



FACTORS RELATING TO PURCHASE DECISIONS OF ONLINE DIETARY
SUPPLEMENT IN BANGKOK

By
RAEVADEE TEAL-SOOMBOON

A Thesis submitted in partial fulfillment
of the requirement for the degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok, Thailand

October
2006

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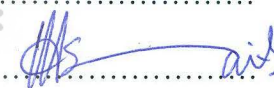

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ABSTRACT

The booming e-commerce and a regulation-less environment online have led to the rise of a new generation of websites that Dietary Supplement market and other products over the Internet. Business opportunities come and go very quickly in the Internet world, however, and the chance to start-up a successful e-commerce site selling Dietary Supplements might consider to serve the consumer who are concerned of their health and age.

This research objective is to identify the relationship between the number of units of dietary supplement products purchased via the Internet and consumer purchase decision attributes, consumer demographic profiles, and technological knowledge.

The method for collecting the data in this research was sample survey. The respondents included people who purchased online Dietary Supplement during year 2006 and lived in Bangkok and its boundary area (Nonthaburi province, Pratumthanee province, Samuthprakarn province and Sumuthsakorn province). The sample size was 382 respondents made contact through e-mail and self-administered questionnaires.

This research used Spearman Rho Correlation Coefficient, One-way analysis of Variance (ANOVA) and Independent t-test. The result of this research are as this follows;

This study found there is a weak positive relationship between the Number of units of Dietary Supplement that consumer purchased and Consumers' Purchase Decisions (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and

Product selection and Personal fit). The highest positive correlation is shopping enjoyment factor. On the other hand, Product Selection and Personal fit factor has the highest negative correlation. This study also found a relationship between the Number of unit of Dietary Supplement that consumer purchased and Consumers' Demographic Profile (Gender, Age and Income).

And this study found that women were more likely to shopping online than men, the older and higher income group of respondents shop dietary supplement online more than lower income and younger age and speed of computer system and internet competency is not relate to shopping dietary supplement online.

For recommendations, the researcher advised the marketers who are in this e-business market to know the core reason to shop online is ability to eliminate the hassles of driving and crowds, flexibility ; shop at personal location (home, office and etc.), finding the lower price and more varieties of product selection, but sensitive of privacy and security.

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CHAPTER I

INTRODUCTION

1.1 Dietary Supplement Industry

At present, the dietary supplement industry is a dynamic one. A scientific research on the associations between supplements and health is accumulating rapidly. The number of products and the variety of uses for which they are promoted have increased significantly in the last few years. The growth rate of a world dietary supplement sales has been recently significant; grew 3.5 % with the total sales market about \$50.4 billions in 2001, grew 12.9% with the total sales market about \$ 56.9 billions in 2002, and grew 5.9% with the total sales market about \$60 billions in 2003. The largest markets of the world dietary supplement are in the United States followed by Europe and Asia (*source : www.nutritionbusiness.com., accessed on June 23, 2005*).

A number of countries commercially cultivate and export substantial quantities of medicinal plants to use for the production of dietary supplement. These countries include China, India, South Korea, Brazil, Mexico, Egypt, Indonesia, Nepal, the Philippines, Kenya, and Thailand (Wijesekera, 1991).

A dietary supplement is defined as products described in Table 1.1 (*source: <http://www.cfsan.fda.gov>, accessed on March 13, 2006*):

Table 1.1 : Dietary supplement definition

Description	Definition
Vitamins	Products that are organic (carbon-containing) nutrients that are essential in small quantities for normal metabolism, growth, and well-being. They must be obtained through the diet because they either are not synthesized in the body or are not synthesized in adequate amounts.
Minerals	Products that are chemical elements in their inorganic forms. "Minerals" are those that are required in amounts greater than 100 mg/day, and "trace minerals" are those required in lesser amounts.
Herbals & Botanicals (other than extracts)	Herbal or botanical products prepared by means other than extraction (i.e., dried, crushed, and encapsulated). These may include teas in addition to other product forms. The term <i>herbal</i> refers to the leaves and stems of the plant while <i>botanical</i> refers to these parts in addition to roots, seeds, and fruits.

Description	Definition
Herbal and Botanical Extracts	Products that are extracts made from any part of a plant.
Animal Extracts	Products that are extracts made from animal parts (e.g., tissues and glands).
Amino Acids	Products that contain an amino group and an acidic function.
Proteins	Products with the complete set of amino acids to make up proteins.
Concentrates, Metabolites, Constituents	Products that are concentrated, are broken down into individual components, or are parts of other products.
Teas	Products infused in water that contain herbals, botanicals, or other DS products. Basic tea products have a standard of identity as a food product; however, many products are a combination of tea and dietary supplements.

Description	Definition
Other Dietary Supplements	All other products meeting the criteria of dietary supplements that cannot be classified into the categories above. They include, for example, bee pollen, propolis, and royal jelly; coenzyme Q; spirulina and other algae; and nucleic acids.

(source: <http://www.cfsan.fda.gov>, accessed on March 13, 2006)

1.1.1 Dietary Supplement in Thailand

In Thailand, dietary supplement is controlled by an organization called The Food and Drug Administration (FDA). Success in the dietary supplement industry in Thailand depends heavily on the dissemination of appropriate information to customers which has best been achieved through direct marketing techniques. Preventive health and health concerns are fully acknowledged and accepted among Thais. The potential buyers of dietary supplements need to be very well informed of the qualities in order to make buying decision. The dietary supplement must be registered with the Thai Food and Drug Administration of the Ministry of Public Health. Prior authorization from this agency is required for importation and advertising of the dietary supplement.

(source: <http://strategis.ic.gc.ca/epic/internet/inimrri.nsf/en/gr113838e.html>, accessed on March 13, 2006).

Dietary supplements are imported in the both forms of finished product and bulk. Most finished, ready-packed dietary supplements are imported by local distributors, who do not have a manufacturing facility. They rely more on direct sales marketing approach than over-the-counter (OTC) sales. The most importers of bulk dietary supplements are local pharmaceutical manufacturers, who do a small pack and market the products at a much lower price. They rely more on OTC as they already have a sales network.

Because of the strong interest among the Thai population in health enhancing food products, including vitamins and minerals, herbal products and food supplements, the dietary supplement market outlook here is a bright one. The total Thai market for dietary supplements in 2000-2001 has exhibited the growth rate of ten percent and is expected to maintain that level of overall growth in next three years (source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html>, accessed on March 13, 2006).

There is an increasing demand for dietary supplements in Thailand. A number of well-known international brand names and local pharmaceutical manufacturers are currently in line to register their dietary supplement products with the Thai FDA. The market potential for dietary supplements in Thailand should be very good in the next three to five years. The reasons for this assessment are the increasing health awareness and consciousness among Thais in general; the promotion of the preventive health by the government; the increasing problem of being overweight among young and

working women; and the growing concern of the problem of the blood circulatory system among Thais.

It is evident that the Thai population have become more health conscious and spends more money on things that will help them become healthy. This would not only reduce the chance of sickness but also lower the expenses of medical treatment. The National Statistic Office of the Royal Thai Government reported in 2000 that the Thai had decreased their spending on medical care expenditures from 3.4 percent of their total expenditures in 1990 to 2.7 percent in 2000. The recent Ministry of Public Health's campaign to promote preventive health also boosts the health awareness among Thais. This campaign aims to promote the use of food supplements and vitamins. As a result, a greater number of potential customers for the dietary supplements should be expected.

(source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html> , accessed on March 13, 2006).

The growing weight problem among the group consisting of 20-45 years old women (with an approximate total population of eleven millions) in Thailand creates high potential for dietary supplement industry as they are working group and constitute the largest group of potential buyers for most of the dietary supplements in this market. The market value of food supplements in Thailand is calculated in Table

1.2. Kasikorn research reports that Thailand Supplement market rose from 2004 by 11% to reach \$455 million (฿15,000 millions) sales in 2005.

(source : <http://positioningmag.com/prnews/prnews.aspx?id=34190> , accessed on June23 , 2006).

Table 1.2: Market value of dietary supplement in Thailand

(Million U.S. Dollars)	2000	2001	2002	2003	Average Growth %
Total Market Size	283	310	341	375	10
Total Local Production	392	431	492	563	13
Total Export	179	209	261	326	22
Total Imports	70	88	110	138	25
Total Imports from the U.S	14	18	22	28	26

Sources: Industry sources by The Customs Department of Thailand and estimates, 2003

Direct selling commands approximately sixty percent of the market and continue to thrive in the growing overall market. Thirty percent of the distribution channel is through drug stores (over-the-counter). The remaining ten percent is through prescription and dietary supplement outlets. Either selling food supplements at

OTC in the drug stores or department stores have its limitations. Store personnels have limited knowledge of all the products on the shelves. It is difficult for a sales representative to concentrate on anyone product in particular. The result is that potential clients may not receive enough information to make their decision or purchasing the product that does not reach their purposes. Although the introduction of General Nutrition Centers (GNC) products and outlets in 2000 opened a new channel of distribution for food supplements, most companies are reluctant to follow this model because of the high costs involved.

(source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html> , accessed on March 13, 2006).

Imported dietary supplements in Thailand account for 30 percent of the total market and captures the middle to high-income group of end-users. Local products command 70 percent and capture low-income customers. However, most of local products concentrated on natural food and herbs do not require high production technology and gain much less research and development. It is estimated that half of the total imports is in a bulk form for repacking in local brands or for mixing with other local ingredients. The other half is in the form of brand-finished products ready for retailing. Some specific industrial sources state that import, brand-finished dietary supplements are better received by Thai customers than the local dietary supplement brands. (source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html> , accessed on March 13, 2006).

The country of origin still plays a significant role in the purchasing decision. Products from the United States, Europe, and Australia are more popular than products from other parts of the world. This is based on the consumer beliefs in their superior quality over dietary supplements from other foreign countries, especially the locally made products. They believe that the imported dietary supplements needed the latest technology contain many reliable ingredients and potencies under the strict control of the governments' health regulations.

(source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html> , accessed on March 13, 2006).

Thai manufacturers of dietary supplements rarely invest in research and development. They produce products that are already known to the market and do not require high technology processing equipment. Most of the products made in Thailand use ingredients which can be found in local sources, such as bee pollen, royal jelly, garlic, pepper, fish oil, etc. There are also some manufacturers who import proprietary formulations in bulk, repack and market with their own brand names in Thailand.

(source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html> , accessed on March 13, 2006).

1.1.2 Target Market *

The increasing health consciousness among Thai people and a campaign from the Ministry of Public Health to promote preventive healthcare have created demand for healthy food and dietary supplements. Bangkok is regarded as the major market for dietary supplements in Thailand because of the higher purchasing power of its populace, which totals about ten million people.

The end users for dietary supplements in Thailand can be categorised as the following three different age groups : (*source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html>, accessed on March 13, 2006)

1. *Youngsters aged under 15*: There are approximately 13.8 million people in this category. This group comprises approximately twenty percent of the healthy food market. The best-selling products for this group are vitamins, multivitamins, fish oil, essence of chicken and mineral supplement.

2. *Young adults and middle-aged group, 15-45*: This increasing health conscious group represents fifty percent of the market. There are approximate 30 million people in this category. They are concerned about body appearance, prevention and risk reduction of heart diseases and cancer.

(*source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html>, accessed on March 13, 2006).

Young women are more concerned about appearance and turn to weight control products, such as fat burners and fiber diet. This group of potential end-users receives the most attention from every distributor of dietary supplements in Thailand. Most new distributors pinpoint this age group as their first target to enter the dietary supplements market before aggregating to cover other age groups.

3. *Senior citizens aged 45 and older*: There are approximately 18 million people in this category. This group shares thirty percent of the market and is primarily interested in energy enhancing dietary supplements, postmenopausal and dietary supplements that maintain good health such as Lecithin, Calcium, etc.

(*source: <http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr113838e.html>, accessed on March 13, 2006).

1.1.3 Distribution Channel

Competition in the dietary supplement market in Thailand becomes more intense everyday. Most companies believe that educating customers is the key to success in Thai dietary supplements market and direct marketing approach yields faster results. Although there is the health awareness among the potential buyers, they do not understand the particular benefit from each supplement. The more they know the benefits, the more chance they will make their purchasing decision. This is the reason why most dietary supplement companies prefer direct selling techniques to market their products. A sales person can directly elaborate all the details of the

product to the potential client. The sales person can also closely assist a customer to select the dietary supplement that fits his/her needs belong to increase the customer's confidence on the products. The customers are receptive to imported dietary supplements whether in the form of ready-packed products or bulk. In addition, a brand image and loyalty are very strong among customers in Thailand.

The most commonly used marketing strategies by local distributors to sell healthy foods are seminars, window displays, providing gimmicks or gifts, and printed colorful brochures.

1.2 Electronic Commerce (E-commerce)

Nowadays many people use Internet to search and purchase products and services. If businesses are not online, they simply do not exist to these customers. The pressure of new technologies (computer, networks, interactive television) combined with increasing customer demands (flexibility, convenience, customization, service, etc.) and hyper-competition (global markets, shrinking product cycles, increasing risk, rapidly change) is requiring companies to redefine their strategies, products and processes. Electronic commerce is one specific set of technologies which has an explicit impact on these industries. For the first time, buyers and sellers can communicate directly over an information and data-rich channel (Bloch, 1996) and the concept of electronic commerce is all about using the Internet to do business better and

faster. It is about giving customers controlled access to your computer systems and letting people serve themselves (Kosiur, 1994).

E-Commerce is the paperless exchange of business information using electronic data interchange (EDI), E-mail, electronic bulletin boards, fax transmissions, and electronic funds transfer. It refers to Internet shopping, online stock and bond transactions, the downloading and selling of “soft merchandise” (software, documents, graphics and music), and business-to-business transactions. Based on the parties involved in the business transaction, e-commerce can be divided into:

- 1 business-to-customer (B2C): the sale of products and services to individuals
- 2 business-to-business (B2B): the buying and selling of products and services among businesses.

1.2.1 E-commerce trend in Thailand

According to National Electronics and Computer Technology Center (NECTEC), Internet commerce revenue was valued at Baht 66,196 million (US\$ 1,654.9 million) in 2002. The share of business-to-business sales accounted for 80% of the total amount. The Thai government envisions widespread use of E-Commerce, projecting that 90,000 million baht (US\$ 2,307 million) worth of products and services will be traded on-line during 2004. In terms of value, E-Commerce

should increase steadily due to various government programs such as providing cheap broadband internet access services as of early 2004, desktop and laptop computers available for low income owners and deployment of IT resources to state officials, reaching 1,000,000 units across the country.

According to an E-Commerce web site survey conducted by E-Commerce Resource Center/NECTEC, during the middle of 2001, 12% of the 6,000 e-Commerce websites (both dot com and dot co dot th Thai companies) offered full-scale E-Commerce services, including ordering, purchasing, and delivery. Tourism, computer-related products and Internet businesses, entertainment, service businesses, publishing, and food & medical products are the most active in this segment.

(source : <http://iir.ngi.nectec.or.th/download/indicator2005.pdf> , access on May 16, 2006)

The government has renewed its commitment to invest in IT with an ambitious goal to make Thailand a leading country in Information and Communication Technology (ICT) in Southeast Asia over the next five years. As the part of its ICT program, E-commerce trends in Thailand are bright in the coming years, since the current government is playing a vital role in developing an environment to facilitate E-commerce by identifying and creating key building blocks and enhancing electronic trading or transactions among businesses. The information infrastructure should become more universal and less expensive. In addition, security, privacy protection

and trust must be enhanced that such consumers will have more trust and confidence, and be willing to try different products and services on-line.

