrition of the product is another factor that mothers will be concerned with while making purchasing decision for powdered milk. Products' nutrition relates to baby aging also such as:

Child 1-3years has bowel issue then the product in this stage should provide the nutrition that can protect bowel system

Child 3-6years, at this stage mother is concerned about brain development then they will focus on product that has to concentrate on nutrition of brain development, such as DHA, ARA, Iodine.

3. Brand Reputable/ Brand Reliability

The research conducted by Dickin, K. et al. (1997), Gail Grigsby Harrison (1989), and Gardial, et al. (1994) shows that brand reputation or established brands are well acceptable by customer and are more believable than other brands. Normally mothers want to feed their child with the best thing that she can do then the reputation of each brand will affect the purchase decision.

4. Pricing

Kotler (2003) noted that price is the amount of money customers have to pay to obtain the product. It has operated as the major determinant of buyer choice. Pelsmacker, Geuens and Bergh (2001) quoted that the list price is the 'official' price of the product. Borden (1991) mentioned that price list is announced and realized by the companies. UC Business and Finance Bulletin (1998) stated that reasonable price is an important factor for buying decision. A reasonable price need not be the lowest price available, but is one that offers the highest total value to the consumers. This study will identify the relationship between price in term of reasonable price list and purchase decision based on the previous empirical research of Saovanee (1998).

5. Influencers

A consumer's behavior also is influenced by social factors, such as the consumer's small groups, family, and social roles and status. From research "RELATIVE INFLUENCE OF SPOUES IN HONG KONG FAMILIES" show that important family decision (which include nonmarket decisions) are made predominantly by husbands (31.1%) or jointly (36.4%), women alone make budgetary daily expense decisions in a majority of households (52.5%).

3.2 HYPOTHESIS STATEMENTS

Hypotheses are conjectural statements of the relationship between two of more variables that carry clear implications for testing the stated relations (Davis, 1996). They are research tools to further define research problems. Hypotheses are tentative statements that are considered to be plausible given the available information. Hypotheses are used in line with deductive theory because the deductive theory focuses on conceptual development prior to empirical testing. The research hypotheses discussed in the following paragraphs are based on theoretical reasoning and results from previous studies as explained in the conceptual framework section of this study.

Hypothesis 1: Test of relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between product classification and brand purchasing decision by mothers for growing up powder milk.

$H1_a$: There is relationship between product classification and brand purchasing decision by mothers for growing up powder milk.

Hypothesis 2: Test of relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk.

$H1_o$: There is no relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk .

$H1_a$: There is relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 3: Test of relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

$H1_o$: There is no relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 4: Test of relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

$H1_o$: There is no relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 5: Test of relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 6: Test of relationship between brand trustworthiness towards product and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between brand trustworthiness towards product and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between brand trustworthiness towards product and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 7: Test of relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

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Hypothesis 8: Test of relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 9: Test of relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 10: Test of relationship between friends' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between friends' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between friends' recommendation and brand purchasing decision by mothers for growing up powdered milk.

Hypothesis 11: Test of relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_0$: There is no relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

3.3 OPERATIONAL DEFINITION OF VARIABLES

Table 3.1: Operational definition of independent variable

Concept Definition	Conceptual Definition	Operational Component	Measurement Level
Product classifications	Product is classified by age	• Age 1-3years • Age 3-6years	Ordinal scale
Products' nutrition	Nutrition are added in the product providing different benefit to children development	• Prebio 1 • DHA • Calcium	Ordinal scale
Brand reputation	Brand image and trustworthy that consumers perceive towards product	• Brand's image • Trustworthy towards product	Ordinal scale

Pricing	Price of product per gram that consumers satisfy to buy	• Retail price of product per gram	Ordinal scale
Influences	The person whose recommendation can influence to mothers' purchasing decision	• Husband • Relative • Friend • Neighborhood	Ordinal scale

Table 3.2: Operational definition of explained variable

Concept Definition	**Conceptual Definition**	**Operational Component**	**Measurement Level**
Purchasing decision	The stage of purchase decision making of a specific brand	• Brand Decision (Brand Choice)	Nominal scale

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CHAPTER 4

Research Methodology

The purpose of this chapter is to provide an overview about research for conducting proposed research. If will explain about respondents and methods for achieving objective of this research also highlight data collection procedure and related issues.

4.1 TECHNIQUE

Survey is a method of primary data collection in which information is gathered by communicating with a representative sample of people (Zikmund, 1997), and allows researchers to collect a great deal of data about an individual respondent at one time (Aaker et al, 1995).

Survey logic is employed in this study, which is a subtype of Ex Post Facto designs in which researcher does not attempt to manipulate the independent variable, surveys are those designs that usually depend upon the use of some sort of questionnaire for the primary purpose of describing and/or predicting some phenomena. In addition, surveys also allow researchers to study and describe large populations fairly quickly at a relatively low cost and accurate means of assessing information about the population. In the survey, consumers are not only aware of the fact that they are being studied, but actively participate.

4.2 METHODS

This research uses "questionnaire" to translate the research objective into specific questions that are asked of the respondents. Questionnaire standardizes the questions and the response categories so every participant responds to identical stimuli (Burns, and Bush, 1995). Questionnaire is used in collecting data because interviews are the most flexible of data collection methods. They are of general application for differing information requirements and differing situations and, as a result, structure interview is widely used. Interviews normally produce a high response rate, and this means that error, which might be introduced by many people refusing to co-operate, is minimized. While questionnaires are used to present questions and record answers in quantitative field research surveys. Questionnaires have four main purpose in the data collection process; to collect relevant data, to make data comparable, to minimize bias, and to motivate the respondent. A combination of these two methods is employed in this study in order to obtain the best result in research findings. This method enables the researcher to wait for respondents to complete the questionnaire and, then, collect. Its benefit is to clarify any ambiguity, on the spot, due to technical terms.

However under the survey method, the respondents may be unable or unwilling to provide the desired information. Sometimes respondents may be unwilling to respond if the information requested is sensitive or personal.

In order to develop the research framework for this study, secondary data are collected from a wide variety of textbooks, Internet, related research, and POP materials from retail outlets. The information helps the researcher to conceptualize

researcher's particular interest in the framework that has been developed in the foregoing chapter.

4.3 SAMPLING DESIGN

4.3.1 Target Population

A target population is defined as the population we want to make inferences about (Anderson, Sweeney and William 1999). This research is aimed to study the factor relate with Thais' mother decision making on growing up powdered milk. The population in this research is a set of mothers who has children 1 - 6 years old, who live in Bangkok area. All reference children must currently consume powdered milk, and all SES. As defined by Zikmund (1997), respondent is the person who answers an interviewer's questions or the person who provides answers to written questions in self-administered surveys.

Accordingly, the most convenient area to the researcher in term of time and effort is the Supermarket and Hypermarket.

4.3.2 Sampling Elements

Cooper (2001) defined that element is the subject on which the measurement is being taken. It is the unit of study. Sampling element in this study is mothers who has children age 1-6 years old and reside in Bangkok.

4.3.3 Sampling Unit

Sampling unit in this research includes shopping centers, and offices in Bangkok where the target respondents are found easily and conveniently. Fieldwork of the study is conducted during October 2003.

4.3.4 Non-Probability Sampling

In this research, researcher uses "Non-Probability Sampling" technique for selecting samples. Researcher cannot use Probability Sampling because it is very difficult to acquire the list of population of sanitary pad users in Bangkok.

In non-probability sampling, the probability of any particular number of the population being chosen is unknown. The respondents' chance of being included in the sample is unknown; therefore, the non-probability sampling is suitable for this thesis because there is no record for the list of mothers who currently feed their children with growing up powdered milk in Bangkok. Consequently, there is no sampling frame, which is a physical representation of objects, individuals, and group, etc.

In this research the selection of element is carried out by the use of "Convenience Sampling", from mothers in Bangkok who have child aged 1-6 years old, and feed their child with growing up powdered milk.

The convenience sampling that being used in this research is one of the non-probability sampling designs. As its name implies, convenience sampling involves

collecting information from members of the population who are conveniently available to provide this information (Davis and Cosenza, 1988). Researchers generally use convenience sample to obtain a large number of complete questionnaires quickly and economically (Zikmund, 1997).

4.4 DETERMINING SAMPLE SIZE

The sample size refers to the number of elements to be included in the study. Determining the sample size is complex and involves several qualitative and quantitative consideration (Malhotra, 2000). Schiffman and Kanuk (1978) cited that the size of the sample depends on both budget and degree of confidence that the researcher wants to place in the finding. The larger the sample, the more likely the response will reflect the total universe under study.

Based on Anderson's expected rate of 95% confidence levels and 5% sampling error with the population of Bangkok people fall in 1,000,000 range of population frame, the number of respondents for this study is 384 persons.

Table 4.1 : Theoretical Sample Sizes for Different Sizes of Population and a 95% level of certainty

Population/(Sampling Frame)	Required Sample for Tolerable Error			
	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, Gary (1996), Fundamentals of educational research, p202

4.5 STATISTICAL TREATMENT OF DATA

A non-parametric statistics is statistical procedures that use nominal or ordinal scale data and make no assumptions about the distribution of the population (Zikmund, 1997). This research uses non-parametric statistics because there is no estimation of population parameter.

All data will be processed by the program "Statistical Package for Social Science" (SPSS). After collecting the data from 384 questionnaires, the data will be coded into the symbolic form and the statistic strategy will be used to examine the data out. Finally, the data will be interpreted and summarized in the format of words and graphs that will be easy to understand. The results are lead to accept or reject the hypotheses.

Descriptive statistics consists of the frequency and percentage in order to describe each variable that is associated with respondent data such as personal data. Statistical treatment of data applied in the analysis includes of Cramer's V.

Cramer's V is a modified version of the phi correlation coefficient, ϕ, and is used in tables larger than 2 x 2. When phi is calculated for a table larger than 2 x 2, it has no upper limit. Cramer's V is obtained by adjusting phi for either the number of rows or the number of columns in the table, based on which of the two is smaller. The adjustment is such that V will range from 0 to 1. A large value of V merely indicates a high degree of association. It does not indicate how the variables are associated. For a table with *r* rows and *c* columns, the relationship between Cramer's V and the phi correlation coefficient is expressed as:

$$V = \sqrt{\frac{\phi^2}{\text{Min } (r-1), (c-1)}} \quad \text{or} \quad V = \sqrt{\frac{X^{2/n}}{\text{Min } (r-1), (c-1)}}$$

The following statistical data will analyze the answer of each question that constructed in statements of problem and hypotheses.

Table 4.2: Statistical Treatment of Data

Hypotheses	Statistics
1. There is no relationship between product classification and brand decision.	Cramer's V
2. There is no relationship between product's nutrition (Prebio 1) and brand decision	
3. There is no relationship between product's nutrition (DHA) and brand decision.	
4. There is no relationship between product's nutrition (Calcium) and brand decision.	
5. There is no relationship between brand image and brand decision.	
6. There is no relationship between brand trustworthy towards product and brand decision.	
7. There is no relationship between retail price of product per gram and brand decision.	
8. There is no relationship between husband's recommendation and brand decision.	
9. There is no relationship between relatives' recommendation and brand decision.	
10. There is no relationship between friends' recommendation and brand decision.	
11. There is no relationship between neighbors' recommendation and brand decision.	

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4.6 PRE-TESTING THE QUESTIONNAIRE

The questionnaire will be pre-tested in order to find out possible problems such as instruction or design of the questionnaire by distributing 39 copies to the respondents (10% of the total sample size). Mistakes will be corrected and adjusted in terms of sequencing, wording, and structure of the sentence so that communication between researcher and the respondents will not be biased or distorted.

After pre-testing the questionnaire and correcting all wording that are difficult to understand, the final form of questionnaire will be distributed to target respondents.

Before letting the respondents answer the questions in the questionnaire, researcher will select the respondents by using screening questions to ensure that the respondents are the target population of this study.

4.7 EXPECTED OUTCOME

The researcher believes that the hypothesis of this study should be accepted according to the previously mentioned literature.

According to Malhotra & Birks (2000), it was found that the coefficient alpha varies from 0 to1, and a value of 0.6 or less generally indicates unsatisfactory internal consistency reliability. The result from analyzing by SPSS, is shown below:

Table 4.3: Reliability Analysis

Hypotheses	Reliability results (alpha's value)
• There is no relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.	0.6529
• There is no relationship between brand image and brand purchasing decision by mothers for growing up powdered milk	0.6496
• There is no relationship between product nutrition (Prebio1) and brand purchasing decision by mothers for growing up powdered milk.	0.6453

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CHAPTER 5

DATA ANALYSIS

This chapter emphasized on the analysis of all gathered data, which include descriptive statistics analysis such as characteristic of respondents (in section one) and reliability test of index scale and hypotheses testing between independent and dependent variables (in section two).

5.1 DESCRIPTIVE STATISTICS

Kinnear (1991) said that descriptive statistics is a branch of statistics that provides researcher with summary measures for the data in their samples. The objective of descriptive statistics is to provide summary measures of the data contained in all the elements of a sample. In doing so the measures of central tendency and measures of dispersion are usually concerned. While inferential statistics is a branch of statistics that allows researchers to make judgments about the whole population based upon the results generated by samples. Davis (1996) says if a random probability sample is taken from a population, it may conclude that the sample is somewhat representative of the population in all respects. This characteristic is fundamental to the study of inferential statistics, or the science of estimating population parameters from sample statistics. Inferential statistics enable a researcher to perform the much-needed statistical test of hypothesis in the statistic business research.

To summarize the research, descriptive statistics is divided into 2 parts:

1. Respondent Characteristics include all personal information which are:

- Mother's age
- Children's age
- Number of children
- Occupation
- Education
- Average household income per month

2. Independent and Dependent Variables include measures of central tendency and measures of dispersion of all independent and dependent variables which are:

Independent Variables:

- Product classification by aging
- Nutrition (Prebio 1)
- Nutrition (DHA)
- Nutrition (Calcium)
- Product image
- Product trustworthy
- Product price
- Husband's recommendation
- Relatives' recommendation
- Friends' recommendation

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- Neighbors' recommendation

Dependent Variables:

- Brand decision (Brand choice)

Respondent Characteristics

Table 5.1: Mothers' Age

Mother's age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-22 years old	14	3.6	3.6	3.6
	23-30 years old	134	34.9	34.9	38.5
	31-40 years old	195	50.8	50.8	89.3
	>=41 years old	41	10.7	10.7	100.0
	Total	384	100.0	100.0	

From the above table, the percentage of respondents aged between 31-40 years is 50.8%, age between 23-30 years is 34.9%, and age 41 years or more than is 10.7% respectively.

Table 5.2: Children's age

Child's age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2 years old	154	40.1	40.1	40.1
	1-3 years old	118	30.7	30.7	70.8
	1-4 years old	45	11.7	11.7	82.6
	1-5 years old	28	7.3	7.3	89.8
	1-6 years old	39	10.2	10.2	100.0
	Total	384	100.0	100.0	

From table 5.2, the percentage of children's aged between 1-2 years is 40.1%, age between 1-3 years is 30.7%, age between 1-4 years is 11.7%, and age between 1-6 years is 10.2% respectively.

Table 5.3: Number of Children

No. of child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	273	71.1	71.1	71.1
	2	73	19.0	19.0	90.1
	3	36	9.4	9.4	99.5
	4	2	.5	.5	100.0
	Total	384	100.0	100.0	

From the above table, most respondent have one child counted for 71.1%, with two children counted for 19%, and with three children 9.4% respectively.

Table 5.4: Occupation

Mother's occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Housewife	105	27.3	27.3	27.3
	Private officer	160	41.7	41.7	69.0
	Governmemt officer	31	8.1	8.1	77.1
	Business owner	58	15.1	15.1	92.2
	Unemployment	3	.8	.8	93.0
	Others	27	7.0	7.0	100.0
	Total	384	100.0	100.0	

From table 5.4, the majority respondents' occupation is private officer counted for 41.7%, housewife counted for 27.3%, and business owner counted for 15.1% respectively.

Table 5.5: Education

Mother's education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No formal education	7	1.8	1.8	1.8
	Primary school	21	5.5	5.5	7.3
	Junior secondary school	27	7.0	7.0	14.3
	Senior secondary school/diploma/vocational	121	31.5	31.5	45.8
	Bechelor's Degree	188	49.0	49.0	94.8
	Master's degree or higher	20	5.2	5.2	100.0
	Total	384	100.0	100.0	

From table 5.5, most respondent's educational background are in Bachelor's Degree or equivalent counted for 49%, Senior secondary or equivalent counted for 31.5%, and Junior secondary school counted for 7% respectively.