(source : <http://iir.ngi.nectec.or.th/download/indicator2005.pdf> , accessed on May 16, 2006)

Supporting the emergence of electronic business activities, the new Payment 2004 initiative of the Bank of Thailand will allow online fund transfers to be carried out with a third party/person who has an account with a different bank. The Inter-bank Transaction Management Exchange (ITMX) will be an exchange center taking care of electronic payment management. It will link with local commercial banks to offer automatic transfers by a debit-account system. In this way, the new exchange would eliminate a need for a credit card for online payments. As the result, this project would encourage more merchants to enter the E-commerce era since they would not have to go through the complicated business of setting up credit card payment facilities. With this new method of electronic payment, industry experts believe that it will drive E-commerce to grow up by 20 to 30 percent a year.

(source : <http://iir.ngi.nectec.or.th/download/indicator2005.pdf> , accessed on May 16, 2006)

The Thai government recognizes the enormous potential of electronic commerce to expand business opportunities, reduce costs, increase efficiency, improve the quality of life, and facilitate the greater participation of small businesses in global commerce. The E-commerce Policy Framework proposed by NECTEC was approved

by the Council of Economic Ministers as the E-commerce development guidelines for all government agencies in 2000.

(source : <http://www.nectec.or.th/internet/index.html>, accessed on March 13, 2006)

In 2006, business online is estimated to grow on its potential with hi-speed internet, the consumers' confidence of trading, and the abilities of internet server with the security system.

(source : http://www.thaiecommerce.org/th/index.php?option=com_content&task=view&id=84&Itemid=107, accessed on June 28, 2006)

1.2.2 Business to Consumer E-commerce (B2C)

(source: <http://www.nectec.or.th/internet/index.html>, accessed on March 13, 2006)

Like other countries in this region, the aspect of E-commerce that is of the most immediate importance in Thailand, particularly in the B2C segment is not “pure” E-commerce (i.e. selling digital goods with digital delivery and digital money). Physical - not digital - products and services remain the major trade in Thailand. According to internet user profiles in 2002 from NECTEC, only 23.6% of respondents had ever bought goods or services via the internet, primarily because Thai consumers are accustomed to purchasing goods in stores and markets, and prefer to look and touch items before purchasing them. In addition, Thai consumers do not trust electronic merchandisers yet and do not feel secure giving their credit card number to strangers.

However, Thai purchasing behavior is expected to change gradually due to the perpetual development of E-commerce infrastructure, including the introduction of customer protection laws and secured electronic payment. Currently, there are several local and international banks which have been providing internet banking services for bank customers such as Asia Bank, Citibank, Siam Commercial Bank, Krung Thai Bank, and so forth. As the customers grow more confident with basic electronic personal finance services, they are expected to take the next step and begin electronic catalog shopping. In the near future, Thai customers will have more confidence and try to buy a variety of products and services via the Internet.

According to an Internet User Profile of Thailand developed by NECTEC, in 2002 only 23.6% of Thais had ever bought online. Books, software and computer devices were the most popular items that Thai shoppers had purchased electronically. The 76% who had never purchased online said that a desire to see the products and a lack of trust for merchandisers were the top two reasons they had not yet done so.

According to another survey from NECTEC in 2003, most Thai Internet users were aged between 10 and 29 (69.1 percent). Almost half accessed the internet from home (46.9%), while 33.2 percent and 13.4 percent, respectively, accessed from their office or school and only 6.1 percent connected at internet cafés. The finding showed that the majority of online users were teenagers. The growth rate of internet use had continually risen from 13 percent in 1999 to 21.8 percent in 2003. Most of users

access the web from home and internet cafes during the hours of 4 pm to midnight, spending an average of 9.2 hours a week online. The top three activities were information searches, e-mailing and games.

1.2.3 The different between Online purchase decisions and Traditional purchase decisions

- **Identity** : Customers can easily authenticate the identity of a merchant simply by walking into a bricks-and-mortar store. Stores can be members of a community and neighborhood; they can be part of customers' daily experience. There is a concreteness about a physical store that no amount of HTML will ever match.

Immediacy : Customers can touch and feel and hold the merchandise. Tactile cues can drive the decision to buy. A transaction that is face-to-face is usually unmediated: your communication with the merchant is not in the hands of a third party or technology (as with ordering by phone).

Value : The item at the center of the commerce transaction the product, service, or property that is to be sold/bought -- has some kind of value. Its price is determined and validated through the performance of the transaction. The seller agrees to a selling price, and the buyer agrees to a buying price. The value of an item, especially the relative value an item has for the buyer, is much easier to appraise if that item is close at hand.

Discourse : Customers can converse with the merchant face-to-face; unmediated conversation is basic to human communication. People want the feedback available from non-verbal behavior, which forms a large part of our judgment process.

Community : Customers can interact with other customers and gain feedback about the merchant from other customers, as well as by observing the merchant interacting with other customers.

Privacy : Customers can make purchases anonymously with cash; they usually don't have to give their name or address. They don't usually have to worry about what a store will do with their personal information, although this is becoming more of an issue with various recent attempts by lawyers to access private sales and rental records. Privacy is often a measure of how much of his or her identity a buyer wants to invest in a transaction; sometimes, we just want to quietly make our purchase and leave with it.

An online commerce customer faces mediation in every element and at every stage of the commerce transaction. Customers can't see the merchant, only the merchant's website; they can't touch the merchandise, they can only see a representation; they can't wander a store and speak with employees, they can only browse HTML pages, read FAQs, and fire off email to nameless customer service mailboxes; they can't explore the store's shelves and product space, they can only search a digital catalog. A customer at an online commerce site lacks the concrete cues to comfortably assess the trustworthiness of the site, and so must rely on new kinds of cues. The problem for the online customer is that the web is new to a large sector of the online audience and online commerce seems like a step into an unknown experience. (source : <http://www.philososhe.com/commerce/traditional.html>, accessed on Nov 13, 2006)

1.3 Statement of the Problem

People concern about the aging and inadequate diet, the dietary supplement products business is shaping growth with a high potential for profit. Product development, advertising and promotion trend, consumer attribute, demographics, and sales information all are necessary for the dietary supplement business to succeed in the market. For dietary supplement in order to increase the total market sales and to win the competitor's, the success of any organization depends on how it treats its customers or clients and how well it anticipates and fills their needs that prompt, efficient, and courteous customer service. The electronic commerce (E-commerce) is the one channel that must be interested.

If the customer is satisfied with the online shopping dietary supplement product and service (Price, Convenience Orientation, Privacy, Security, Shopping enjoyment, and Product selection and Personal fit) there is more potential that customer will repeat the purchase and the quantity. So, the proper knowledge about the consumer behavior toward purchasing decision online will ensure the shopping dietary supplement product can increase their market share in the dietary supplement industry.

Therefore, statement of the problem is whether any relationship exists between online purchase of dietary supplement product, consumers' demographic profile, technology and number of dietary supplement product?

Therefore, the research questions are as follows:

1. What is the relationship between the consumers' purchase decision attributes via online shopping dietary supplement product (Especially; Price, Convenience Orientation, Privacy, Security, Shopping Enjoyment, and Product selection and Personal fit) and the number of dietary supplement product?
2. What is the relationship between the consumers' demographic profile (Especially; Gender, Age, and Income) via online shopping dietary supplement product and the number of dietary supplement product?
3. What is the relationship between the consumers' knowledge about technology (Especially; Perceived speed of computer system and Competency using the internet) via online shopping dietary supplement product and the number of dietary supplement product?

1.4 Research Objectives

The objectives of this study are

- 1 To identify the relationship between the numbers of dietary supplement products purchased via the Internet and consumer purchase decision attributes.
- 2 To identify the relationship between the numbers of dietary supplement products purchased via the Internet and consumer demographic profiles.
- 3 To identify the relationship between the numbers of dietary supplement products purchased via the Internet and technological knowledge.

1.5 Research Scope

The quantitative method was used in this study and the sample included the people who lived in Bangkok and boundary area (Nonthaburi, Samuthpakarn, Samuthsakorn and Pathumthane). This research focuses on the respondent who uses to shop online. This research study focuses the duration from January to June 2006 as this period of time is the high season to buy dietary supplement product for present or gift in many cerebrations such as News year, Chinese New year and Songkarn day etc.

1.6 Limitations

This research is a study at a single point in time by focusing on the respondents in Bangkok who purchased online in January 2006 – June 2006 being suitable time as there is higher demand for dietary supplement products in comparison to other months of the year. The purchase decision include selected variables as price, convenience orientation, privacy, security, shopping enjoyment, product selection and personal fit, gender, age, income, perceived speed of computer system and competency using the internet.

This study focus in the categories of Dietary Supplement product not focus on the amount of money of dietary supplement product that purchase via online shopping because of there are different price in the same product from many pharmaceutical factories due to cost of the product ingredients. Different factories use different source

of ingredients such as some factories use ingredients from China, some factories use the same ingredient but from Europe so that they'll have different cost of ingredients. The same product will have different price. As a result this research focused on the amount of categories of Dietary Supplement product.

The study did not specify exactly what/which type of dietary supplement are being purchased by consumers online.

1.7 Significance of the Study

Despite the explosive growth of electronic commerce and the rapidly increasing number of consumers who use interactive media (such as the World Wide Web) for pre-purchase information search and online shopping, very little is known about how consumers make purchase decisions in such settings. This study will answer what will be related to making the purchase decision on the internet. The result of this research will benefit dietary supplements entrepreneurs in order to understand the buyers' purchasing behavior on the Internet. The result of this research will provide an information about the factors relating to online consumer's purchase decision in Thailand. This research will certainly help marketers who are in the dietary supplements industry understand consumer purchase decision attitude in order to adjust marketing strategies and tactics to serve consumers more effectively. Nowadays, highly competitive marketplace, a better understanding of consumer behavior helps marketers gain a competitive advantage.

1.8 Definition of key terms

Consumer : A person who uses goods and services.

(source : <http://www.hyperdictionary.com>,
accessed on May27, 2005)

Consumer of Dietary Supplement: A person who buys the dietary supplements in
Bangkok, Thailand

Consumer's purchase decision : A buyer passes through stages in making
choices about which products and services to
buy. (source: Skinner, S. J. (1994). Marketing.
2nd ed. Massachusetts: Houghton Mifflin,
P. 218-225).

Dietary Supplement : A product intended to supplement diet that
bears or contains one or more of the following
dietary ingredients; vitamin, mineral, herb or
botanic, animal extract, amino acid, protein,
concentrate, metabolite, constituent, tea, or
other dietary supplement defined in Table 1.1.
(source: U.S. Food and Drug administration,
1995.).

The number of unit of Dietary Supplement : The amount of categories of Dietary Supplement that are purchased via online shopping

Electronic Commerce : The process of buying and selling goods and services electronically involving transactions using the Internet, networks, and other digital technologies (*source : http://wiki.media-culture.org.au/index.php/Ecommerce#Definition_of_E-Commerce, accessed on July 28,2006*).

Price : The amount of money one must pay to obtain the right to use a product (Hawkins, et al. 2001).

Privacy : It is protection of sensitive and personal information from unintentional and intentional attacks and disclosure
(*source : <http://www.portlandonline.com/auditor/index.cfm?a=bbeeej&c=ecbab>, accessed on May 31, 2006*).

Product : Anything offered to a market is to satisfy want or need (Kotler, 2000). In this thesis, the researcher defines a product as dietary supplement by focusing on quality, features, brand name, dosages, of product.



CHAPTER II

LITERATURE REVIEW

This section provides definitions, meanings, concepts, and empirical findings of relevant issues in this research in order to allow a reader become more familiar with what the researcher will be dealing with for the rest of the study. All of relevant theories are included, which are related to the independent variables and dependent variables of this study.

2.1 Electronic Commerce Concept

2.1.1 Electronic Commerce Definitions

Although the most common definition of E-commerce is “shopping on the internet” but E-commerce has involved much more than shopping. A number of Electronic Commerce definitions from various sources are consolidated as follows:

The Australia’s E-commerce report card from National Office for the Information Economy (1999) defined the definition of E-commerce as any type of business transaction or interaction in which the participants operate or transact business or conduct their trade electronically.

Shah (1998) defined the E-commerce definition as conducting business electronically, whether it is over the Internet or through established networks set up between businesses or between consumers and businesses.

Kalakota, R. and Robinson, M. (1999) defined the E-commerce definition as the buying and selling of information, products and services via computer networks.

Bloch (1996) defined the E-commerce definition as the support for any kind of business transactions over a digital infrastructure.

According to Malcolm Frank, V.P. Marketing, Cambridge Technology Partners, E-commerce is the electronic exchange of information, goods services, and payments and includes the creation and maintenance of Web-based relations.

2.1.2 The Internet and Electronic Commerce

(source Kosiur D. (1994), Understanding Electronic Commerce)

Now the Internet is rapidly becoming the technology for Electronic Commerce because it offers businesses and even easier way to link with other businesses and individuals at a very low cost. Websites are available to consumers 24 hours a day. New marketing and sales channels can be created. Handling transactions electronically can reduce transaction costs and delivery time for some products.

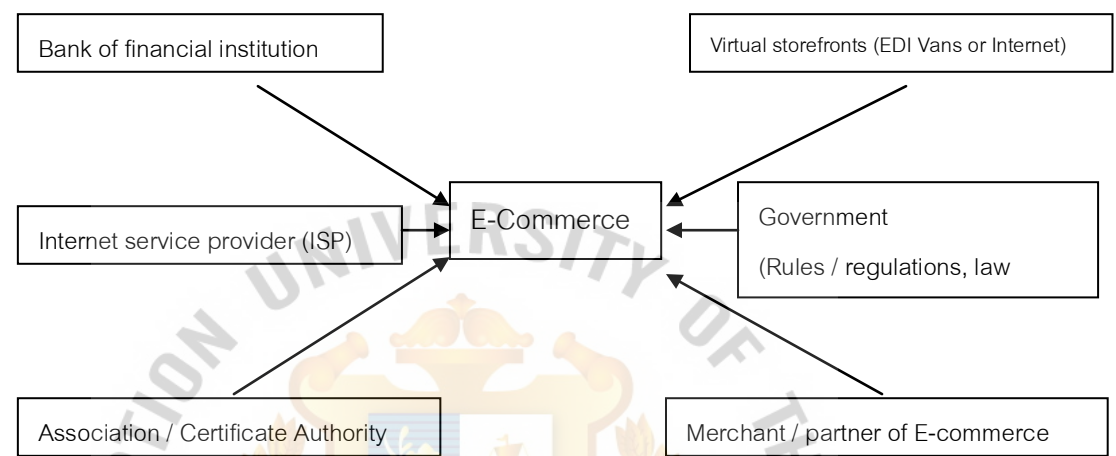
Both large and small companies are using the Internet to make a product information, ordering, and customer support immediately available and to help buyers and sellers make a contact. Some of these Internet electronic commerce initiatives

represent automation of traditional paper-based business processes, while others are new business models.

E-commerce consists of three major components: (i) organizations / individuals, (ii) process, and (iii) networking system. Organizations / individuals are government, manufacturer, wholesaler, agent, retailer, merchant, customer, etc. who connect into the communities of commerce through network system. Network system will consist of an Internet service provider, the Internet technology and the web servers of companies / organizations. The Internet commerce can not be done perfectly without supporting process of marketing, selling, paying, delivering, and after-sale service system which are regarded as the important factors to manage online business successfully.

E-commerce connection and relationship can be in the form of business-to-business (B2B), business-to-consumer (B2C), business-to-government (B2G) or consumer-to-consumer (C2C). However, the study of this research is determined by the scope of business-to-consumer (B2C). Because the shift toward community commerce is most evident in consumer-oriented services, a consumer / buyer demands a product to fit oneself and a vendor must deliver by using Internet technology as an enabler of E-commerce. Figure 2.1 shows various influences on E-commerce.

Figure 2.1 Organizations, companies or groups that affect to the development of E-commerce



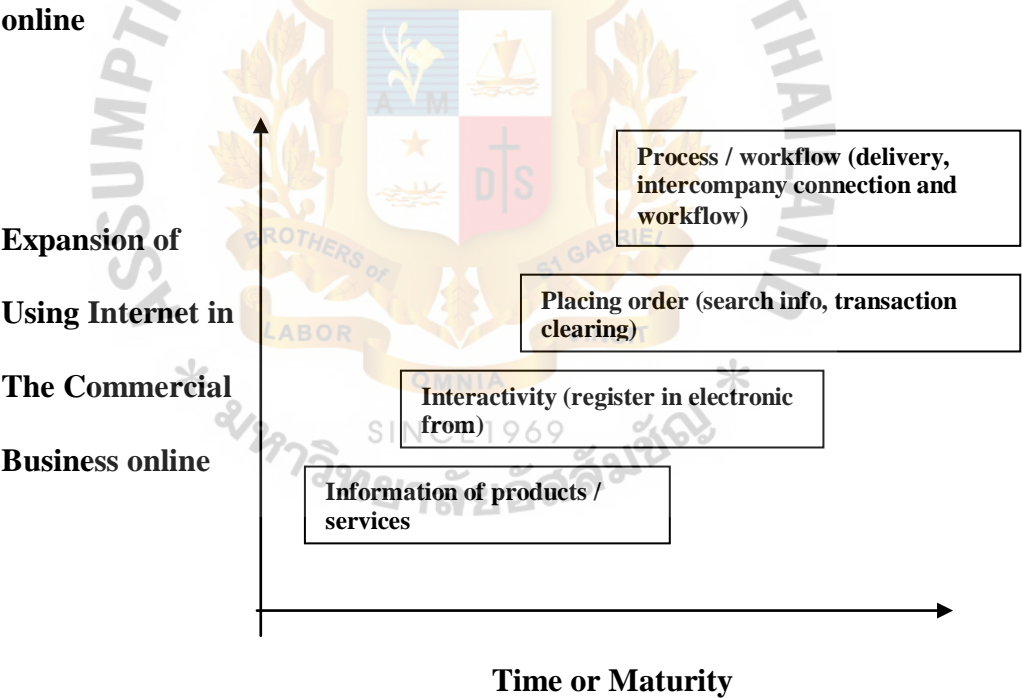
source Kosiur D. (1994), Understanding Electronic Commerce

Internet service provider (ISP) would provide infrastructure and development of network system to businesses, organizations or companies, allowing them to perform Internet commerce. Banks and financial institutions would provide secure payment system to create trust between merchant and buyer, or between merchant and banks. Certificate Authority (CA) would provide certificate and generally accepted standard to certify actual merchant (seller) in cyberspace. While government should insert its power and authority as least as possible to provide rules, regulations and law enforcement to who should be responsible for.

As can be seen from Figure 2.2, development of E-commerce has begun to present and advertise company's products or service and marketing information in the

Web presence. Then it has developed to the form of interactivity (register in electronic form), purchase-sale order (searching information, negotiation in terms of transacting and transferring money through the payment system) and process of workflow (delivering products or services, connecting the partner’s companies and processing of workflow) (source: Kosiur D. (1994). *Understanding Electronic Commerce*, Washington: Microsoft Press)

Figure 2.2 Development of Internet application in the commercial business online



source: Kosiur D. (1994), *Understanding Electronic Commerce*

2.1.3 Privacy and Security Concerns on the Internet

Generally, the trust relationship between a customer and E-seller as the one whose customer has been concern.

Treasury (2000), Berlin (2000) and George (1999) mention that consumers are not engaging to shop online because of they are concerning the security of online payment systems.

The University of California, Los Angeles (UCLA, 2000) found in their survey that 76% of non-internet users and 64% of internet users believe that consumers “put their privacy risk” online. And in 2001 they found that 66% of respondents claimed that the internet creates a risk to individual privacy.

The Markle Foundation’s survey (2001) mention that 45% of respondents considered the internet source of worry and 54% believe that their online rights of privacy and protection are not equal the same rights offline. (Source : http://www.markle.org/resources/press_center/press_releases/2001/press_release_06102001.php, accessed on July 28, 2006)

Pew Internet and American Life’s (2001) survey found that 71% fear internet crime of some sort. (source : http://www.pewinternet.org/pdfs/PIP_Fear_of_crime.pdf, Accessed on July 28, 2006)

The survey of Jupiter Media Metrix (2002) mentions that 70% of United Stated consumer is concerned about their privacy online, only 40% read privacy statements before handling over personal information to web sites. And only 30% of online consumers find the web site privacy statement easy to understand.

Base on many researchers indicated to risk that people are concern when they accessed to buy product from internet. But now season change people move online. E-business is easy, usability and efficiency tool to buying products. So that the marketer who are in this business will be aware in this situation to do the business more efficiency and make the strategic planning how do avoid in this situation. This research believed that now this concern will be fade out from E-business.

2.2 Consumer Behavior

Wongmontha (1998) stated that a consumer is a person who is willing to purchase a product and has power to purchase, so it creates consumer behavior. Marketing management and advertising planning can not be done if consumer behavior is not clearly identified. Clearly identifying consumer behavior means knowing about consumer psychology and other factors that affect the consumer in making decision to purchase.

Antonides and Raaji (1998) quoted that consumer behavior is important in helping to forecast and understand consumer demand for products as well as brand preferences.

Schiffman and Kanuk (2000) mentioned that consumer behavior is the study of how individuals make decisions to spend their available resources (money, time,

effort) on consumption-related item(s). It includes the study of what they buy, why they buy it, how they buy it, when they buy it, where they buy it, and how often they buy it.

Mowen (1998) denoted that consumer behavior is the study of decision-making units and the processes involved in acquiring, consuming, and disposing of goods, services, experiences, and ideas.

Hawkins, et al.(1998) stated that all business success rests on something labelled a sale, which at least momentarily weds a company and a customer. Understanding and properly interpreting consumer wants is a whole lot easier said than done. Every week marketing researchers find out:

- What consumers think of products and those of the products competitor.
- What they think of possible improvements in the products.
- How consumers use the products.
- What attitude consumers have about the products and advertising?
- What consumers feel about their “role” in the family and society?

What their hopes and dreams are for themselves and their families.

Antonides and Raaji (1998) said that consumer behavior is important to help forecasting and understanding consumer demand for products as well as brand preferences. From the perspective of consumer policy, it is important to inform the

consumer about the alternatives opened to the consumer and to avoid deceiving the consumer. From the perspective of science, the study of consumer behavior is a rich domain in which to test economic, cognitive, economic-psychological theories. The cause of behavior is called “Process of behavior” and the process of behavior reveals the following three similar characteristics:

- 1 Any behavior is caused. Meaning that in order for that human to show behavior, it must have cause and cause is the need of each human.
- 2 Any behavior is motivated. That is, when any human has need, he/she desires to achieve that need so it is the motivation to make him/her show any behaviors to satisfy that need.
- 3 Any behavior is goal-directed. Meaning that in order for any human to show any behaviors he/she does not perform without any goal or direction.

Even though the process of behavior of any human is similar, the behavior pattern that shows in different situation, he/she is facing in different. It may be caused by any internal factors such as, personality; and external factors such as, the environment related to him/her. Any factors affect to the decision making process of any human making that human shows different behaviors.

Schiffman and Kanuk (2000) stated that consumer behavior is defined as the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs. We can identify two broad types of consumer behavior variables that directly affect how

persons make purchase decisions. They are (1) variables that are internal to the individual basic *determinants* and (2) variables that are external to the individual's *environmental determinants or influences*.

2.2.1 Basic Determinants

There are six basic consumer variables that control all internal thought processes: needs, motives, personality, learning, attitudes, and perception (Hawkin, et al. 2001).

- (1) A *need* is defined as any physical or emotional body requirement. A need describes a condition that is necessary for sound mental and physical health.
- (2) A *motive* is an impulse or feeling that causes one to do something or act in a certain way. Motives make us aware of ourselves and give us a reason for acting on these needs.
- (3) *Personality* is defined as the human characteristics or traits built into a person that make each person different from every other person. Motives cause the individual to act on needs, but it is personality, which makes an individual act in a specific manner.
- (4) *Perception* is defined as the particular interpretation one gives to objects or ideas observed or otherwise brought to the consumer's attention through the senses.

(5) *Learning* means any change in the consumer's thoughts. Responses or behavior as a result of practice, experiences, or intuition. In a sense, it knows what was unknown before.

(6) *Attitude* is used to mean a broad group of learned predisposition to behave in certain way.

A key element of consumer behavior lies with the individual. One may accept advice or even yield to outside pressure, but the final purchase decision rests with the individual. Marketing manager can not make an individual buy product. What happens is that the individual takes in information from the environment and integrates it into his or her frame of reference.

2.2.2 Environmental Determinants.

Hawkins, et al. (2001) mentioned that there are five broad environmental determinants of consumer behavior:

(1) Family influences, which comes from household member. This usually has the greatest total influence on a consumer.

(2) Social influences, resulting from all personal contacts other than family or business. Social influences arise from workplace, church, neighborhood, school, and friends and peers.

(3) Business influences refer to the direct contact, either at the store or through personal selling, sale, sales promotion, and advertising that the consumer has with business firms.

(4) Culture influences are the innate believe and sanctions developed over time by the social system.

(5) Economic influences are the constraints placed on the consumer by money and related factors.

This research do not view the basic determinants and external influences separately. They interact simultaneously and continuously. Furthermore, there is an interaction between the individual's needs, motives, personality, learning, attitudes, and perceptions. Each influences the other, and every individual decision is influenced by all six factors.

2.2.3 Marketing Communication

It has been evidenced that improper food consumption is a cause of many chronic diseases, such as cardiovascular diseases and cancers; consumers are therefore now becoming more aware of their food consumption. Whereas healthy diet consumption is presently among one of the major concerns of consumers, functional foods and the dietary supplement business has been rapidly growing. As in other developing countries, there are a variety of imported and domestically-produced functional foods and dietary supplements available in Thailand. In addition, health claims on disease prevention that come along with functional foods also attract consumer attention, and have a great influence on the purchasing of functional foods.

(source: http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/007/ae5

[32e/ ae532e02.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/007/ae532e/ae532e02.htm), accessed on June 30, 2006)

Eventhough success in the dietary supplement industry in Thailand derives from the directing marketing techniques, it has still revealed the appearances of some dietary supplement brands failures in this market because of the perceptual pessimistic of consumers. Exactly, the direct marketing is the one of marketing communication strategies which requires hight interpersonal level in order to approach into the target group of consumers.

Remarkably, the effort of convincing customers will be more distinctively effective to the one who already acknowledged or the one who is ready to accept the transformation of information or demonstration. By the way, the different levels of ready-consumption behavior in each consumers' instinct are the significant marketing criteria. There is one article titled as 'Improving nutrition behavior through social marketing' which is very attractively concerned to support the above idea that it would be more successful if the customers are improved or incubated their behaviors and attitudes of nutrition behavior as an initial marketing process.

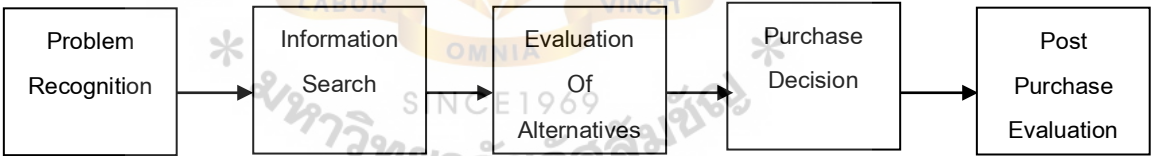
2.3 Consumer Decision Making

Skinner (1994) stated that before businesses can develop marketing strategies to satisfy consumers, they must understand how the consumers make purchasing decisions. Consumer behavior refers to the actions and decision processes of people who purchase goods and services for personal consumption. The consumer decision

making is the process that people go through to decide what products to buy is shaped by many factors, such as internal motivations, social pressures, and marketing activities.

Consumer decision-making generally consists of five stages: problem recognition, information search, evaluation of alternatives, purchase decision, and post purchase evaluation (see Figure 2.3). The actual act of purchasing is only one step in the consumer decision-making process. Purchases are important, of course, but the process is initiated several steps prior to the actual purchase. The model in Figure 2.3 implies that consumers pass sequentially through all five stages in buying a product.

Figure 2.3 Five Stages in Consumer Decision Making



source: Skinner, S. J. (1994). Marketing. (Edition 2). Massachusetts: Houghton Mifflin.
P. 219

2.3.1 Problem Recognition

Skinner (1994) mentioned that the consumer decision making process begins when a buyer recognizes a problem or an unsatisfied need or desire. Kotler (2000)

stated that the need could be triggered by internal or external stimuli. In the former case, one of the person's normal needs-hunger, thirst; sex-rises to a threshold level and becomes a drive. In the case, a need is aroused by an external stimulus. Since consumers may not always recognize that they have a problem or a need. Advertising, packaging, and sales personnel to help trigger consumer awareness of needs and desires. Problem recognition is a critical stage in the consumer decision making process because a consumer will not move to the next stage of the process information search- unless he or she recognizes a problem, a need or a desire.

2.3.2 Information Search

After recognizing a problem or need; the consumer seeks out an information on how to satisfy it. The information search can focus on product features, prices and availability of brands, seller characteristics, warranties, and other factors. The consumer usually begins the searching process with an internal search into their memory. Usually, a person had some previous experience satisfying a particular need and has stored information in his or her mind for dealing with that need. Skinner (1994) quoted that in this case; a decision can be made with little or no additional information search.

However, if more information is needed, the consumer will be engaged in an external search. In this case, the additional information is obtained from a variety of external sources. One source of information is communication with other people or

called personal sources, including friends, family, and associates. Although it is difficult to gauge which of these sources are actually used, they are considered a powerful influence on buying decisions. Marketing sources of information include advertising, salespeople, dealers, and product packages. Buyers can also obtain the information from public sources such as independent product rating and newspaper articles. Finally, examining the product or actually using the product may provide the additional information.

After an information is processed, it should yield a group of brands from which the buyer can choose. These groups of brands are sometimes called the buyer's evoked set. A consumer must then evaluate each of the alternatives in the evoked set.

2.3.3 Evaluation of Alternatives

Actually, after searching for alternatives, a consumer must take time to evaluate each one and choose which one will best satisfy his or her needs. To evaluate a product in the evoked set, the consumer has to develop a set of criteria against which he or she can compare the features of each product. These criteria include the features that a buyer desires as well as those are not desired. The consumer assigns the level of importance to each criterion; some features and characteristics are valued more than others. Some consumers try to simplify the evaluation process by developing some procedure for evaluating the different alternatives. For instance, some consumers may weigh price very heavily or make the evaluation on the basis of a recognized brand

name. Other consumers may make the evaluation process fairly complex by collecting information from several brands and comparing them in different features such as price, quality ratings, warranty, and so on. That is, individuals must decide what standards are important to them in choosing a particular product. Sheppard, Hartwick and Warshaw (1988) stated that this process could be desired through attitude modeling as follows:

1. The consumer has the information about a number of brands.
2. The consumer perceived that some of the brands could satisfy a recognized problem or need.
3. Each brand has its product attributes such as color, price, quality, and so on.
4. Some of these attributes are important to the consumer, who perceives that different brands vary in the extent to which they possess these attributes.
5. The consumer prefers the brand that offers the desired amounts of the important attributes.
6. The consumer intends to purchase the preferred brand.