Table 5.6: Average income of household per month

Household income per month

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<6,000B	4	1.0	1.0	1.0
	6,001-12,000B	68	17.7	17.7	18.8
	12,001-18,000B	60	15.6	15.6	34.4
	18,001-24,000B	59	15.4	15.4	49.7
	24,001-30,000B	54	14.1	14.1	63.8
	30,001-36,000B	38	9.9	9.9	73.7
	36,001-42,000B	35	9.1	9.1	82.8
	42,001-48,000B	14	3.6	3.6	86.5
	48,001-54,000B	9	2.3	2.3	88.8
	54,001-60,000B	9	2.3	2.3	91.1
	>=60,001B	34	8.9	8.9	100.0
	Total	384	100.0	100.0	

From the above data, the majority of respondents' income between 6,001-12,000 baht is 17.7%, 12,001-18,000 baht is 15.6%, 18,001-24,000 baht is 15.4%, and between 24,001-30,000 baht is 14.1% respectively.

For the respondents' characteristics, it can summarized that most respondents' age between 31-40 years and most of them have only one child with age 1-2 years old. Most of them obtained, at least, Bachelor Degree. They have middle-income level, which measured by the average monthly household income, between 6,000-30,000 baht.

Independent Variables

How do you think about these following factors?

Table 5.7: Product classification by age.

Powdered milk segmented by aging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	5	1.3	1.3	1.8
	Important	92	24.0	24.0	25.8
	Most important	285	74.2	74.2	100.0
	Total	384	100.0	100.0	

Table 5.7 highlights respondents' viewpoint about the extent of consideration of decision for purchasing growing up powdered milk for their children. It can be seen that the largest group of respondents (285 or 74.2% respondents) considers it to be 'most important' while other 92 or 24% respondents consider it to be important. This signifies that as many as 377 or 98.2% respondent consider this as an important factor (either most important or important). It can also be seen that 5 or 1.3% respondents have remained neutral in this regard while 2 or 0.5% respondents consider it to be unimportant. This means that only 0.5% respondents consider powdered milk segmented by aging to be not important factor.

Table 5.8: Nutrition: Prebio 1

Nutrition (Prebio 1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	33	8.6	8.6	9.1
	Important	100	26.0	26.0	35.2
	Most important	249	64.8	64.8	100.0
	Total	384	100.0	100.0	

Table 5.8 highlights respondents' viewpoint about the extent of importance of Prebio 1 nutrient to their purchasing growing up powdered milk. It can be seen that majority of respondents (249 or 64.8% respondents) considers it to be 'most important' while other 100 or 26% respondents consider it to be important. This signifies that as many as 349 or 90.8% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 33 or 8.6% respondents have remained neutral in this regard while 2 or 0.5% respondents consider this as unimportant. This means that only 2 or 0.5% respondents consider this to be not important factor (either unimportant) for purchasing growing up powdered milk.

Table 5.9: Nutrition: DHA

Nutrition (DHA)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	17	4.4	4.4	4.9
	Important	86	22.4	22.4	27.3
	Most important	279	72.7	72.7	100.0
	Total	384	100.0	100.0	

Table 5.9 highlights respondents' viewpoint about the extent of importance of DHA nutrient to their purchasing growing up powdered milk. It can be seen that majority of respondents (279 or 72.7% respondents) considers it to be 'most important' while other 86 or 22.4% respondents consider it to be important. This signifies that as many as 365 or 95.1% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 17 or 4.4% respondents have remained neutral in this regard while 2 or 0.5% respondents consider this as unimportant. This means that only 2 or 0.5% respondents consider this to be not important factor for purchasing growing up powdered milk.

Table 5.10: Nutrition: Calcium

Nutrition (Calcium)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	10	2.6	2.6	2.6
	Important	69	18.0	18.0	20.6
	Most important	305	79.4	79.4	100.0
	Total	384	100.0	100.0	

Table 5.10 highlights respondents' viewpoint about the extent of importance of Calcium nutrient to their purchasing growing up powdered milk. It can be seen that majority of respondents (305 or 79.4% respondents) considers it to be 'most important' while other 69 or 18% respondents consider it to be important. This signifies that as many as 374 or 97.4% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 10 or 2.6% respondents have remained neutral in this regard.

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Table 5.11: Product image

Product image

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	29	7.6	7.6	8.1
	Neutral	88	22.9	22.9	31.0
	Important	166	43.2	43.2	74.2
	Most important	99	25.8	25.8	100.0
	Total	384	100.0	100.0	

Table 5.11 highlights respondents' viewpoint about the extent of importance of product image to their purchasing growing up powdered milk. It can be seen that majority of respondents (166 or 43.2% respondents) considers it to be 'important' while other 99 or 25.8% respondents consider it to be most important. This signifies that as many as 255 or 79% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 88 or 22.9% respondents have remained neutral in this regard while 29 or 7.6% respondents consider this as unimportant, and 2 or 0.5% respondents consider this as most unimportant. This means that 31 or 8.1% respondents consider this to be not important factor (either unimportant, or most unimportant) for purchasing growing up powdered milk.

Table 5.12: Product trustworthy

Product trustworthy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	8	2.1	2.1	2.6
	Neutral	85	22.1	22.1	24.7
	Important	161	41.9	41.9	66.7
	Most important	128	33.3	33.3	100.0
	Total	384	100.0	100.0	

Table 5.12 highlights respondents' viewpoint about the extent of importance of product trustworthy to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (161 or 41.9% respondents) considers it to be 'important' while other 128 or 33.3% respondents consider it to be most important. This signifies that as many as 289 or 75.2% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 85 or 22.1% respondents have remained neutral in this regard while 8 or 2.1% respondents and 2 or 0.5% of the respondents consider this as 'unimportant' or 'most unimportant' respectively. This means that 10 or 2.7% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Table 5.13: Price per gram

Product price

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	38	9.9	9.9	10.4
	Neutral	151	39.3	39.3	49.7
	Important	141	36.7	36.7	86.5
	Most important	52	13.5	13.5	100.0
	Total	384	100.0	100.0	

Table 5.13 highlights respondents' viewpoint about the extent of importance of comparison price per gram to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (151 or 39.3% respondents) considers it to be 'neutral' while other 141 or 36.7% respondents consider it to be important, and 52 or 13.5% of the respondents consider this as most important. This signifies that as many as 193 or 50.2% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 38 or 9.9% respondents have remained unimportant in this regard while 2 or 0.5% respondents consider this as most unimportant respectively. This means that 40 or 10.4% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Table 5.14: Influence: Husband's recommendation

Husbands' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	7	1.8	1.8	1.8
	Unimportant	50	13.0	13.0	14.8
	Neutral	110	28.6	28.6	43.5
	Important	161	41.9	41.9	85.4
	Most important	56	14.6	14.6	100.0
	Total	384	100.0	100.0	

Table 5.14 highlights respondents' viewpoint about the extent of influence of husband's recommendation to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (161 or 41.9% respondents) considers it to be 'important' while other 110 or 28.6% respondents consider it to be neutral, and 56 or 14.6% of the respondents consider this as most important. This signifies that as many as 217 or 56.5% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 50 or 13% respondents have remained unimportant in this regard while 7 or 1.8% respondents consider this as most unimportant respectively. This means that 57 or 14.8% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Table 5.15: Influence: Relatives' recommendation

Relatives' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	12	3.1	3.1	3.1
	Unimportant	56	14.6	14.6	17.7
	Neutral	154	40.1	40.1	57.8
	Important	138	35.9	35.9	93.8
	Most important	24	6.3	6.3	100.0
	Total	384	100.0	100.0	

Table 5.15 highlights respondents' viewpoint about the extent of influence of relatives' recommendation to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (154 or 40.1% respondents) considers it to be 'neutral' while other 138 or 35.9% respondents consider it to be important, and 24 or 6.3% of the respondents consider this as most important. This signifies that as many as 162 or 42.2% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 56 or 14.6% respondents have remained unimportant in this regard while 12 or 3.1% respondents consider this as most unimportant respectively. This means that 68 or 17.7% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Table 5.16: Influence: Friends' recommendation

Friends' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	20	5.2	5.2	5.2
	Unimportant	67	17.4	17.4	22.7
	Neutral	202	52.6	52.6	75.3
	Important	88	22.9	22.9	98.2
	Most important	7	1.8	1.8	100.0
	Total	384	100.0	100.0	

Table 5.16 highlights respondents' viewpoint about the extent of influence of friends' recommendation to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (202 or 52.6% respondents) considers it to be 'neutral' while other 88 or 22.9% respondents consider it to be important, and 7 or 1.8% of the respondents consider this as most important. This signifies that as many as 95 or 24.7% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 67 or 17.4% respondents have remained unimportant in this regard while 20 or 5.2% respondents consider this as most unimportant respectively. This means that 87 or 22.6% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Table 5.17: Influence: Neighbors' recommendation

Neighbours' recommedation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	21	5.5	5.5	5.5
	Unimportant	91	23.7	23.7	29.2
	Neutral	200	52.1	52.1	81.3
	Important	65	16.9	16.9	98.2
	Most important	7	1.8	1.8	100.0
	Total	384	100.0	100.0	

Table 5.17 highlights respondents' viewpoint about the extent of influence of neighbors' recommendation to their purchasing on growing up powdered milk. It can be seen that the majority of respondents (200 or 52.1% respondents) considers it to be 'neutral' while other 65 or 16.9% respondents consider it to be important, and 7 or 1.8% of the respondents consider this as most important. This signifies that as many as 72 or 18.7% respondents consider this as an important factor (either most important or important) for purchasing on growing up powdered milk. It can also be seen that 91 or 23.7% respondents have remained unimportant in this regard while 21 or 5.5% respondents consider this as most unimportant respectively. This means that 120 or 29.2% respondents consider this to be not important factor (either unimportant or most unimportant) for purchasing growing up powdered milk.

Dependent Variables

Which brand of powdered milk do you purchase?

Table 5.18: Brand decision (Brand choice)

Brand choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bear Brand	106	27.6	27.6	27.6
	Carnation	18	4.7	4.7	32.3
	Dumex	78	20.3	20.3	52.6
	Dumilk	15	3.9	3.9	56.5
	Alacta	48	12.5	12.5	69.0
	Enfagrow	69	18.0	18.0	87.0
	Others	50	13.0	13.0	100.0
	Total	384	100.0	100.0	

From table 5.18, most respondents purchase is Bear Brand counted for 27.6%, Dumex counted for 20.3%, Enfagrow counted for 18%, Alacta counted for 12.5%, Carnation counted for 4.7%, Dumilk counted for 3.9%, and others brand counted for 13% respectively.

5.2 HYPOTHESIS TESTING

In this section, relation between independent variables and dependent variable is examined by using SPSS program. The bivariate correlation is employed to find out the relationship between independent and dependent variables. The appropriate form of assessing strength of relationship in this research is Cramer's V.

Hypothesis 1: Product Classification and Brand Decision

The first hypothesis is conjectured to test the relationship between product classification and brand decision by mothers for growing up powdered milk.
Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.19.

$H1_o$: There is no relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.19: Cramer' V Symmetric Measure Test between Product Classification and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.424			.000
	Cramer's V	.245			.000
Interval by Interval	Pearson's R	.074	.058	1.459	.145[c]
Ordinal by Ordinal	Spearman Correlation	.079	.054	1.547	.123[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.245, which means there is positive correlation between products classification and brand decision by mothers for growing up powdered milk.

Hypothesis 2: Product's Nutrition (Prebio 1) and Brand Decision

The second hypothesis is conjectured to test the relationship between Prebio 1 and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.20.

$H1_o$: There is no relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk .

$H1_a$: There is relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.20: Cramer' V Symmetric Measure Test between Product's Nutrition (Prebio 1) and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.371			.000
	Cramer's V	.214			.000
Interval by Interval	Pearson's R	-.069	.054	-1.349	.178[c]
Ordinal by Ordinal	Spearman Correlation	-.056	.054	-1.097	.273[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.214, which means there is low positive correlation between Prebio 1 and brand decision by mothers for growing up powdered milk.

Hypothesis 3: Product's nutrition (DHA) and Brand Decision

The third hypothesis is conjectured to test the relationship between DHA and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.21.

$H1_o$: There is no relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

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It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.21: Cramer' V Symmetric Measure Test between Product's Nutrition (DHA) and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.340			.001
	Cramer's V	.196			.001
Interval by Interval	Pearson's R	.009	.055	.179	.858[c]
Ordinal by Ordinal	Spearman Correlation	-.013	.054	-.259	.796[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.001, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.196, which means there is low positive correlation between DHA and brand decision by mothers for growing up powdered milk.

Hypothesis 4: Product's nutrition (Calcium) and Brand Decision

The fourth hypothesis is conjectured to test the relationship between Calcium and brand decision by mothers for growing up powdered milk. Cramer's V is being

used to determine existence of the correlation between these two variables. The results are displayed in Table 5.22.

$H1_o$: There is no relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.22: Cramer' V Symmetric Measure Test between Product's Nutrition (Calcium) and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.300			.001
	Cramer's V	.212			.001
Interval by Interval	Pearson's R	-.114	.057	-2.248	.025[c]
Ordinal by Ordinal	Spearman Correlation	-.118	.056	-2.324	.021[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Significant level (2 tailed test)

The bivariate test shows a significant value of 0.001, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.212, which means there is moderate positive correlation between Calcium and brand decision by mothers for growing up powdered milk.

Hypothesis 5: Brand image and Brand Decision

The fifth hypothesis is conjectured to test the relationship between brand image and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.23.

$H1_o$: There is no relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.23: Cramer' V Symmetric Measure Test between Brand Image and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.416			.000
	Cramer's V	.208			.000
Interval by Interval	Pearson's R	-.033	.053	-.647	.518[c]
Ordinal by Ordinal	Spearman Correlation	-.041	.052	-.810	.418[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.208, which means there is moderate positive correlation between brand's image and brand decision by mothers for growing up powdered milk.

Hypothesis 6: Brand trustworthy towards product and Brand Decision

The sixth hypothesis is conjectured to test the relationship between brand trustworthy and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.24.

$H1_0$: There is no relationship between brand trustworthy towards product and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between brand trustworthy towards product and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.24: Cramer' V Symmetric Measure Test between Brand Trustworthy and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.415			.000
	Cramer's V	.208			.000
Interval by Interval	Pearson's R	.029	.056	.568	.570[c]
Ordinal by Ordinal	Spearman Correlation	.038	.054	.736	.462[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.208, which means there is moderate positive correlation between brands' trustworthy and brand decision by mothers for growing up powdered milk.

Hypothesis 7: Retail price of product per gram and Brand Decision

This hypothesis is conjectured to test the relationship between retail price of product per gram and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.25.

$H1_o$: There is no relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.25: Cramer' V Symmetric Measure Test between Retail Price of Product per gram and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.317			.030
	Cramer's V	.158			.030
Interval by Interval	Pearson's R	-.081	.051	-1.591	.112[c]
Ordinal by Ordinal	Spearman Correlation	-.062	.051	-1.222	.222[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.030, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.158, which means there is low positive correlation between retail price of product per gram and brand decision by mothers for growing up powdered milk.

Hypothesis 8: Husband's Recommendation and Brand Decision

This hypothesis is conjectured to test the relationship between husband's recommendation and brand decision by mothers for growing up powdered milk.

Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.26.

$H1_o$: There is no relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.26: Cramer' V Symmetric Measure Test between Husband's Recommendation and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.386			.000
	Cramer's V	.193			.000
Interval by Interval	Pearson's R	-.156	.049	-3.092	.002[c]
Ordinal by Ordinal	Spearman Correlation	-.155	.050	-3.065	.002[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.193, which means there is low positive correlation between husband's recommendation and brand decision by mothers for growing up powdered milk.

Hypothesis 9: Relatives' Recommendation and Brand Decision

This hypothesis is conjectured to test the relationship between relatives' recommendation and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.27.