A sales person can play an important role at this stage by helping consumers evaluate alternatives and moving them closer to a purchasing decision.

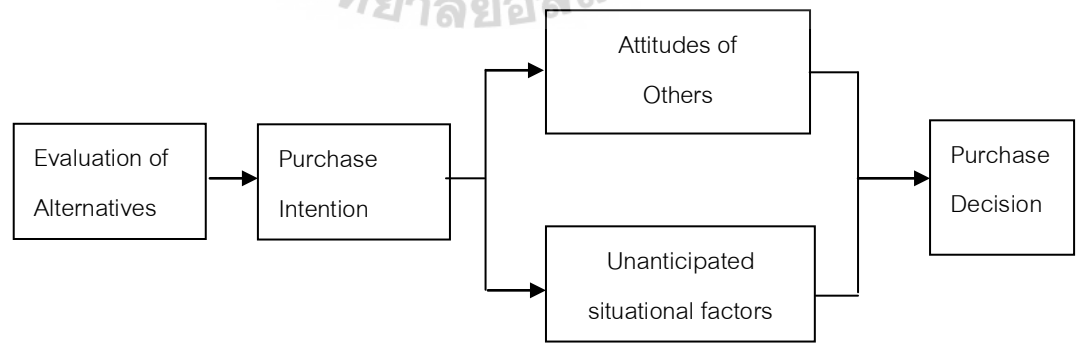
2.3.4 Purchase Decision

Skinner (1994) stated that a consumer decides what product or brand to buy in the purchase decision stage. The consumer also decides where to buy the product in

this stage because the choice of seller may influence the final product selection. The sale terms, if they are negotiable, are determined during the purchase decision stage. Other issues of concern to the consumer, such as price, delivery, warranty, maintenance, installation, and credit arrangement are discussed and agreed on this stage.

Kotler (2000) mentioned that a consumer forms preferences among the brands in a choice set in the evaluation stage, the consumers might also form an intention to buy the most preferred brand. However, Sheth, Mittal, and Newman. (1999) stated that two factors could intervene between the purchase intention and the purchase decision (Figure 2.4).

Figure 2.4 Steps between the Evaluation of Alternatives and a Purchase Decision



(source: Kotler, P. (2000) *Marketing Management (10th ed.)* New Jersey: Prentice Hall P. 182)

The first factor is the attitudes of others. The extent to which another person's attitude reduces one's preferred alternative depend on two things:

- The intensity of the other person's negative attitude toward the consumer's preferred alternative and
- The consumer's motivation comply with the other person's wishes. The more intense the other person's negativism and the closer the other person are to the consumer, the more the consumer will adjust his or her purchase intention.

The second factor is unanticipated situational factor that may erupt to change the purchase intention. Someone might lose the job; some of other purchases might become more urgent. Preferences and even purchase intentions are not completely reliable predictors of purchase behavior. In executing the purchase intention, the consumer may make up to five sub-purchase decisions: a brand decision, vender decision, quantity decision, timing decision, and payment-method decision.

2.3.5 Post purchase Evaluation

Howard and Sheth (1969) stated that after making a purchase, the buyer evaluates the product to determine if it satisfies the need for which it was purchased. Generally, this involves comparing expectations to actual product performance. The outcome of this evaluation is satisfaction or dissatisfaction. Consumer satisfaction or dissatisfaction influences future purchase decisions. If the consumer is satisfied with its products, they will consider purchasing the product again. On the other hand,

dissatisfied customers do not only refuse returning, but they also tell others about the problems they encountered.

2.4 Consumer demand

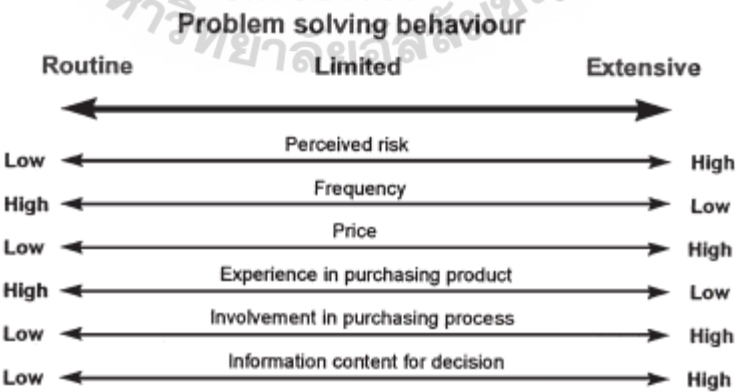
Despite such fundamental change in the structure and process of buying and selling with Internet shopping, one principle which holds true in the market space is that before marketers can effectively respond to consumer demand, they must firstly understand the consumer. There are general models of buying behavior that enable an understanding of the process which the consumers follow in making a purchasing decision. These models provide explanatory and predictive ability which are the critical significance with marketers.

The classic typology of purchasing categories is set out in Figure 2.5. This schema portrays a continuum extending from routine problem-solving behavior through limited problem solving to extensive problem solving. Any buying situation will be placed along the continuum according to the degree of active reasoning required for a particular purchasing decision. Routine problem-solving behavior, typified by the purchase of a newspaper or chocolate bar, is a simple and straightforward task for the individual. The consumer is comfortable and experienced in the process, and it is perhaps something that the consumer does on a daily basis. There is no great sense of personal involvement in the purchase — the individual will

hardly be judged on the purchase, the price is low, and the risks associated with getting the wrong product are negligible.

At the other extreme, however, typified by the purchase of hi-fi equipment, a car or an apartment is the extensive problem-solving situation. Here, there is a great sense of personal involvement in the decision, the purchase is infrequent and so a consumer does not have any or much experience in the process, and the perceived risks are high. The purchase of dietary supplement cannot be classified as either routine or extensive problem-solving situation since the consumers have little information about it and not many people are aware of dietary supplement.

Figure 2.5: Consumer Purchasing and Characteristics of the Purchasing Decision



source : Butler, P. and Peppard, J. (1998). *Consumer Purchasing on the Internet: Processes and Prospects. European Management Journal Vol. 16, No. 5, pp. 600–610.*

Three key groups of factors influence shopping behavior, namely goods characteristics, shopping mode attributes, and consumer characteristics (Salomon and Koppelman, 1988). Generally, goods that require detailed examination before purchase are considered inappropriate for Internet markets (Liang and Huang, 1998).

Whereas a large number of empirical studies have been devoted to analyzing consumer demand for specific products, much less attention has been paid to the household's demand for product variety (the number of different products consumed in a specific time period). Thiele and Weiss (2003) analyzed consumer demand for food variety in Germany. The econometric analysis of 4632 households suggests that variety significantly increases with income and the number of children aged between 7 and 17 years and is significantly higher if the family lives in larger cities in East Germany, and the housekeeping person are not additionally working full-time. A single male household consumes a significantly smaller number of different food products. The significant (and positive) impact of household income on food variety is in line with the hypothesis that consumption evolves along a hierarchical order as income increases. Therefore it is interesting to include the study in the influence of these variables on the number of dietary supplement purchased.

Understanding in dietary supplement purchasing is important in several areas. First, dietary supplement can be important for nutrition and in protecting against chronic diseases (Krebs-Smith et al., 1987; Randall et al., 1985 Hatloy et al., 1998; Vecchia et al., 1997;). Nutritionists generally believe that the key to an optimal diet is

to eat a variety of dietary supplement. Secondly, studying in dietary supplement purchasing may also reveal consumption patterns useful for marketing. Knowledge of consumer preferences on variety may serve as a criterion for market segmentation and assist firms in adapting marketing strategies more effectively to consumers' needs.

In Thailand imported brand names and local pharmaceutical manufacturers are currently in line to register their dietary supplements are in both finished product and bulk. There is an increasing demand for dietary supplements in Thailand. A number of well-know international dietary supplement products with the Thai FDA. Because of the strong demand among the Thai population in health enhancing food products, including vitamins and minerals, herbal products and food supplements, the dietary supplement market outlook in Thailand is a bright one. The total Thai market for dietary supplements in 2000-2001 has exhibited a growth rate of ten percent and is expected maintain that level of overall growth in next three years

(source: <http://www.exporthonline.com>, accessed on March 13, 2006).

2.5 Theories related to independent variables

2.5.1 Price

Hee-Woong Kim and Darren Ee Se Toh (2006) mentioned that if an online vendor understands how to lower the effect of price on customer purchase, the vendor could generate more profit by lowering customers' price sensitivity in their Internet shopping. Hence, moderating the effect of price perception on purchase behavior is a

primary concern for online vendors if they were to generate more profit and reduce the potential of price competition. This study provides a clear conceptualization of price sensitivity through a review of past literature, and proposes a new measurement method for changes in the effect of price perception on purchase. Based on pricing theory, this study examines the effects of trust, switching costs and convenience in moderating the effect of perceived price on purchase intention in the context of an online bookstore. The offer theoretical reasoning for the results and discuss the theoretical and practical implications of this study.

Chen and Dubinsky (2003) mentioned that developed a model of perceived customer value in an e-commerce context. They stress that consumer value perceptions and purchase intentions are determined by the valence of experience, perceived customer value models and add new factors that specifically relate to the online context.

There are several issues concerning the online price. Based on this information the researcher concludes that not every person buy the product at lower price. Many people think that product with lower price will be of lower quality. Especially, the dietary supplement product which people need to buy in order to improve their health. In that case they may need to buy the high quality product at a higher price also.

2.5.2 Convenience Orientation

Sheth et al. (1999) stated that the process value is defined as the saving of time and effort associated with the process of finding, ordering and receiving product through a specific web store.

To most consumers important attributes of online shopping are convenience and accessibility (Wolfenbarger and Gilly, 2001): because consumers can shop on the Internet in the comfort of their home environment, it saves time and effort, and they are able to shop any time of the day or night. Especially for consumers that, owing to their extended working hours, only have a small amount of free time, online shopping is an excellent opportunity. Thus, the situational factor “time pressure” has an attenuating impact on the relationship between attitude and consumers’ intention to shop online. Because the Internet is time saving and accessible twenty-four hours a day, this becomes the main drive for online shopping and attitude toward Internet shopping is less important. A second situational factor is “lack of mobility” (Avery, 1996). Consumers, who are not able to shop in traditional store owing to an illness or other immobilizing factors, have the ability to shop on the Internet to fulfill their shopping goals. Furthermore, for consumers who have to travel large distances to stores that provide them with the articles needed, shopping on the Internet is a viable alternative to overcome this geographical distance.

2.5.3 Shopping Enjoyment

Sheth et al. (1999) stated that the shopping enjoyment refers to the extent to which the shopping experience with the web store is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated.

Wood (2000) stated that the higher interest in using new technologies, consumers younger than age 25 are the group most interested in having fun while shopping. They respond more favorably than older shoppers to features that make online shopping entertaining.

Davis et al. (1992) stated that shopping enjoyment is the intrinsic value when shop online. Much of the work on the role of enjoyment in computer use has been done in the context of word processing and graphics programs and microcomputer usage (Igbaria, et al. 1996). However shopping enjoyment arises not only from the system playfulness, but more from the recreational effect of shopping. As Babin et al. (1994) put it: some people shop to buy, others buy to shop.

It has been seen that people who like to shop dietary supplement online were female and have higher income. Because female more concerned about beauty, health and age than male and normally people who use internet have enough money to spend.

2.5.4 Product Selection and Personal fit

Consumers' decision whether or not to shop online are also influenced by the type of product or service under consideration. Some product categories are more suitable for online shopping than other categories. The lack of physical contact and assistance in shopping on the Internet is one factor that influences this suitability. Another factor is the need to feel, touch, smell, or tries the product, which is not possible when shopping online. Following this, clearly standardized and familiar products such as books, videotapes, CDs, groceries, and flowers, have a higher potential to be considered when shopping on the Internet, especially since quality uncertainty in such products is virtually absent, and no physical assistance or pre-trial is needed (Grewal et al., 2002; Reibstein, 1999). On the other hand, personal-care products like perfume and lotion, or products that require personal knowledge or experience like computer and cars, are less likely to be considered while shopping online (Elliot and Fowell, 2000). Thus, if personal interaction with a salesperson is required for the product under consideration, consumers' intention to shop on the Internet is low. Furthermore, if consumers need to pre-trial the product under consideration, or have the necessity to feel, touch or smell the product, then their intention to shop online is low as well. However, in case of standardized and familiar goods, or certain sensitivity products that require a level of privacy and anonymity, consumers' intention to shop on the Internet is high (Grewal et al, 2002).

Wolfenbarger and Gilly (2001) mentioned that in case consumers need to acquire tailored products, like special sized clothing or large sized shoes, which are not available in conventional stores, shopping on the Internet is an option for them to purchase these special items any how.

Sometime consumer need to consult with the pharmacist before buying dietary supplement products. Consumer need to know how the product suffered to their disease. If they buy product from Internet they can not discuss with the pharmacist even though the web site has option of FAQ (Frequently asked Questions) but the different consumer have a different condition so can not be implied for every consumers.

2.5.5 Demographic factors

2.5.5.1 Gender

Burke (2002) and Li et al. (1999) stated that men express a greater interest in using various types of technology in the shopping process and are more positive about using the Internet as a shopping medium, whereas female shoppers prefer using catalogs to shop at home. But female consumers that do prefer to shop on the internet, shop more frequently online than their male counterparts.

2.5.5.2 Age

Wood (2000) mentioned that the influence of age is noticeable through the fact that compared to older consumer, younger adults, especially those under age 25, are more interested in using new technologies, like the Internet, to find out about new products, search for product information, and compare and evaluate alternatives.

Older people being more prone to disease and increasing age are more interested in healthy and age than younger people. They usually have more income to spend than younger people.

2.5.5.3 Income

Lohse et al. (2000) stated that consumers with higher household income (above \$ 75,000 annually) intend to shop more online compared to the lower income consumers. A reason for this is that higher household income is often positively correlated with possession of computers, Internet access and higher education levels of consumers.

Most of consumer who have more income can spend more money to buy Dietary Supplement. Not only Dietary Supplements but can also buy computer.

2.5.6 Perceived speed of computer system

Anderson and Sullivan (1993), Fornell (1992), and Shemwell et al. (1998) mentioned that the importance of service quality as an antecedent of customer satisfaction. Service quality is the customers' subjective assessment of the expectations with actual service performance (Parasuraman et al. 1985). The evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.

2.5.7 Competency using the Internet

Since online shopping requires basic knowledge of computer use as well as knowledge about the Internet, a distinction has been made in this context between “computer self-efficacy” and “Internet self-efficacy”. Marakas et al. (1998) defined general “ computer self-efficacy” as an individual's judgment of efficacy across multiple computer application domains, whereas “ Internet self-efficacy” is a person's judgment of his or her ability to apply Internet skills in a more encompassing mode, such as finding information or troubleshooting search problems (Eastin and LaRose, 2000).