$H1_o$: There is no relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a$: $V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

Table 5.27: Cramer' V Symmetric Measure Test between Relatives' Recommendation and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.394			.000
	Cramer's V	.197			.000
Interval by Interval	Pearson's R	-.038	.049	-.737	.462[c]
Ordinal by Ordinal	Spearman Correlation	-.027	.050	-.535	.593[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.197, which means there is low positive correlation between relatives' recommendation and brand decision by mothers for growing up powdered milk.

Hypothesis 10: Friends' Recommendation and Brand Decision

This hypothesis is conjectured to test the relationship between friends' recommendation and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.28.

$H1_o$: There is no relationship between influence of friend and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between influence of friend and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

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Table 5.28: Cramer' V Symmetric Measure Test between Friends' Recommendation and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.448			.000
	Cramer's V	.224			.000
Interval by Interval	Pearson's R	.051	.049	1.002	.317[c]
Ordinal by Ordinal	Spearman Correlation	.063	.050	1.235	.218[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.224, which means there is low positive correlation between friends' recommendation and brand decision by mothers for growing up powdered milk.

Hypothesis 11: Neighbors' Recommendation and Brand Decision

This hypothesis is conjectured to test the relationship between neighbors' recommendation and brand decision by mothers for growing up powdered milk. Cramer's V is being used to determine existence of the correlation between these two variables. The results are displayed in Table 5.29.

$H1_0$: There is no relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H1_a$: There is relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

It can be stated in statistical term as follow:

$H1_o : V = 0$

$H1_a : V \neq 0$, significant level is at 95% ($\alpha = 0.05$)

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Table 5.29: Cramer' V Symmetric Measure Test between Neighbors' Recommendation and Brand Purchasing Decision by Mothers for Growing-up Powdered Milk.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.480			.000
	Cramer's V	.240			.000
Interval by Interval	Pearson's R	.116	.049	2.280	.023[c]
Ordinal by Ordinal	Spearman Correlation	.121	.049	2.388	.017[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Significant level (2 tailed test)

The bivariate test shows a significant value of 0.000, which is less than 0.05 (two-tailed test). Null hypothesis ($H1_o$) is rejected and in favor of Alternative hypothesis ($H1_a$).

Correlation Coefficient (Cramer's V value)

The value is 0.240, which means there is low positive correlation between neighbors' recommendation and brand decision by mothers for growing up powdered milk.

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5.3 DISCUSSION

From the results of the hypothesis testing of all the eleven variables have the relationship with brand decision for growing up powdered milk by mothers in Bangkok.

The finding of each hypothesis can be briefly stated as follows:

$H1_a$: There is relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.

$H2_a$: There is relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk.

$H3_a$: There is relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.

$H4_a$: There is relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.

$H5_a$: There is relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.

$H6_a$: There is relationship between brand trustworthy and brand purchasing decision by mothers for growing up powdered milk.

$H7_a$: There is relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.

$H8_a$: There is relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H9_a$: There is relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H10_a$: There is relationship between friends' recommendation and brand purchasing decision by mothers for growing up powdered milk.

$H11_a$: There is relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.

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CHAPTER 6

Conclusions and Recommendations

This chapter consists of three main parts. The first part shows the summary of the major findings of this research, which includes the characteristics of the respondents and the summary of hypothesis testing. The second part is the conclusion, which the important finding will be discussed. The third part is the recommendations and suggestions for the future research is in the last part.

6.1 SUMMARY OF FINDING

6.1.1 Conclusion Drawn against the Research Problem

In pursuant to the early statement of problem of this study, we may query, "What are those factors that has relate with brand choice decisions of mothers in Bangkok for powdered milk growing up formula". From the analysis part, it can be concluded that the factors that relate to brand choice decision of mothers in Bangkok for powdered milk growing up formula consist of:

- Product classification by age
- Product nutrition: Prebio1

- Product nutrition: DHA
- Product nutrition: Calcium
- Product image
- Product trustworthy
- Products' price per gram
- Husband's recommendation
- Relatives' recommendation
- Friends' recommendation
- Neighbours' recommendation

Characteristics of the respondents

Among the 384 respondents of this research, the largest group of respondents is represented by those whose age ranges between 31-40 years (50.8% or 195 respondents). The other larger groups of respondents are representing by those whose age ranges between 23-30 years (34.9% or 134 respondents), >= 41 years (10.7% or 41 respondents), and the smallest groups of respondents are representing by those whose age ranges between 18-22 years (3.6% or 14 respondents). It means most of the result come from the respondents whose age range between 31-40 years.

Most respondents have number of living child at 1-2 person, counted for 90% or 346 respondents. The result as the same as the Institute of population studies of Chulalongkorn University that shows Thailand has stagnant number of birth rate 850,000 live births per year and current couples tend to have fewer children. Approximately 70.8% of the mothers have children aged between 1-3 years.

Approximately 49% of the mothers have Bachelor's Degree and 31.5% of respondents have senior secondary school/Diploma/Vocational. 65.9% or 249 of respondents are working. Approximately 63.8% of the respondents have average household income per month less than 30,000 Baht. This figure is lower than the average income of the household, as reported by National Statistical Office (2001), that the average monthly income per household in Bangkok is at 25,242 Baht. From the finding, it can be said that most of the respondents are B to C class, that working out of home and no time to take care their children even they want to. Then those of these mothers try to provide the best thing for their children to replace the time.

6.1.2 Summary of Hypothesis Testing

All eleven variables were tested using Cramer's V correlation testing. The results of the hypothesis testing can be summarized in the table 6.1 as follows.

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Table 6.1 Summary of Hypothesis Testing

Hypothesis	Statistic Test	Level of Significance	Correlation Coefficient	Results
$H1_o$: There is no relationship between product classification and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.245	Reject H_o
$H2_o$: There is no relationship between product's nutrition (Prebio 1) and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.214	Reject H_o
$H3_o$: There is no relationship between product's nutrition (DHA) and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.001	0.196	Reject H_o

Hypothesis	Statistic Test	Level of Significance	Correlation Coefficient	Results
$H4_o$: There is no relationship between product's nutrition (Calcium) and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.001	0.212	Reject H_o
$H5_o$: There is no relationship between brand image and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.208	Reject H_o
$H6_o$: There is no relationship between brand trustworthy and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.208	Reject H_o

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Hypothesis	Statistic Test	Level of Significance	Correlation Coefficient	Results
$H7_o$: There is no relationship between retail price of product per gram and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.030	0.158	Reject H_o
$H8_o$: There is no relationship between husband's recommendation and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.193	Reject H_o
$H9_o$: There is no relationship between relatives' recommendation and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.197	Reject H_o

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Hypothesis	Statistic Test	Level of Significance	Correlation Coefficient	Results
$H10_0$: There is no relationship between friends' recommendation and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.224	Reject H_0
$H11_0$: There is no relationship between neighbors' recommendation and brand purchasing decision by mothers for growing up powdered milk.	Cramer's V	0.000	0.240	Reject H_0

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The relationship between brand choice decision and each variable are ranked according to the strongest to the weakest relationships (Table 6.1). This means that most mothers consider the products' classification as the first priority while selecting the growing up powdered milk for their children. This factor is followed closely by neighbors' recommendation. The educators will need to emphasize the most of these factors, even though the association of friends' recommendation, products' nutrition both of Prebio 1 and Calcium, products' image and trustworthy, relatives' recommendation, DHA, husband's recommendation, and retail price of product

produced moderate to weak relationship with the brand decision of growing up powdered milk, these factors are still important to mothers' brand decision in selecting growing up powdered milk for their children.

6.1.3 Conclusion Drawn against the Research Objectives

This research has the main objective to investigate factors which relate to brand choice decision of growing up powdered milk by mothers in Bangkok. The results of the tests show that these factors are:

- Product classification by age
- Product nutrition: Prebio1
- Product nutrition: DHA
- Product nutrition: Calcium
- Product image
- Product trustworthy
- Products' price per gram
- Husband's recommendation
- Relatives' recommendation
- Friends' recommendation
- Neighbours' recommendation

Products' Classification

98.2% of the mothers consider that products' classification by age has importance for their selecting growing up powdered milk brand for their children, even though products' classification produced a correlation coefficient of 0.245, but the relationship is the most important factor. The result of the test is in agreement with the empirical research that mother believed that each stage of children's development is different then most of the mothers will select powdered milk that match with age of their children.