Thus, consumers with low self-efficacy are uncertain and less comfortable shopping on the Internet, and therefore need simple procedures that require little knowledge and guide them through the online shopping process. This indicates that, in

case of low self-efficacy, the level of “ease of use” of Internet as a shopping medium must be high in order to achieve a positive attitude toward online shopping. On the other hand, high degrees of computer self-efficacy and Internet self-efficacy proved to have an attenuating effect on the relationship between “usefulness” and attitude toward using the Internet (Eastin and LaRose, 2000). A reason for this attenuating effect is that self-efficacy judgments are positively related to outcome expectations (Oliver and Shapiro, 1993). The stronger a person’s self-efficacy beliefs, the more likely he or she tries to achieve the desired outcome. In addition to this, it is explained by the fact that consumers are more likely to attempt and persist in behaviors that they feel capable of performing (Eastins and LaRose, 2000).

Not only high speed internet that consumer can use for buying product online but also lower speed internet can be used to buy or searching product that they need.

2.6 Previous Studies about Consumer’s Purchase Decision

U-Tariya (2001) studied the Relationship between Consumer’s Attitudes and Dietary Supplementary Product: A study of GNC Branches in Bangkok. The objectives of this study are to determine the relationship between consumers’ attitudes and dietary supplementary products; the relationship between consumers’ knowledge about dietary supplementary products and consumer’s attitudes toward dietary supplementary product; consumers’ healthy lifestyles and consumers’ attitudes toward dietary supplementary products; and consumers’ knowledge about dietary supplementary products and consumers’ healthy lifestyle and also examines the

differences in consumer's attitude toward dietary supplementary products when segmented by demographic factors.

The researcher collecting the data by interview with a questionnaire and the sample size is 400 respondents who have purchased dietary supplementary products and live in Bangkok and used three statistical methods to analyze the hypotheses. The statistical were Independent t-test, Correlation coefficient, and One Way Analysis of Variance (ANOVA).

This study found that there is a relationship between consumers' knowledge about dietary supplementary product and consumers' attitude toward dietary supplementary products. There is no relationship between consumers' healthy lifestyle and consumers' attitude toward dietary supplementary product. There is a difference in consumers' attitude toward dietary supplementary products when segmented by demographic factors. There is no relationship between consumers' knowledge about dietary supplementary products and consumers' healthy lifestyle. There is a relationship between consumers' knowledge about dietary supplementary products and consumers' education levels.

Sothikul (2005) studied Relationship between women buyer's Characteristics and their buying choices for dietary supplement product in Bangkok. This research has two objectives; to find out the relationship between cultural, social and psychological characteristics of women buyers and their buying choices for dietary supplement, and

to find out the difference in buying choices of women buyers for dietary supplement when classified by their demographic characteristics.

In this research, the researcher used the survey method and 400 sets of questionnaires as the instrument in primary data collection with women above 20 years old who used to buy dietary supplement products and currently live in Bangkok.

For data analysis, this research used Descriptive Statistics, Pearson's coefficient, Chi-Square of Independent Test or Crosstabulation, and Multiple Linear Regression to measure.

From 400 respondents, 68.5% (274 respondents) used to buy dietary supplement products. For the respondents who used to buy dietary supplement products, they bought the dietary supplement products in the kind of good-looking purpose (47.3%); those are Vitamin, Collagen, Conyaku, Birdnest, Evening primrose oil. The respondents bought are supermarket or department store (33%). Most of the respondents bought dietary supplement product more than once a month (49.6%). Most of the respondents bought 30 tablets or capsules per pack at once time purchase (28.4%) and bought 1 bottle at one time purchase 58.9%. The reason for the person who never bought dietary supplement product is that dietary supplement product is not necessary for them to buy (66.7%).

Nattamon (2000) studied the Perceptions on the Impact of Electronic Mail in Data mat Group Company Limited in Bangkok, Thailand. A questionnaire was developed to measure the users of electronic mails perception on capability requirement, criteria, for usage electronic mail, and electronic mail communication impact at DATAMAT GROUP CO., LTD. in Bangkok, Thailand.

The result showed that the perceptions on all variables in communication equipment (reliability, flexibility, simplicity, and security / privacy) were in undecided rating that might be the more expectation of the respondents because of the company's background in computer. There were no differences among the three job levels (top, middle, and staff) with capability requirement for the users of electronic mail. It means that no boundary in electronic mail communication usage. Recommendation for practice was promotional electronic mail usage for all job levels, recruitment process, orientation, and training. The outcome of this study would be beneficial for management to develop and improve the usage of electronic mail in the organization for future.

Janesiri (2000) studied Consumer Perception of Intrusion toward Personal Privacy and Direct Marketing Activities. A survey technique and self administrated questionnaires were conducted on 400 respondents with non-probability sampling from the consumers in Bangkok. It was found that the respondents pay attention to high level with privacy of the consumer data. The importance was used of private data without authorization because the respondents considered with personal idiosyncrasy.

Nevertheless, the opinion of most respondents with direct marketing activities trended to intrude privacy. However, the respondents believed that each direct marketing activity had unequal tendency to intrude privacy of consumers. Moreover, the demographic factors such as age, education, and income have relationship with privacy concern of the consumer private data that depended on situation and the level of age, income, and education.

Apparently, the Thai respondents were experienced with a catalog buying as well as Canadians and experienced to the direct mail technique more than Japanese and Americans. Moreover, it was still found that the Thai respondents pay attention to privacy identity information closely. The purpose of a direct marketer who wanted to increase the net sale and create the grand sale preferred to use direct marketing activity. However, the result of research was found that the direct marketer should consider privacy of consumer into direct marketing activity in order to create grand sale in the future.

CHAPTER III

RESEARCH FRAMEWORK

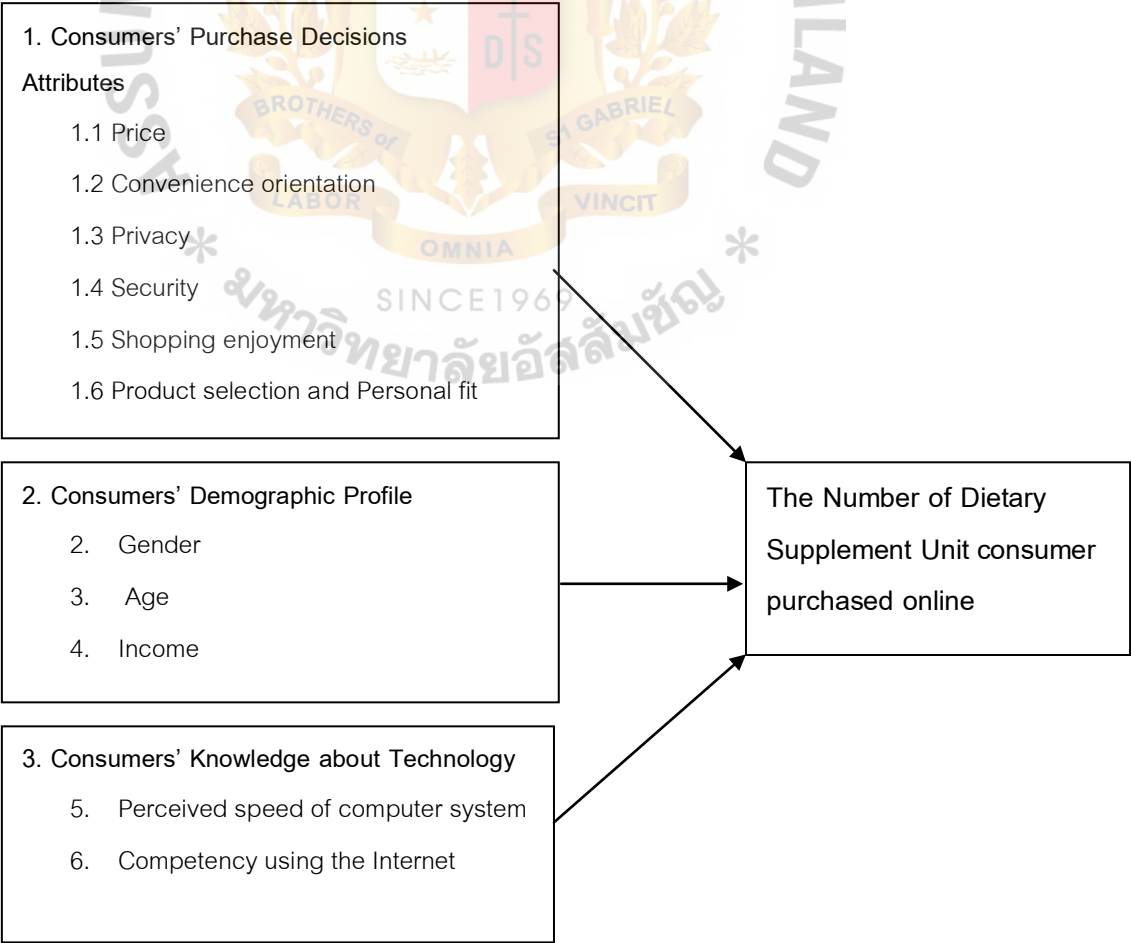
This chapter focuses on the diagram of research framework, and determines the research hypotheses. Also, the variables are defined and the expected outcome is explored.

3.1 Conceptual Framework

Figure 3.1 Conceptual Model

Independent Variables

Dependent Variables



3.2 Definition of the Variables

3.2.1 Dependent variable

The dependent variable of the study is the Number of units of Dietary Supplement that a consumer purchased for their own personal use via the Internet.

Dietary supplement in this research means any product used to supplement the diet which bears or contains one or more of the following dietary ingredients; a vitamin, a mineral, a herbal or botanical product, an animal extract, an amino acid, a protein, a concentrate, a metabolite, a constituent, tea, or other dietary supplement defined in Table 1.1.

The number of Dietary Supplement Unit is The amount of categories of Dietary Supplement that purchase via online shopping

3.2.2 Independent Variables

3.2.2.1 Consumers' Purchase Decisions

Price is the amount of money one must pay to get the right in using the product. The product in this research is dietary supplement.

Convenience orientation is the amount of time spent on shopping.

Privacy is the protection of sensitive and personal information from unintentional and intentional attacks and disclosure.

Security is the protection transaction risk.

Shopping enjoyment is the shopping activities which can make potential customer pleasure.

Product selection and personal fit is the assortment of product with respect to persons.

3.2.2.2 Consumers' Demographic Profile

Gender is classification of sex.

Age is the length of time that a person has lived.

Income is the amount of money received over a certain period as payment for work.

3.2.2.3 Consumers' Knowledge about Technology

Perceived speed of computer system is the perceived speed of system provider.

Competency using the Internet is the knowledge or skill for using internet

3.3 Hypotheses Statements

There are six hypotheses developed from the research objectives of this study which are divided into three groups of research hypotheses. The first one, hypotheses (H1) which comprises six sub hypotheses, determines the relationship between the Number of Unit of Dietary Supplement that consumer purchased online and Consumers' Purchase Decisions (Price, Convenience Orientation, Privacy, Security, Shopping Enjoyment, Product Selection and Personal fit).

The second one comprises three hypotheses (H2-H4), determines the relationship between the Number of Unit of Dietary Supplement that consumer purchased online and the consumers' demographic profile.

The last group includes two hypotheses (H5-H6) in order to find out the the Number of Unit of Dietary Supplement that consumer purchased online among consumers' knowledge about technology.

H1₀ : There is no relationship between Consumers' Purchase Decisions (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit) and the Number of unit of Dietary Supplement that consumer purchase via the Internet.

H1_a : There is a relationship between Consumers' Purchase Decisions (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit) and the Number of unit of Dietary Supplement that consumer purchased via the Internet.

H2₀ : There is no relationship between the gender of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.

H2_a : There is relationship between the gender of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.

H3₀ : There is no relationship between the age of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.

H3_a : There is relationship between the the age of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.

H4₀ : There is no relationship between income and the Number of unit of Dietary Supplement product purchased via the Internet.

H4_a : There is relationship between income and the Number of unit of Dietary Supplement product purchased via the Internet.

H5₀ : There is no relationship between Perceived speed of the shopper's computer system and the Number of unit of Dietary Supplement product purchased via the Internet.

H5_a : There is relationship between Perceived speed of the shopper's computer system and the Number of unit of Dietary Supplement product purchased via the Internet.

H6₀ : There is no relationship between the level of competency in using the Internet and the Number of unit of Dietary Supplement product purchased via the Internet.

H6_a : There is relationship between the level of competency in using the Internet and the Number of unit of Dietary Supplement product purchased via the Internet.

3.4 Expected Outcome

Hypothesis 1 : The researcher expects that the outcome will be that there is a relationship between Consumers' Purchase Decisions and the Number of unit of Dietary Supplement that consumer purchased.

Hypotheses 2-4 : The researcher expects that the outcome will be that there is a difference in Consumers' Demographic Profile among the Number of Unit of Dietary Supplement that consumer purchased.

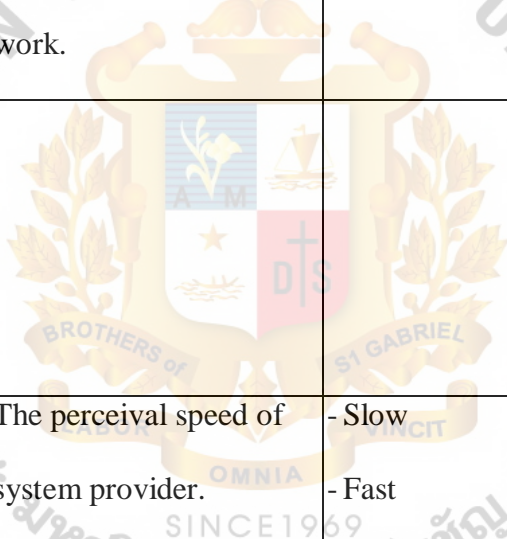
Hypotheses 5-6 : The researcher expects that the outcome will be that there is a difference in Consumers' Knowledge Variables among the Number of Unit Dietary Supplement that consumer purchased.

3.5 Operationalization of Variables

Table : 3.1 Operationalization of Independent and Dependent Variables

Concept	Conceptual Definition	Operational Components	Level of Measurement	Question Number
The number of Dietary Supplement	The amount of the Dietary Supplement that purchase via online shopping	- The number of categories	Ratio	Section 1 1
Consumers' Purchase decesion				Section 2
Price	The amount of money that one must pay to get the right in using a product.	- Price Sensitivity	Interval scale	2.3,2.10, 2.12,2.15, 2.18,2.22
Convenience orientation	The amount of time spent on shopping.	- Time pressure - Lack of mobility - Geographical distance	Interval scale	2.1,2.4,2.7, 2.8, 2.9,2.21

Concept	Conceptual Definition	Operational Components	Level of Measurement	Question Number
Privacy	The protection of sensitive and personal information from unintentional and intentional attacks and disclosure.	-Personal data -Purchase history	Interval scale	2.2,2.5,2.13, 2.16,2.23
Security	The protection transaction risk.	-Extend of disclosure online	Interval scale	2.6,2.11, 2.14, 2.17, 2.19, 2.20
Shopping enjoyment	The shopping activities which can make potential customer pleasure.	-Extend of Purchasing online	Interval scale	3.1, 3.2, 3.3, 3.4,3.5, 3.6
Product selection	The assortment of product with respect to persons'.	-Level of nutrients -Safety	Interval scale	4.1
Personal fit	The correct of product type is	-Efficacy	Interval scale	4.2

Concept	Conceptual Definition	Operational Components	Level of Measurement	Question Number
Gender	Classification of sex.	-Male -Female	Nominal scale	5
Income	The amount of money received over a certain period as payment for work.	-Individual average income per month	Ordinal scale	7
Consumers' Knowledge about Technology				Section 4
Speed of computer system	The perceival speed of system provider.	- Slow - Fast	Nominal scale	8
Internet competency	The knowledge or skill.	- Self-efficacy	Nominal scale	9

CHAPTER IV

RESEARCH METHODOLOGY

This chapter explains about a research methodology, including sampling technique, research questionnaire, data collection procedure, data measurement, and analysis of the data.

4.1 Methods of Research Used

4.1.1 Descriptive Research

Data were obtained by a survey in the form of a questionnaire. The questionnaire was mailed to each consumer via e-mail out of which 58 respondents returned the questionnaire by e-mail. The researcher also collected the data (324 respondents) by face-to-face communication with the target population.

4.1.2 Target Population

Target population is the specific complete group relevant to the research project (Zikmund, 1997). The target population in this study refers to the people who purchased online during Jan – June 2006 and lived in Bangkok and its boundary area

(Nonthaburi province, Pratumthane province, Samuthprakarn province, and Samuthsakorn province).

4.1.3 Sampling Frame

A sampling frame is a list of element from which a sample may be drawn (Zikmund, 1997). There is no sampling frame in this research.

4.1.4 Sampling Unit

The sampling unit is a single element or group of elements subject to selection in the sample. In this research, the researcher asked people who live in Bangkok and its boundary area whether they have ever bought dietary supplement online in year 2006. If they do, the author asked them to fill-up questionnaires or sent them by e-mail. The locations on which the researcher did the sampling are office buildings or Industrials area located in various parts of Bangkok and its boundary areas. The sampling size required is 382 respondents determined under section 4.1.5.

4.1.5 Sampling Size

The sampling size in this study is calculated based on the method proposed by Anderson (1996) used to forecast a modest sample when the population is large and the sample is drawn randomly as shown in Table 4.1.

Table 4.1 Theoretical sample sizes for different sizes of population and various per cent levels of certainty

Population	Required Sample for Tolerable Error of			
	5%	4%	3%	2%
100	79	85	91	93
500	217	272	340	413
1,000	277	375	516	705
5,000	356	535	879	1622
50,000	381	593	1044	2290
100,000	382	596	1055	2344
1,000,000	384	599	1065	2344
25,000,000	384	600	1067	2400

source: Anderson, G. (1996). Fundamental of Educational Research P. 202

Internet User of Thailand 2004 Research by NECTEC mentions that Thailand has 6,971,500 users to access the internet in 2005 for different purposes such as Telecommuting, E-business, E-learning etc. For online purchasing Dietary supplement, there is only 6.1 per cent of internet user in Thailand in 2005. As a result, there are about 425,262 Dietary supplement online shoppers in 2005. This can be estimated as the population for this research.

Anderson (1996) stated that the sample characteristics will not differ from the population characteristics more than 5 per cent or 1 per cent of the time. And the major concern in choosing a sample is that it should be large enough to be representative the population from which it comes. According to his theory, the sample size for 425,262 populations is about 382 (determined by inserting the population of 100,000 into Table 4.1). This calculation is based on total number of Dietary supplement online shopper in 2005 about 425,262 and a 95 per cent level of certainty. Therefore the researcher decided to use a sample of 382 respondents to collect the primary data through self- administered questionnaires.

4.2 Data Collection

4.2.1 Research Instruments / Questionnaires

This research used questionnaire to gather the information from the respondents. The formation of questionnaire was conducted based on the theoretical framework and previous study. Questionnaire consists of three sections. All questions responded to the statement of problems and hypotheses. The questionnaire is attached in Appendix A while the outline of each section is shown below:

Section 1: Number of Dietary Supplement

The question regarding the shopping information data of respondents to indication how many items that the respondent purchased via the internet. Short answers are used in this question.

Section 2: Consumers' Purchase Decisions

The questionnaires were devoted to brief instructions and questions regarding the Number of Unit Dietary Supplement shopping attributes and behaviors. The instructions included the definition of Dietary Supplement and the indication of products or services. This section consists of three parts as given below.

Part 1: The price, convenience orientation, privacy and security of Consumer toward the Number of Unit of Dietary Supplement. This part contains twenty three questions for rating the feeling of each question on the five-point scale, ranging from one (Strongly agree) to five (Strongly disagree).

Part 2: The shopping enjoyment of customer towards the Number of Unit of Dietary Supplement. This part contains six questions for rating the feeling of each question on the five-point scale, ranging from one (Strongly agree) to five (Strongly disagree).

Part 3: The product selection and personal fit of customer toward the Number of Unit of Dietary Supplement. This part contains two questions for rating the feeling of each question on the five-point scale, ranging from one (Strongly agree) to five (Strongly disagree).

Section 3: Consumers' Demographic Profile

The personal data section requests the information about the Respondents' Demographic data and asks respondents to provide indication of age, gender and family income. Multiple choices and short answers are used in this part.

Section 4: Consumers' knowledge and Technology

The personal data section requests the information about the Respondents' Competency using the internet and speed of computer system. This part contains two questions, one for rating the feeling of each question on the five-point scale, ranging from one (Very Skillful) to five (Not Skillful) and one for Multiple choices.

4.2.2 Pretest

The objective of pretest study was to examine the reliability of the instrument. For the sample size, Vanichabancha (2001) mentioned that pretest should be at least 25 respondents. Therefore, this research distributed 30 copies of questionnaire for

respondents. After launching the questionnaire, there were some questions that ambiguous in meaning and misunderstanding so the researcher reviewed and developed all those questions. The data were coded and processed by SPSS program to find the reliability.

4.2.3 Pretest of Questionnaire

The researcher examined the reliability of this questionnaire by using Cronbach Alpha scores in SPSS program. Sekaran (1992) mentioned that if the alpha value is at least 0.60 the reliability is acceptable.

In this research, using Cronbach Alpha scores in SPSS program found that the alpha value is 0.8997 for Price, Convenience Orientation, Privacy, and Security, for Shopping Enjoyment, the alpha value is 0.9147 and for Product Selection and Personal Fit, the alpha value is 0.7164 (see Appendix B for details). From the result of reliability in the pretest study were more than 0.60 so that researcher have accepted reliability in this pretest.

4.2.4 Data Collection Procedure

In this research, primary data were collected by using self-administered or close-formed questionnaires in Bangkok and outbound area. This approach is the most flexible method of data collection, easy to provide information and be interpreted.

Self-administered questionnaire can be used to present questions and record answers in quantitative field research surveys. Self-administered questionnaire is a less expensive and less time consuming method in collect information from the large number of individuals simultaneously. In this research, the researcher collected the data, 58 questionnaires (by using e-mail) and 324 questionnaires by using face-to-face communication.

Secondary data were collected from several sources such as marketing and consumer behavior textbooks, magazines, newspaper articles, other previous research and regional publications. Library sources of marketing data include an array of publicly circulated materials such as government documents, research reports and foreign journals.

This research used the survey technique and the questionnaires were distributed to the respondents around Bangkok and outbound area. The way of distributing the questionnaires to respondents were by e-mail and face-to-face communication. The respondents were given four weeks after the mailing date and collected the data. Then, the results were analyzed in two weeks after collecting the data.

4.3 Data Analysis

4.3.1 Statistics Used

Once the necessary data was collected, it was analyzed and summarized in a readable and easily interpretable form. The Statistical Package for Social Science (SPSS) was used to summarize the data where needed. After collecting the data form of 382 questionnaires, the data was coded into the symbolic form that is used in SPSS software. The researcher used SPSS software for windows for data processing. The form of data presentation from these procedures is presented in an easily interpretable format.

Descriptive statistics consists of the frequency and percentage in order to describe each variable that is associated with respondent data such as consumers' characteristics. Statistical treatment of data applied in the analysis includes of Spearman Rho Correlation Coefficient and one-way ANOVA

- Spearman Rho Correlation Coefficient.

Spearman ho Correlation Coefficient is much alike the Pearson r coefficient; both are used to measures how well two variables fit together (a bi-variate correlation). The difference is that the Spearman Rho is used when participants are ranked on both variables (interval scale). Spearman's Rho correlation coefficient is a nonparametric

statistic which means that the two variables compared do not have to have a normal distribution. The calculation of Spearman Rho Correlation Coefficient need variables that have an interval or at least a high ordinal measurement level, e.g., weight, grade point average, or scale scores.

Correlation analysis involves measuring the closeness of the relationship between two or more variables; it considers the joint variation of two measures, neither of which is restricted by the experimenter (Churchill, 1995). Spearman Rho Correlation coefficient is used to find the relationship between purchase decision attitude (which consist of price, convenience orientation, privacy, security, shopping enjoyment, product selection and personal fit.) and the Number of Unit of Dietary Supplement. The Spearman's technique is selected to measure the relationship because the purchase decision attitude is an interval variable.

The formula for calculating the Spearman rho correlation coefficient is as follows.

$$\text{rho (p)} = 1 - \frac{6\sum d^2}{n(n^2-1)}$$

n is the number of paired ranks and d is the difference between the paired ranks. If there are no tied scores, the Spearman rho correlation coefficient will be even closer to the Pearson product moment correlation coefficient. Also note that this formula can be easily understood when your realize that the sum of the squares from 1 to n can be

expressed as $n(n + 1)(2n + 1)/6$. From this you can realize the least sum of d^2 is zero and the greatest sum of d^2 is twice the sum of the squares of the odd integers up to $n/2$ and this then scales such a sum between -1 and +1.

Zikmund (2000) stated that the correlation coefficient ranges from +1.0 to -1.0. If the value of r is 1.0, there is a perfect positive linear (Straight- line) relationship. If the value of r is -1.0, a perfect negative linear relationship or a perfect inverse relationship is indicated. No correlation is indicated if $r = 0$. Spearman Rho Correlation coefficient indicates both the magnitude of the linear relationship and the direction of the relationship. For example, if the Spearman Rho Correlation coefficient is .382 (positive), it means that a higher value of variable X is correlated with a higher value of variable Y. A Spearman Rho Correlation coefficient of 0.0 means that there is no correlation between the two variables. A Rho of .382 means there is a moderate correlation between the two scales.

- The Independent t-test

Callan and Bowman (2000) applied this method to ascertain whether the importance of attributes varied significantly according to gender in their study of mature travelers.

In this research, t-test is applied to investigate the significant differences between the indentified the number of Dietary Supplement and gender of customers.

The formula for the independent t-test is (Saiyod and Saiyod, 1995).

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where

X_1 = The mean for group 1

X_2 = The mean for group 2

SS_1 = The sum of squares for group 1

SS_2 = The sum of squares for group 2

n_1 = The number of subjects in group 1

n_2 = The number of subjects in group 2

df = Degree of freedom

- One-way ANOVA

Kumar et al. (1999) defined ANOVA as a conventional way to present a hypothesis test regarding the difference between several means. ANOVA, in this research, is applied to investigate the significant differences between the identified the number of Dietary Supplement and Consumers' Demographic profile and consumers' Knowledge about Technology. The formula for ANOVA is shown below (Zikmund, 2000).

$$F = \frac{MSb}{MSw}$$

$$MSw$$

$$df = cn-1$$

Where :

MSb	=	Mean squares of between-group variances
MSw	=	Mean squares of within-group variances
c	=	number of groups
n	=	number of observations in group
df	=	Degree of freedom

4.3.2 Decision Rule for Interpretation

All of hypotheses were tested at the 0.05 and 0.01 level of statistical significance. The following items summarize the analytic methods used in this study:

1. Spearman Rho Correlation Coefficient:
For Hypotheses 1,1.1 and 1.6
2. Independent t-test : For Hypotheses 2
3. One-way ANOVA : For Hypotheses 3-5

CHAPTER V

DATA PRESENTATION AND CRITICAL ANALYSIS

After the distribution of questionnaire, 382 persons responded to the questionnaires, therefore, the researcher used them as the valid data to get the certain results.

5.1 Demographic Profile

In this part, the Descriptive Statistics was brought into use for finding out the demographic profile of respondents.

Table 5.1 The Number of Dietary Supplement Unit Consumer Purchased Online

The Number of Dietary Supplement Unit Consumer Purchased Online	Frequency	Percent
0	328	85.9
1	3	0.8
2	21	5.5
3	8	2.1
4	13	3.4
6	9	2.4
Total	382	100

328 respondents or 85.90% who had never purchased dietary supplement by online, represented the majority group. Whereas, 3 respondents or 0.80% purchased dietary supplement consumer for 1 category, represented as the minority group. 21 respondents or 5.50% have purchased dietary supplement via internet for 2 categories, 13 respondents have purchased via internet for 4 categories, 9 respondents have purchased via internet for 6 categories, and 8 respondents have purchased via internet for 3 categories.

Table 5.2 Gender

		gender of responder			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	104	27.2	27.2	27.2
	female	278	72.8	72.8	100.0
	Total	382	100.0	100.0	

From the table, 104 respondents were male, amounting to 27.20%. While 278 respondents were female, amounting to 72.80%. It can be concluded that majority of respondents of this study were female.

Table 5.3 Age

age of responder

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 25 years old	60	15.7	15.7	15.7
	25-30 years old	114	29.8	29.8	45.5
	31-35 years old	104	27.2	27.2	72.8
	36-40 years old	77	20.2	20.2	92.9
	More than 40 years old	27	7.1	7.1	100.0
	Total	382	100.0	100.0	

There were 114 respondents or 29.80% of all respondents whose ages were in the 25-30 years old range. This range is the largest portion of the population. While, the minority group was the group of 27 respondents whose ages were more than 40 years old represented only 7.10%. 104 respondents or 27.20% were between 31-35 years old. 77 respondents or 20.20% were between 36-40 years old. And 60 respondents or 15.70% were less than 25 years old.

Table 5.4 Income

income of responder

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than ฿10,000.-	19	5.0	5.0	5.0
	฿ 10,000 - ฿ 29,999.-	222	58.1	58.1	63.1
	฿ 30,000 - ฿ 49,999.-	108	28.3	28.3	91.4
	฿ 50,000 - ฿ 69,999.-	33	8.6	8.6	100.0
	Total	382	100.0	100.0	

Most respondents have income between Baht 10,000 – 29,999 , contained of 222 respondents or 58.10%. 108 respondents or 28.30% have monthly income between Baht 30,000 – 49,999, 33 respondents or 8.60% have income between Baht 50,000 – 69,999 , and only 19 respondents or 5% have income less than Baht 10,000. It can be concluded that majority of respondents of this study have income between Baht 10,000 - 29,999.

Table 5.5 Speed of Computer System

speed of computer system		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fast (128KMB.)	274	71.7	71.7	71.7
	Slow (56KMB.)	108	28.3	28.3	100.0
	Total	382	100.0	100.0	

From the table, 274 respondents used high speed of computer system, amounting to 71.70%. While 108 respondents used low speed of computer system, amounting to 28.30%. It can be concluded that majority of respondents of this study use high speed of computer system.

Table 5.6 Internet Competency

internet competency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very skillful	36	9.4	9.4	9.4
	Skillful	166	43.5	43.5	52.9
	Somewhat skillful	116	30.4	30.4	83.2
	Not skillful	64	16.8	16.8	100.0
	Total	382	100.0	100.0	

There were 166 respondents or 43.50%, who perceived that internet competency was skillful, represented the majority group. Whereas, 36 respondents or 9.40% who perceived that internet competency was very skillful, represented the minority group. 116 respondents or 30.40% perceived internet competency as somewhat skillful and 64 respondents or 16.80% perceived internet competency as not skillful. From the data, it is obviously that the respondents were skillful and very skillful of perceived that internet competency more than a half of respondents.