The outcome of this research indicates that most of the mothers perceive product's classification as the most important factor contributing to brand purchasing decision toward growing up powdered milk product. Certainly, these mothers are aware that the children's product especially food should specify nutrition for each children age to maximize children development.

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Products' Nutrition

- **Prebio 1**

Based on frequency count 90.8% of the respondents consider that Prebio 1 is important for their selecting growing up powdered milk brand for their children. The benefit of Prebio 1 is to help digestive system and prevent diarrhea. Refer to the study

of "Stage of Child Development"[13] shows that children age 1 year on ward, start walking and 'exploring the world' and putting things in their mouths then they need the nutrition that can protect their children to prevent diarrhea and increase immunity to gut infection, which match with the result, 70.8% of respondents have children aged 1-3 years then they are concerned about preventing diarrhea and increasing immunity to gut infection because mothers believed that internal health will consequently affect perfect development.

- **DHA**

Based on frequency count 95.1% of the respondents consider that DHA is important for their selecting growing up powdered milk brand for their children. The benefit of DHA is to increase brain development efficiency. Refer to the study of "Stage of Child Development" shows that Children aged 3 year on ward, they start kindergarten and performing with their peers. Then the nutrition in this stage must ensure their children's development, especially brain, which match the result. 70.8% of respondents have children's age 1-3 years then they are concerned about children's brain development.

- **Calcium**

Based on frequency count 97.4% of the respondents consider that Calcium is important for their selecting growing up powdered milk brand for their children. The

13 www.lhj.com/home/Stage-of-Child-Development.html

benefit of Calcium is to help body structure development, height, bone, and teeth. Most mothers have been educated about Calcium, which will be advantageous for bone structure and height improvement. Moreover the new generation mothers are concerned about children's height, and then Calcium becomes one of the major factors in brand purchasing decision.

Product Reputation

- **Products' Image**

Based on frequency count, 79% of respondents consider that product's image is important to their purchasing decision on growing up powdered milk brand. Product's image or brands' image representing a brand, brand is a name, term, sign, symbol, or design, or a combination of these, that identifies the maker or seller of a product or service. Consumers view a brand as an important part of a product, and branding can add value to a product.[14] Mothers will be careful when selecting children's product more than the product for themselves or others, then products or brands' image has influence to product quality and make mothers view that brand better than others brand.

- **Products' Trustworthy**

Based on frequency count, 75.2% of respondent considers that products' trustworthiness is important to their purchasing decision on growing up powdered

[14] Kotler Philip, Principle of Marketing.

milk brand. The reputation of the brand derives from brand image and trustworthiness. The trustworthiness of the product has a positive relationship with the brand purchasing decision on growing up powdered milk. Mothers' perceptions are oriented toward seeing what they expect to see (Kotler and Fox, 1995). The value of a brand, based on the extent to which it has high brand loyalty, name awareness, perceived quality, strong brand associations, and other assets such as patents, trademarks, and channel relationships. A powerful brand enjoys a high level of consumer brand awareness and loyalty. If the brand has positive trustworthy toward mothers perception, its mean a brand carries high credibility, as mothers want to make sure that the brand must be the best for their children.

Price

Even price is one of factors that has positive relationship with brand purchasing decision on growing up powdered milk, but based on frequency count, only 50.2% of respondent consider that price is important to their purchasing decision on growing up powdered milk brand, 39.3% of respondents consider that price is neutral to their decision, and 10.4% of respondents consider that price is not important to their purchasing decision. Kotler (1994) noted that price is the amount of money customers have to pay to obtain the product. A reasonable price need not be the lowest price available, but is one that offers the highest total value to the consumers. As mentioned that mothers will be careful when choosing children's product because mothers want to make sure that product is the best for their children, even if they must pay more.

Influences

This study has four influences, the result testing shows that most of four influences has positive relation with brand purchasing decision on growing up powdered milk by mothers in Bangkok, as follows:

- **Husband's Recommendation**

Approximately 56.5% of respondents consider that husband's recommendation is an important factor to make a brand decision on growing up powdered milk. Family members can strongly influence buyer behavior. The family is the most important consumer buying organization in society, and it has been researched extensively.[15] Husband involvement varies widely by product category and by stages in the buying process.

- **Relatives' Recommendation**

Based on frequency count, 42.2% of respondents consider that relatives' Recommendation is an important factor to make a brand decision on growing up powdered milk, while 40.1% is neutral. Family members can strongly influence buyer behavior, also in relatives' recommendation. Mothers will ask the relatives experience, especially if children of relative are plump and look healthy because

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15 Philip Kotler, Gary Amstrong (2001), Principle of Marketing Ninth edition, Prentice Hall, p172.

mothers want their children to be healthy like other children. It tends to be strongest when the product is visible to others whom the buyer respects.

- **Friends' Recommendation**

Even friends' recommendation has positive relationship with brand decision on growing up powdered milk, but based on frequency count only 24.7% of respondents consider that friends' recommendation has relate to their decision, while 52.6% is neutral, as Kotler claims that the family member is the most important consumer buying organization in society than other persons. However, many small groups influence a person's behavior. Groups that have a direct influence and to which a person belongs are called membership groups. In contrast, reference groups serve as direct (face-to-face) or indirect points of comparison or reference in forming a person's attitudes or behavior.

- **Neighbors' Recommendation**

Also in neighbors' recommendation, even neighbors' recommendation has positive relationship with brand decision on growing up powdered milk, but based on frequency count only 18.7% of respondent consider that neighbors' recommendation has relate to their decision, while 52.1% is neutral. Reference groups to which they do not belong often influence people. The importance of group influence varies across products and brands.

6.2 RECOMMENDATION

Nowadays in the current powdered milk market situation where competition is severe and continuous played by many suppliers, every company has been trying to develop new products or even new nutrition adding to their products and making consumers believe and trust in their products as the best for their children. As we know, every mother always tries to find every best thing for their children, so selecting powdered milk for their children becomes one of their important tasks. Most mothers believe that good powdered milk will help children's perfect and best development by starting from body development to brain and finally mental.

Therefore, in order to become a successful market leader, the first task companies should know is to understand consumers' need and selection criteria used in decision. It is not only developing good products, but planning right marketing strategies should also be in concern. And as in this study, it found that there are totally 11 factors associating with mothers' purchase decision, thus marketers can bring these criteria to further develop or adapt. The following are the researcher's recommendation according to each criteria:

- **Products' Classification**

From survey, it found that mothers consider product classification as an important factor because they believe that children in different age range will need different nutrition for the best development. Therefore companies should develop

their products to suit for children in different age range and moreover for the following reasons:

- To satisfy consumers' need
- To expand consumers' need
- To expand consumers' consumption
- To expand market size

The current market size is segmented into 2 segments as follows:

- 1 plus for children aged 1-3 years old
- 3 plus for children aged 3 years old and more

Referring to the medical research, it found that children aged 6 years old do also need different nutrition, so market can be further segmented into segment for children aged 6 years old.

The obstacles for expanding powdered milk market are as stated below:

1. When children have grown up, they always change their drinking habit to drink instant or UHT milk.
2. Thai children's milk drinking rate is still lower than European children's.

So companies should provide information about advantage of powdered milk, which is better than UHT milk, and stimulate mothers to continuously feed their children with powdered milk.

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- **Products' Nutrition**

Another factor found in this study is products' nutrition including Prebio 1, DHA, or Calcium, companies should continue developing other good nutrition along with the product classification strategies. In addition to those strategies, companies should push more effort to teach market the advantage of each nutrition, and to differentiate their product by different nutrition. For further study, it is advantageous to learn which developments are most required by mothers for example,

  - Digest system
  - Brain development
  - Bone structure development
  - Other developments

- **Price**

As found in the study, mothers consider price as an important factor in purchase decision. Referring to the price theory, a reasonable price need not be the lowest price available, but is one that offers the highest total value to the consumers. Due to product characteristics that are different from other products, powdered milk is the product for children whom mothers care for. Therefore every mother expects only the best thing for her children, especially powdered milk, which is quite directly affect children development. On the other hand, mothers perceive that the more expensive product is, the better quality product, therefore price strategy used in positioning, as a premium product should be suitably implemented. However, the

company should be aware of product quality consistence with the other marketing components.

- **Product Reputation**

Due to powdered milk involving quality through nutrition, product image and trustworthiness will affect the perception of the product and consequently purchase decision. As Mead Johnson has been implementing this strategy through claiming that it is an expert who belongs to their own specifically milk research institution for developing quality product. As a result, its market share is continuously growing along with its trustworthiness. Product image and trustworthiness can be built through the following ways:

  - Continuous product development
  - Social Activities
  - Medical certification issued by doctors or famous medical institution
  - Public relation

- **Influences**

The study found that recommendation of husbands, relatives, friends and neighbors affect mothers' purchase decision. The recommendation is to additionally drive marketing direction to communicate with husbands or relatives about product and pull them to influence their wives or relatives in purchase decisions, and word-of-mouth strategy may be implemented especially in-group of mother's friends.

Finally from the study, it cannot identify which factors play a most important role, so marketers or producers should shake and blend these factors with other marketing components in planning marketing strategy to success efficient brand building.

6.3 FURTHER RESEARCH

The purpose of this research is centered on the factors that have an association with mothers' brand decision on growing up powdered milk for their children. Therefore, further research may be conducted to study how other components of marketing mix have influence on brand decision on growing up powdered milk such as advertising, promotion, and place.

Additionally, the primary data for this research was collected based on questionnaires. For more in-depth opinion, focus group or interview may be conducted.

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APPENDIX A

Questionnaires in English and Thai Language

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Questionnaire

As a partial fulfillment of the requirements for the course of BG 7000 Master's Thesis in the Graduate School of Business, Master of Business Administration in Assumption University. This questionnaire is designed to study "Brand Choice Decision of Mothers in Bangkok for Powdered Milk Growing-up Formula".

This survey will serve as a reference and for educational purposes only. Also, it will be treated with the strictest confidence. Thank you for your cooperation.

Please put (x) in the blanks of the items which reflect your opinion

Part 1 Respondents Screening

1. Do you currently have 1-6 year old children who are fed by powdered milk?

a. Yes (____ persons) b. No

(If the answer is no, the interview ends)

Part 2 Brand Decision

How do you think about these following factors?

Factors	Most Important	Important	Neutral	Unimportant	Most Unimportant
2. Powdered milk segmented by aging	☐	☐	☐	☐	☐
3. Nutrition : Prebiol	☐	☐	☐	☐	☐
4. Nutrition : DHA	☐	☐	☐	☐	☐
5. Nutrition : Calcium	☐	☐	☐	☐	☐
6. Product Image	☐	☐	☐	☐	☐
7. Product Trustworthy	☐	☐	☐	☐	☐
8. Product price	☐	☐	☐	☐	☐
9. Husband's recommendation	☐	☐	☐	☐	☐
10. Relatives' recommendation	☐	☐	☐	☐	☐
11. Friends' recommendation	☐	☐	☐	☐	☐
12. Neighbours' recommendation	☐	☐	☐	☐	☐

13. Which brand of powdered milk do you purchase?

a. Bear Brand (Nestle) b. Carnation (Nestle) c. Dumex d. Dumilk

e. Alacta f. Enfagrow g. Others (Please specify _____)

Part 3: Respondent Profile

14.Age

a.17 years old or less than b.18-22 years old c.23-30 years old

d.31-40 years old e.41 years old or more than

15. How old are your children?

a.1-2 years old b.1-3 years old c.1-4 years old

d.1-5 years old e.1-6 years old

16. Occupation

a.Housewife b.Private officer c.Government officer d.Business owner

e.Unemployment f. Others (Please specify _____)

17. Education

a.No Formal Education b.Primary School c.Junior Secondary Schoo

d. Senior Secondary School/ Diploma/ Vocational e.Bachelor's Degree f. Master's Degree or high

18. Household Income per month

a.Less than 6,000 Baht b.6,001-12,000 Baht c.12,001-18,000 Baht d.18,001-24,000 Baht

e.24,001-30,000 Baht f.30,001-36,000 Baht g.36,001-42,000 Baht h.42,001-48,000 Baht

i.48,001-54,000 Baht j.54,001-60,000 Baht k.60,001 Baht or higher

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<u>แบบสอบถาม</u>

เรียน ท่านผู้ตอบแบบสอบถาม

แบบสอบถามชุดนี้ จัดทำขึ้นเพื่อใช้เป็นส่วนประกอบในการศึกษาและทำวิทยานิพนธ์ ผู้จัดทำขอความกรุณา ท่านผู้ตอบแบบสอบถามชุดนี้ทุกข้อ เพื่อให้วิทยานิพนธ์ฉบับนี้สมบูรณ์ และถูกต้องตามทฤษฎี ผู้จัดทำขอขอบคุณท่านผู้ตอบแบบสอบถามทุก ๆ ท่านที่สละเวลาของท่านทำแบบสอบถามชุดนี้ เพื่อช่วยในการศึกษาและทำวิทยานิพนธ์ฉบับนี้มา ณ ที่นี้ด้วยค่ะ

Part 1 Respondents Screening

1. ปัจจุบันคุณมีบุตรอายุ 1-6 ปี และเลี้ยงลูกด้วยนมผงหรือไม่

ก. ใช่ (จำนวน _____ คน) ข. ไม่ใช่

(ถ้าไม่มี จบการสัมภาษณ์)

<u>กรุณาใส่เครื่องหมาย X ในช่องที่คุณเห็นด้วยมากที่สุด</u>

Part 2 Brand Decision

ปัจจัยต่าง ๆ ต่อไปนี้มีความสำคัญต่อคุณอย่างไร

ปัจจัย	สำคัญอย่างยิ่ง	สำคัญ	ปานกลาง	ไม่สำคัญ	ไม่สำคัญอย่างยิ่ง
2. นมผงตามช่วงอายุ	5	4	3	2	1
3. สารอาหาร พรีไบโอวัน (Prebio1)	5	4	3	2	1
4. สารอาหาร ดีเอชเอ	5	4	3	2	1
5. สารอาหาร แคลเซียม	5	4	3	2	1
6. ภาพพจน์ของผลิตภัณฑ์	5	4	3	2	1
7. ความน่าเชื่อถือของผลิตภัณฑ์	5	4	3	2	1
8. ราคาของสินค้า	5	4	3	2	1
9. คำแนะนำของสามี	5	4	3	2	1
10. คำแนะนำของญาติ พี่น้อง	5	4	3	2	1
11. คำแนะนำของเพื่อน	5	4	3	2	1
12. คำแนะนำของเพื่อนบ้าน	5	4	3	2	1

13.คุณเลือกซื้อนมผงยี่ห้อใด

a. ตราหมี b. ตราคาร์เนชั่น c. ตราดูเม็กซ์ d. ตราดูมิลค์

e. ตราอะแลคต้า f. ตราแอนฟาโกร g. อื่น ๆ (โปรดระบุ _____)

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Part 3: Respondent Profile

14. ปัจจุบันคุณอายุเท่าไหร่

a.17 ปีหรือน้อยกว่า b.18-22 ปี c.23-30 ปี d.31-40 ปี e.41ปี หรือมากกว่า

15. ปัจจุบันลูกคุณอายุเท่าไหร่

a.1-2 ปี b.1-3 ปี c.1-4 ปี d.1-5 ปี e.1-6 ปี

16. ปัจจุบันคุณประกอบอาชีพใด

a.แม่บ้าน b.พนักงานบริษัท c.ข้าราชการ d.เจ้าของกิจการ

e.ว่างงาน f.อื่น ๆ (โปรดระบุ _____

17. คุณจบการศึกษาสูงสุดขั้นใด

a.การศึกษานอกโรงเรียน b.ชั้นประถม c.มัธยมตอนต้น

d.มัธยมตอนปลาย/ อนุปริญญา/ อาชีวศึกษา e.ปริญญาตรี f.ปริญญาโท หรือสูงกว่า

18. ปัจจุบันคุณมีรายได้ของครอบครัวต่อเดือนเท่าไหร่

a.น้อยกว่า 6,000 บาท b.6,001-12,000 บาท c.12,001-18,000 บาท d.18,001-24,000 บาท

e.24,001-30,000 บาท f.30,001-36,000 บาท g.36,001-42,000 บาท h.42,001-48,000 บาท

i.48,001-54,000 บาท j.54,001-60,000 บาท k.60,001 บาท หรือสูงกว่า

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APPENDIX B

Frequency Tables

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Frequency Table

Mother's age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-22 years old	14	3.6	3.6	3.6
	23-30 years old	134	34.9	34.9	38.5
	31-40 years old	195	50.8	50.8	89.3
	>=41 years old	41	10.7	10.7	100.0
	Total	384	100.0	100.0	