5.2 Hypotheses Analysis

To test the relationship between quantitative variables, the Bivariate Correlation test (Spearman’s rho) was used for proving hypothesis 1 and 6 in finding out the relationship between number of dietary supplement unit consumer purchased online, and consumers’ purchase decisions and internet competency.

And the correlation results acquiring from the test were interpreted according to Correlation Coefficient Range as follows:

<u>Correlation Coefficients</u>	<u>Correlation Level</u>
-1.00	Perfect negative correlation
- 0.95	Strong negative correlation
- 0.50	Moderate negative correlation
- 0.10	Weak negative correlation
0.00	No correlation
+0.10	Weak positive correlation
+0.50	Moderate positive correlation
+0.95	Strong positive correlation
+1.00	Perfect positive correlation

As the significance level of this study was set at 0.05, the null hypothesis would be rejected when Sig. (2-tailed) or p-value was less than α .

Hypothesis 1

H1₀ : There is no relationship between the number of unit of Dietary Supplement that consumer purchased and Consumers’ Purchase Decisions. (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit).

H1_a : There is a relationship between the number of unit of Dietary Supplement that consumer purchased and Consumers’ Purchase Decisions. (Price, Convenience

orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit).

Table 5.7 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Consumers’ Purchase Decisions Attributes.

Correlations		
		The Number of Dietary Supplement Unit Consumer Purchased Online
Consumers' Purchase Decisions Attributes	Correlation Coefficient	.115 **
	Sig. (2-tailed)	.002

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

Overall, the Spearman Rho correlation coefficient between the number of unit of Dietary Supplement that consumer purchased and Consumers’ Purchase Decisions was 0.115, and its p-value was 0.002, which was less than the level of significance of 0.05. Thus, the null hypothesis was rejected. It was implied that there was a significant relationship between the number of unit of Dietary Supplement that consumer purchased and Consumers’ Purchase Decisions at the weak positive correlation in overall.

◆ Sub-Hypothesis 1.1

Price

H1₀ : There is no relationship between the number of unit of Dietary Supplement that consumer purchased and Price.

H1_a : There is a relationship between the number of unit of Dietary Supplement that consumer purchased and Price.

Table 5.8 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Price.

Correlations	
Price	The Number of Dietary Supplement Unit Consumer Purchased Online
Correlation Coefficient	-.178 **
Sig. (2-tailed)	.000

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

From above table, the correlation coefficient between number of dietary supplement unit consumer purchased online and price was -0.178, and its p-value was 0.000, which was less than the level of significance of 0.05. Thus, the null hypothesis was rejected. It was implied that there was a significant relationship between the number of unit of Dietary Supplement that consumer purchased and Price at the weak negative correlation.

◆ **Sub-Hypothesis 1.2**

Convenience orientation.

H1_a : There is a relationship between the number of unit of Dietary Supplement that consumer purchased and Convenience orientation.

H1₀ : There is no relationship between the number of unit of Dietary Supplement that consumer purchased and Convenience orientation.

Table 5.9 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Convenience Orientation.

Correlations	
	The Number of Dietary Supplement Unit Consumer Purchased Online
Convenience Orientation	
Correlation Coefficient	.220 **
Sig. (2-tailed)	.000

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

From table, the p-value was equaled to 0.000 that was less than the significance level of 0.05, so, the null hypothesis was rejected, and the correlation coefficient was equaled to 0.220. This meant that there was a relationship between the number of unit of Dietary Supplement that consumer purchased and Convenience orientation at the weak positive correlation.

◆ Sub-Hypothesis 1.3

Privacy

$H1_0$: There is no relationship between the number of unit of Dietary Supplement that consumer purchased and Privacy.

$H1_a$: There is a relationship between the number of unit of Dietary Supplement that consumer purchased and Privacy.

Table 5.10 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Privacy.

Correlations	
	The Number of Dietary Supplement Unit Consumer Purchased Online
Privacy	Correlation Coefficient Sig. (2-tailed)
	.070 .175

The p-value was equaled to 0.175 that was greater than the significance level of 0.05, thus, the null hypothesis was failed to reject. This meant that there was no relationship between the number of unit of Dietary Supplement that consumer purchased and Privacy.

◆ **Sub-Hypothesis 1.4**

Security

$H1_0$: There is no relationship between the number of unit of Dietary Supplement that consumer purchased and Security.

$H1_a$: There is a relationship between the number of unit of Dietary Supplement that consumer purchased and Security.

Table 5.11 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Security.

Correlations		
		The Number of Dietary Supplement Unit Consumer Purchased Online
Security	Correlation Coefficient	.137 **
	Sig. (2-tailed)	.007

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

Since the p-value was equaled to 0.007 that was less than the significance level of 0.05, the null hypothesis was rejected. This meant that there was a relationship between the number of unit of Dietary Supplement that consumer purchased and Security. And the correlation coefficient was equaled to 0.137, which was fallen in the weak positive correlation.

◆ Sub-Hypothesis 1.5

Shopping enjoyment

H1₀ : There is no relationship between the Number of unit of Dietary Supplement that consumer purchased and Shopping enjoyment.

H1_a : There is a relationship between the Number of unit of Dietary Supplement that consumer purchased and Shopping enjoyment.

Table 5.12 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Shopping Enjoyment.

Correlations		The Number of Dietary Supplement Unit Consumer Purchased Online
Shopping Enjoyment	Correlation Coefficient	.418 **
	Sig. (2-tailed)	.000

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

As the p-value was equaled to 0.000 that was less than the significance level of 0.05, the null hypothesis was rejected. This meant that there was a relationship between the number of unit of Dietary Supplement that consumer purchased and Shopping enjoyment. And the correlation coefficient was equaled to 0.418, which was fallen in the nearly moderate positive correlation.

◆ **Sub-Hypothesis 1.6**

Product selection and Personal fit

$H1_0$: There is no relationship between the Number of unit of Dietary Supplement that consumer purchased and Product selection and Personal fit.

$H1_a$: There is a relationship between the Number of unit of Dietary Supplement that consumer purchased and Product selection and Personal fit.

Table 5.13 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Product Selection and Personal Fit.

Correlations	
	The Number of Dietary Supplement Unit Consumer Purchased Online
Product Selection and Personal Fit	
Correlation Coefficient	-.301**
Sig. (2-tailed)	.000

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

Since the p-value was equaled to 0.000 that was less than the 0.05 significance level, the null hypothesis was rejected. It was implied that there is a relationship between the number of unit of Dietary Supplement that consumer purchased and Product selection and Personal fit. And the correlation coefficient was equaled to -0.301, which was fallen in the weak negative correlation.

Hypothesis 2

In this hypothesis, the Independent t-test was used to determine the relationship between the number of dietary supplement unit consumer purchased online and gender.

The null hypothesis will be rejected when Sig. or p-value is less than α , 0.05 significance level.

H2₀ : There is no relationship between the number of unit of Dietary Supplement product purchased via the Internet and the gender of the shopper.

H2_a : There is relationship between the number of unit of Dietary Supplement product purchased via the Internet and the gender of the shopper.

Table 5.14 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Gender.

Independent t-test

		The Number of Dietary Supplement Unit Consumer Purchased Online
Gender	F	74.884
	Sig.	.000

There was a relationship between the Number of unit of Dietary Supplement product purchased via the Internet and the gender of the shopper. Because p-values of

these 2 variables was 0.000, which were less than the 0.05 significance level, the null hypothesis was rejected.

The following table was the results provided by Scheffe test, showing how gender and the number of dietary supplement unit consumer purchased online was related each other by displaying the mean values.

Table 5.15 Mean Value with the number of Dietary Supplement Unit and Consumer Purchased Online between Gender.

Gender	The Number of Dietary Supplement Unit Consumer Purchased Online
Male	.05
Female	.61

From the table 5.15, males had lower mean, which was equaled to 0.05, whereas, females have had higher mean value, equaled to 0.61. It was implied that males liked to purchase online less than female. It means females are more concerned about aging, beauty, and being healthy than males.

Hypothesis 3 - 5

In this part, the one-way ANOVA was used to determine the relationship between the number of dietary supplement unit consumer purchased online and demographic profile.

In addition, the Scheffe Test was also used for displaying the relationship level indicated by mean value.

The null hypothesis will be rejected when Sig. or p-value is less than α , 0.05 significance level.

Hypothesis 3

H3₀ : There is no relationship between the number of unit of Dietary Supplement product purchased via the Internet and the age of the shopper.

H3_a : There is relationship between the number of unit of Dietary Supplement product purchased via the Internet and the age of the shopper.

Table 5.16 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Age.

ANOVA		
		The Number of Dietary Supplement Unit Consumer Purchased Online
Age	F	25.651
	Sig.	.000

As the p-values were equaled to 0.000, which were less than 0.05 significance level, the null hypothesis was rejected. This could be concluded that there was relationship between the Number of unit of Dietary Supplement product purchased via the Internet and the age of the shopper.

The following table shows the results provided by Scheffe test, in order to compare the different of mean value between the respondents' age and the number of dietary supplement unit that consumer purchased online.

Table 5.17 Mean Value number of Dietary Supplement Unit and Consumer Purchased Online between Age.

Scheffe	
Age	The Number of Dietary Supplement Unit Consumer Purchased Online
Less than 25 years old	.03
25-30 years old	.04
31-35 years old	.23
36-40 years old	1.25
more than 40 years old	1.78

The respondents who have been more than 40 years old had the highest mean of 1.78, it was implied that they liked to purchase dietary supplement online, followed by the respondents whose age was between 36-40 years old, had the mean of 1.25. And the respondents whose ages were between 31-35 years old, and between 25-30 years old, liked to purchase online with means of 0.23, and 0.04 respectively.

Whereas, the respondents whose age was less than 25 years old had the lowest mean of 0.03, which could be implied that they liked to purchase dietary supplement via internet less than other age groups.

Hypothesis 4

H4₀ : There is no relationship between the number of unit of Dietary Supplement product purchased via the Internet and income.

H4_a : There is relationship between the number of unit of Dietary Supplement product purchased via the Internet and income.

Table 5.18 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Income.

ANOVA		
		The Number of Dietary Supplement Unit Consumer Purchased Online
Income	F	20.968
	Sig.	.000

Since the p-values were equaled to 0.000, which were less than 0.05 significance level, the null hypothesis was rejected. This could be concluded that there was a relationship between the number of unit of Dietary Supplement product purchased via the Internet and income.

Table 5.19 Mean Value with the number of Dietary Supplement Unit and Consumer Purchased Online between Income.

Scheffe	
Income	The Number of Dietary Supplement Unit Consumer Purchased Online
less than ฿10,000.-	.00
฿ 10,000 - ฿ 29,999.-	.12
฿ 30,000 - ฿ 49,999.-	.94
฿ 50,000 - ฿ 69,999.-	1.45

Table 5.19 shows that, the respondents who had income between Baht 50,000 – 69,999 had the highest mean of 1.45, it was implied that they liked to purchase dietary supplement via internet at the highest level, followed by the respondents who had income between Baht 30,000 – 49,999, had the mean of 0.94. Whereas, the respondents who had income less than Baht 10,000 had the lowest mean of 0.000, which meant that they liked to purchase dietary supplement online less than others.

Hypothesis 5

H5₀ : There is no relationship between the number of unit of Dietary Supplement product purchased via the Internet and Perceived speed of the shopper’s computer system.

H5_a : There is relationship between the number of unit of Dietary Supplement product purchased via the Internet and Perceived speed of the shopper’s computer system.

Table 5.20 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Perceived Speed of Computer System.

ANOVA		
		The Number of Dietary Supplement Unit Consumer Purchased Online
Perceived Speed of Computer System	F	.723
	Sig.	.396

There was no relationship between the number of unit of Dietary Supplement product purchased via the Internet and Perceived speed of the shopper’s computer system. Because p-values were equaled to 0.396, which were greater than the 0.05 significance level, the null hypothesis was failed to reject.

Hypothesis 6

H6₀ : There is no relationship between the number of unit of Dietary Supplement product purchased via the Internet and the level of competency in using the Internet.

H6_a : There is relationship between the number of unit of Dietary Supplement product purchased via the Internet and the level of competency in using the Internet.

Table 5.21 The analysis of the relationship between the number of Dietary Supplement Unit that Consumer Purchased Online and Internet Competency.

Correlations		The Number of Dietary Supplement Unit Consumer Purchased Online
Internet Competency	Correlation Coefficient	-.287**
	Sig. (2-tailed)	.000

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

From above table, the correlation coefficient between number of dietary supplement unit consumer purchased online and internet competency was -0.287, and its p-value was 0.000, which was less than the level of significance of 0.05. Thus, the null hypothesis was rejected. It was implied that there was a significant relationship between the number of unit of Dietary Supplement that consumer purchased and internet competency at the weak negative correlation.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarizes and concludes the results and findings. It consists of three sections. The first section is the interpretation of the results or summary of findings. The second section is the conclusion. The last section contains recommendations and suggestion for further research.

6.1 Summary of findings

This section presents the interpretations of the results that were based on the data gathered, which includes a summary of respondents' characteristics and a summary of hypotheses testing.

6.1.1 Summary of respondents' characteristics

Based on the data of 382 respondents collected from the survey research. The majority of respondents are females (72.8%). Males comprised 27.2% of the total respondents.

There are 29.8% respondents whose age ranges between 25-30 years old, 27.2% respondents' age ranges between 31 – 35 years old, 20.2% respondents' were in the age group of 36-40 years old, 15.7 % respondents were less than 25 years old and 7.1% respondents are higher than 40 years old.

58.1 % respondents earn Baht 10,000-29,999 per month, 28.3% respondents earn Baht 30,000-49,999 per month, 8.6% respondents earn Baht 50,000-69,999 per month and 5.0% respondents earn less than Baht 10,000.

The majority of respondents are used hi-speed internet system and 28.3% respondents are used low-speed internet system.

There are 43.5% respondents skillful internet competency, 30.4% somewhat skillful internet competency, 16.8% respondents not skill internet competency and 9.4% respondents very skillful internet competency.