Child's age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2 years old	154	40.1	40.1	40.1
	1-3 years old	118	30.7	30.7	70.8
	1-4 years old	45	11.7	11.7	82.6
	1-5 years old	28	7.3	7.3	89.8
	1-6 years old	39	10.2	10.2	100.0
	Total	384	100.0	100.0	

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Mother's occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Housewife	105	27.3	27.3	27.3
	Private officer	160	41.7	41.7	69.0
	Governmemt officer	31	8.1	8.1	77.1
	Business owner	58	15.1	15.1	92.2
	Unemployment	3	.8	.8	93.0
	Others	27	7.0	7.0	100.0
	Total	384	100.0	100.0	

Mother's education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No formal education	7	1.8	1.8	1.8
	Primary school	21	5.5	5.5	7.3
	Junior secondary school	27	7.0	7.0	14.3
	Senior secondary school/diploma/vocational	121	31.5	31.5	45.8
	Bechelor's Degree	188	49.0	49.0	94.8
	Master's degree or higher	20	5.2	5.2	100.0
	Total	384	100.0	100.0	

Household income per month

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<6,000B	4	1.0	1.0	1.0
	6,001-12,000B	68	17.7	17.7	18.8
	12,001-18,000B	60	15.6	15.6	34.4
	18,001-24,000B	59	15.4	15.4	49.7
	24,001-30,000B	54	14.1	14.1	63.8
	30,001-36,000B	38	9.9	9.9	73.7
	36,001-42,000B	35	9.1	9.1	82.8
	42,001-48,000B	14	3.6	3.6	86.5
	48,001-54,000B	9	2.3	2.3	88.8
	54,001-60,000B	9	2.3	2.3	91.1
	>=60,001B	34	8.9	8.9	100.0
	Total	384	100.0	100.0	

No. of child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	273	71.1	71.1	71.1
	2	73	19.0	19.0	90.1
	3	36	9.4	9.4	99.5
	4	2	.5	.5	100.0
	Total	384	100.0	100.0	

Brand choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bear Brand	106	27.6	27.6	27.6
	Carnation	18	4.7	4.7	32.3
	Dumex	78	20.3	20.3	52.6
	Dumilk	15	3.9	3.9	56.5
	Alacta	48	12.5	12.5	69.0
	Enfagrow	69	18.0	18.0	87.0
	Others	50	13.0	13.0	100.0
	Total	384	100.0	100.0	

Powdered milk segmented by aging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	5	1.3	1.3	1.8
	Important	92	24.0	24.0	25.8
	Most important	285	74.2	74.2	100.0
	Total	384	100.0	100.0	

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Nutrition (Prebio 1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	33	8.6	8.6	9.1
	Important	100	26.0	26.0	35.2
	Most important	249	64.8	64.8	100.0
	Total	384	100.0	100.0	

Nutrition (DHA)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unimportant	2	.5	.5	.5
	Neutral	17	4.4	4.4	4.9
	Important	86	22.4	22.4	27.3
	Most important	279	72.7	72.7	100.0
	Total	384	100.0	100.0	

Nutrition (Calcium)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	10	2.6	2.6	2.6
	Important	69	18.0	18.0	20.6
	Most important	305	79.4	79.4	100.0
	Total	384	100.0	100.0	

Product image

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	29	7.6	7.6	8.1
	Neutral	88	22.9	22.9	31.0
	Important	166	43.2	43.2	74.2
	Most important	99	25.8	25.8	100.0
	Total	384	100.0	100.0	

Product trustworthy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	8	2.1	2.1	2.6
	Neutral	85	22.1	22.1	24.7
	Important	161	41.9	41.9	66.7
	Most important	128	33.3	33.3	100.0
	Total	384	100.0	100.0	

Product price

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	2	.5	.5	.5
	Unimportant	38	9.9	9.9	10.4
	Neutral	151	39.3	39.3	49.7
	Important	141	36.7	36.7	86.5
	Most important	52	13.5	13.5	100.0
	Total	384	100.0	100.0	

Husbands' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	7	1.8	1.8	1.8
	Unimportant	50	13.0	13.0	14.8
	Neutral	110	28.6	28.6	43.5
	Important	161	41.9	41.9	85.4
	Most important	56	14.6	14.6	100.0
	Total	384	100.0	100.0	

Relatives' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	12	3.1	3.1	3.1
	Unimportant	56	14.6	14.6	17.7
	Neutral	154	40.1	40.1	57.8
	Important	138	35.9	35.9	93.8
	Most important	24	6.3	6.3	100.0
	Total	384	100.0	100.0	

Friends' recommendation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	20	5.2	5.2	5.2
	Unimportant	67	17.4	17.4	22.7
	Neutral	202	52.6	52.6	75.3
	Important	88	22.9	22.9	98.2
	Most important	7	1.8	1.8	100.0
	Total	384	100.0	100.0	

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Neighbours' recommedation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most unimportant	21	5.5	5.5	5.5
	Unimportant	91	23.7	23.7	29.2
	Neutral	200	52.1	52.1	81.3
	Important	65	16.9	16.9	98.2
	Most important	7	1.8	1.8	100.0
	Total	384	100.0	100.0	

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APPENDIX C

Correlation Coefficient Tables

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Brand choice * Powdered milk segmented by aging

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.424			.000
	Cramer's V	.245			.000
Interval by Interval	Pearson's R	.074	.058	1.459	.145[c]
Ordinal by Ordinal	Spearman Correlation	.079	.054	1.547	.123[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Brand choice * Nutrition (Prebio 1)

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.371			.000
	Cramer's V	.214			.000
Interval by Interval	Pearson's R	-.069	.054	-1.349	.178[c]
Ordinal by Ordinal	Spearman Correlation	-.056	.054	-1.097	.273[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Brand choice * Nutrition (DHA)

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.340			.001
	Cramer's V	.196			.001
Interval by Interval	Pearson's R	.009	.055	.179	.858[c]
Ordinal by Ordinal	Spearman Correlation	-.013	.054	-.259	.796[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Brand choice * Nutrition (Calcium)

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.300			.001
	Cramer's V	.212			.001
Interval by Interval	Pearson's R	-.114	.057	-2.248	.025[c]
Ordinal by Ordinal	Spearman Correlation	-.118	.056	-2.324	.021[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Brand choice * Product image

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.416			.000
	Cramer's V	.208			.000
Interval by Interval	Pearson's R	-.033	.053	-.647	.518[c]
Ordinal by Ordinal	Spearman Correlation	-.041	.052	-.810	.418[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Brand choice * Product trustworthy

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.415			.000
	Cramer's V	.208			.000
Interval by Interval	Pearson's R	.029	.056	.568	.570[c]
Ordinal by Ordinal	Spearman Correlation	.038	.054	.736	.462[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Brand choice * Product price

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.317			.030
	Cramer's V	.158			.030
Interval by Interval	Pearson's R	-.081	.051	-1.591	.112[c]
Ordinal by Ordinal	Spearman Correlation	-.062	.051	-1.222	.222[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Brand choice * Husbands' recommendation

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.386			.000
	Cramer's V	.193			.000
Interval by Interval	Pearson's R	-.156	.049	-3.092	.002[c]
Ordinal by Ordinal	Spearman Correlation	-.155	.050	-3.065	.002[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Brand choice * Relatives' recommendation

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.394			.000
	Cramer's V	.197			.000
Interval by Interval	Pearson's R	-.038	.049	-.737	.462[c]
Ordinal by Ordinal	Spearman Correlation	-.027	.050	-.535	.593[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Brand choice * Friends' recommendation

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.448			.000
	Cramer's V	.224			.000
Interval by Interval	Pearson's R	.051	.049	1.002	.317[c]
Ordinal by Ordinal	Spearman Correlation	.063	.050	1.235	.218[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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Brand choice * Neighbors' recommendation

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Phi	.480			.000
	Cramer's V	.240			.000
Interval by Interval	Pearson's R	.116	.049	2.280	.023[c]
Ordinal by Ordinal	Spearman Correlation	.121	.049	2.388	.017[c]
N of Valid Cases		384			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

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