6.1.2 Summary of hypotheses testing

Table 6.1 : Summary of hypotheses testing result

Hypotheses	Test Statistics	Level of Significance	Correlation Coefficient	Results
H1 ₀ : There is no relationship between Consumers' Purchase Decisions. (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit) the Number of unit of Dietary Supplement that consumer purchased.	Spearman's Rho Correlation.	.002	0.115	Reject H ₀
<ul style="list-style-type: none">H1.1₀ : There is no relationship between Price the Number of unit of Dietary Supplement that consumer purchased.	Spearman's Rho Correlation.	.000	-0.178	Reject H ₀

Hypotheses	Test Statistics	Level of Significance	Correlation Coefficient	Results
<ul style="list-style-type: none"> H1.2₀ : There is no relationship between Convenience orientation the Number of unit of Dietary Supplement that consumer purchased. 	Spearman's Rho Correlation	.000	0.220	Reject H ₀
<ul style="list-style-type: none"> H1.3₀ : There is no relationship between Privacy the Number of unit of Dietary Supplement that consumer purchased. 	Spearman's Rho Correlation.	.175	0.070	Failed to Reject H ₀
<ul style="list-style-type: none"> H1.4₀ : There is no relationship between Security the Number of unit of Dietary Supplement that consumer purchased. 	Spearman's Rho Correlation.	.007	0.137	Reject H ₀

Hypotheses	Test Statistics	Level of Significance	Correlation Coefficient	Results
<ul style="list-style-type: none"> H1.5₀ : There is no relationship between Shopping enjoyment and the Number of unit of Dietary Supplement that consumer purchased. 	Spearman's Rho Correlation.	.000	0.418	Reject H ₀
<ul style="list-style-type: none"> H1.6₀ : There is no relationship between Product selection and Personal fit the Number of unit of Dietary Supplement that consumer purchased via the Internet. 	Spearman's Rho Correlation.	.000	-0.301	Reject H ₀
H2 ₀ : There is no relationship between the gender of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.	Independent t-test	.000	-	Reject H ₀

Hypotheses	Test Statistics	Level of Significance	Correlation Coefficient	Results
H3 ₀ : There is no relationship between the age of the shopper and the Number of unit of Dietary Supplement product purchased via the Internet.	One-way ANOVA.	.000	-	Reject H ₀
H4 ₀ : There is no relationship between income and the Number of unit of Dietary Supplement product purchased via the Internet.	One-way ANOVA.	.000	-	Reject H ₀
H5 ₀ : There is no relationship between Perceived speed of the shopper's computer system and the Number of unit of Dietary Supplement product purchased via the Internet.	One-way ANOVA.	.396	-	Failed to reject H ₀

Hypotheses	Test Statistics	Level of Significance	Correlation Coefficient	Results
H ₆₀ : There is no relationship between the level of competency in using internet and the Number of unit of Dietary Supplement product purchased via the Internet.	Spearman's Rho Correlation.	.000	-0.287	Reject H ₀

6.2 Conclusion

As per the hypotheses test results, it can be seen that there are relationship between the number of unit of Dietary Supplement that consumer purchased online and Consumers' Purchase Decisions (Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit), demographic characteristics, and the level of competency in using the Internet. And no relationship between the number of Dietary Supplement that consumer purchased online and Internet and Perceived speed of the shopper's computer system.

The findings of this study were in accordance with the finding of Schiffman and Kanuk (2000), where they stated that consumer behavior for, purchasing, using, evaluating, and disposing of products and services are based on demographic. And

Forrester (2001), an independent research firm focusing on technology and business predicted that online privacy and security have affected to consumers behavior. And also Hawkin, (2001) a key element of consumer behavior lies with the individual. One may accept advice or even yield to outside pressure, but the final purchase decision rests with the individual.

For Convenience Orientation, the finding of this research agreed with Sheth et al. (1999), that finding, ordering and receiving product through a specific web site and for the shopping enjoyment, the shopper with experience with the web store is perceived to be enjoyable in its own right.

For Gender, the finding of this study is in accordance with Burke (2002) and Li et al. (1999) which their stated that female like to shopping more than male.

For Age and Income, the finding of this study disagreed with Wood (2000) who stated that younger adults, especially under 25 years old are more interested in using new technologies, like the internet but this study found that the old customers were interested to shopping online as well. Because they have time and money to spend on shopping. And the finding of this study is in accordance with Lohse et al. (2000) who stated that consumers with higher household income intend to shop more online compared to lower income consumers.

In this research, the basic determinants and external influences separately. They interact simultaneously and continuously. Furthermore, there is interaction

between the individual's needs, motives, personality, learning, attitudes, and perceptions. Each influences the other, and every individual decision is influenced by all six factors. The highest positive correlation is shopping enjoyment factor. On the other hand, Product Selection and Personal fit factor has the highest negative correlation.

6.3 Recommendations

Marketers who are in Dietary Supplements e-business should set the marketing planner by consider the consumer in term of demographic due to it have a relationship number of unit of Dietary Supplement that consumer purchased. Furthermore, Marketers who are in Dietary Supplements e-business should use the suitable strategy in term of Price, Convenience orientation, Privacy, Security, Shopping enjoyment and Product selection and Personal fit in order that the consumers' purchase decision attribute is at strongly agree, for examples, easy to buy it online in all time, lower price, set the code for consumer to easy and safe, and use the promotion strategy.

From this study the marketer should know the main reason why consumers like shopping online is

- Convenience : ability to eliminate the hassle of driving and crowds
- Flexibility : shop while staying at personal location (home, office)
- Finding the lowest price as comparison is possible
- More product varieties and greater selection is possible through online

And consumers dislike is:

- Privacy : consumer can not make purchase with cash. Consumers have to give their personal information
- Security : consumer worry about credit card or accounting bank number details

Whereas people dislike to shopping in Traditional stores as:

- Waiting in line
- Finding parking at shopping center

Other survey findings:

- Women were more likely to shopping online and deeply concern about age, health and beauty than men
- The higher income and older group of respondents were more shopping dietary supplement online than lower income and younger age.
- Speed of computer system and internet competency is not related to shopping dietary supplement online.

And also, Marketer should inform the benefits of purchasing online for Dietary Supplements as listed below.

1. The consumers can browse the entire product-assortment with minimal effort, inconvenience and time investment.
2. Consumers can efficiently obtain critical knowledge about dietary supplement products and brands.
3. Consumers can easily compare product features, availability and price more efficiently and effectively etc. and should design attractive, informative and interesting website.

Marketer should create some shopping online instructions along the way of online purchase. Marketer should motivate some sales promotion for frequency of the use of website. Marketer should inform the advantage of online shopping that it has no risk and fulfills several consumer needs more effectively and efficiently than conventional shopping in this buying and should guarantee in security on buying product online: financial and personal. As an illustration of this concept, the marketer should take the example of e-banking: by using online banking for making transactions or checking their account balance, consumers save time because they don't have to go to the banking office in person during or after working hours.

6.4 Further Research

- To study deeply on each factors that affect on online purchase intention such as shopping enjoyment and product selection and personal fit.
- To study other populations besides outside Bangkok.
- To interview the marketing manager about the strategy of Dietary Supplements e-business
- To compare the factors affecting the type of Dietary Supplements.
- To study consumers' problem and recommendation on purchasing the Dietary Supplements on line.

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RELIABILITY RESULTS OF PRETEST (30 RESPONDENTS)

Cronbach for Purchase Decision Attribute

RELIABILITY ANALYSIS - SCALE (ALPHA)

Reliability Coefficients

N of Cases = 30.0

N of Items = 23

Alpha = .8997

Cronbach for Shopping Enjoyment

RELIABILITY ANALYSIS - SCALE (ALPHA)

Reliability Coefficients

N of Cases = 30.0

N of Items = 6

Alpha = .9147

Cronbach for Product Selection and Personal Fit

RELIABILITY ANALYSIS - SCALE (ALPHA)

Reliability Coefficients

N of Cases = 30.0 N of Items = 2

Alpha = .7164



APPENDIX B



แบบสอบถาม

แบบสอบถามนี้แบ่งออกเป็น 3 ส่วน

กรุณาใช้เวลา 5-10 นาทีในการตอบคำถามสั้น ๆ หรือแสดงความรู้สึกของท่าน แบบสอบถามชุดนี้เป็นส่วนประกอบในการศึกษาและทำวิทยานิพนธ์ ผู้จัดทำขอขอบพระคุณผู้ตอบแบบสอบถามทุก ๆ ท่านที่สละเวลามา ณ ที่นี้

ส่วนที่ 1 ข้อมูลการซื้อสินค้า

1. ท่านเคยซื้อผลิตภัณฑ์อาหารเสริมทางอินเทอร์เน็ตครั้งล่าสุดจำนวน _____ ชิ้น

ส่วนที่ 2 ปัจจัยที่มีผลต่อการตัดสินใจในการซื้อสินค้า

ราคา, ความสะดวกสบาย, ความเป็นส่วนตัว, ความปลอดภัย

2. กรุณาทำเครื่องหมายในช่องที่ท่านเลือก เพื่อบอกความรู้สึกของท่านที่มีต่อการสั่งซื้อผลิตภัณฑ์อาหารเสริมทางอินเทอร์เน็ต

5 = เห็นด้วยอย่างมาก

2 = ไม่เห็นด้วย

4 = เห็นด้วย

1 = ไม่เห็นด้วยอย่างมาก

3 = เฉย ๆ

2.1	ท่านมักจะซื้อปิ้งซื้อสินค้าในอินเทอร์เน็ตบ่อยมาก ๆ	1	2	3	4	5
2.2	ท่านสนใจตอบแบบสอบถามในอินเทอร์เน็ต	1	2	3	4	5
2.3	ท่านไม่สนใจค่าใช้จ่ายในการซื้ออาหารเสริม	1	2	3	4	5
2.4	ท่านซื้อของที่ร้านสะดวกซื้อบ่อย ๆ					
2.5	ท่านยินยอมให้ผู้ขายสามารถเก็บบันทึกข้อมูลของท่าน เพื่อใช้ข้อมูลนี้ในการเสนอขายสินค้าให้กับท่านในครั้งต่อไป	1	2	3	4	5
2.6	ท่านมั่นใจในระบบรักษาความปลอดภัยของการจ่ายเงินผ่านอินเทอร์เน็ต	1	2	3	4	5
2.7	ท่านซื้อปิ้งในที่ ๆ สามารถประหยัดเวลาได้เสมอ ๆ	1	2	3	4	5
2.8	ท่านใช้เวลามาก ในการออกไปซื้อปิ้งนอกบ้าน	1	2	3	4	5
2.9	ท่านจะซื้อปิ้งที่ ที่ท่านสามารถลดการเดินทาง, การแต่งตัว, การรอ, และการแบกของ เท่าที่จะทำได้บ่อย ๆ	1	2	3	4	5
2.10	ท่านจะคำนึงถึงค่าใช้จ่ายในการออกไปซื้อปิ้ง	1	2	3	4	5
2.11	ท่านจะเปลี่ยน password ทุกครั้งในการใช้อินเทอร์เน็ต	1	2	3	4	5
2.12	ท่านจะเช็คราคาสินค้าทุกชนิดในร้าน แม้แต่ของชิ้นเล็ก ๆ	1	2	3	4	5
2.13	ท่านสนใจให้ข้อมูลในการสมัครเข้าเป็นสมาชิกใน website ต่าง ๆ	1	2	3	4	5
2.14	ท่านพึงพอใจในระบบการจ่ายเงินของการสั่งซื้อสินค้าทางอินเทอร์เน็ต	1	2	3	4	5
2.15	ท่านดูโฆษณาที่ประกาศลดราคาสินค้าอยู่บ่อย ๆ	1	2	3	4	5

2.16 ท่านคิดว่า ควรจะมีกฎหมายป้องกันสิทธิมนุษยชนในการใช้อินเตอร์เนท	1	2	3	4	5
2.17 ท่านวิตกกังวลในการสั่งซื้อสินค้าทางอินเตอร์เนท ถ้าไม่ระบุผู้ขายอย่างแน่ชัด	1	2	3	4	5
2.18 โดยปกติ ราคาของผลิตภัณฑ์อาหารเสริมเป็นปัจจัยที่สำคัญของท่านในการตัดสินใจซื้อ	1	2	3	4	5
2.19 ท่านสนใจที่จะให้ข้อมูลบัตรเครดิตกับผู้ขายสินค้าทางอินเตอร์เนท	1	2	3	4	5
2.20 ท่านวิตกกังวลที่ข้อมูลทางการเงินของท่านจะเผยแพร่ไปสู่บุคคลที่สามเมื่อท่านให้ข้อมูลของท่านในการซื้อสินค้าทางอินเตอร์เนท	1	2	3	4	5
2.21 ท่านชอบซื้อป้องกันสินค้าที่สะดวกและรวดเร็วในการเปรียบเทียบสินค้าเพื่อที่ท่านจะได้สามารถเลือกในสิ่งที่ท่านต้องการได้	1	2	3	4	5
2.22 คนทั่วไปสามารถประหยัดเงินจำนวนมากในการต่อรองสินค้าได้	1	2	3	4	5
2.23 ท่านเชื่อใจในระบบการป้องกันสิทธิส่วนบุคคลของผู้ขายสินค้าทางอินเตอร์เนทหรือเว็บไซต์	1	2	3	4	5

ความเพลิดเพลินในการซื้อป้องกัน

3. กรุณาทำเครื่องหมายในช่องที่ท่านเลือก เพื่อบอกความรู้สึกของท่านที่มีต่อการสั่งซื้อผลิตภัณฑ์อาหารเสริมทางอินเตอร์เนท

5 = เห็นด้วยอย่างมาก

2 = ไม่เห็นด้วย

4 = เห็นด้วย

1 = ไม่เห็นด้วยอย่างมาก

3 = เฉย ๆ

3.1 กิจกรรมยามว่างของท่านคือ การท่องอินเตอร์เนทเพื่อซื้อผลิตภัณฑ์อาหารเสริม	1	2	3	4	5
3.2 ท่านชอบที่จะท่องอินเตอร์เนท เพื่อซื้อป้องกันอาหารเสริมเมื่อมีเวลารว่าง	1	2	3	4	5
3.3 การซื้อป้องกันซื้อผลิตภัณฑ์อาหารเสริมทางอินเตอร์เนทคือการพักผ่อนของท่าน	1	2	3	4	5
3.4 การซื้อป้องกันซื้อผลิตภัณฑ์อาหารเสริมทางอินเตอร์เนทช่วยให้วันที่น่าเบื่อของท่านหมดลง	1	2	3	4	5
3.5 การซื้อป้องกันซื้อผลิตภัณฑ์อาหารเสริมทางอินเตอร์เนทช่วยให้ท่านเพลิดเพลินสนุกสนาน	1	2	3	4	5
3.6 การซื้อป้องกันซื้อผลิตภัณฑ์อาหารเสริมทางอินเตอร์เนทเป็นกิจกรรมโปรดของท่าน	1	2	3	4	5

การเลือกสินค้า และความเหมาะสมของสินค้ากับผู้ซื้อสินค้า

4. กรุณาทำเครื่องหมายในช่องที่ท่านเลือก เพื่อบอกความรู้สึกของท่านที่มีต่อการสั่งซื้อผลิตภัณฑ์อาหารเสริมทางอินเทอร์เน็ต

5 = เห็นด้วยอย่างมาก	2 = ไม่เห็นด้วย
4 = เห็นด้วย	1 = ไม่เห็นด้วยอย่างมาก
3 = เฉย ๆ	

- 4.1 เมื่อท่านซื้อผลิตภัณฑ์อาหารเสริม ปัญหาอย่างหนึ่งของท่านก็คือ การหา 1 2 3 4 5
สินค้าที่เหมาะสมกับความต้องการของท่าน เช่น การรักษาโรค การป้องกันโรค
- 4.2 ท่านชอบที่จะได้รับคำแนะนำ ทางด้านสุขภาพก่อนตัดสินใจ เพื่อให้ได้ 1 2 3 4 5
สินค้าที่เหมาะสมกับความต้องการของท่าน เช่น การรักษาโรค การป้องกันโรค

ส่วนที่ 3 ข้อมูลพื้นฐานเกี่ยวกับตัวท่าน

5. เพศของท่าน ?

☐

ผู้ชาย

☐

ผู้หญิง

6. อายุของท่าน ?

☐

น้อยกว่า 25 ปี

☐

36 - 40 ปี

☐

25 - 30 ปี

☐

มากกว่า 40 ปี

☐

31 - 35 ปี

7. รายได้ของท่าน ?

☐

น้อยกว่า ฿ 10,000

☐

฿ 50,000 - ฿ 69,999

☐

฿ 10,000 - ฿ 29,999

☐

฿ 70,000 - ฿ 99,999

☐

฿ 30,000 - ฿ 49,999

☐

฿ 100,000 หรือมากกว่า

8. อินเทอร์เน็ตที่ท่านใช้อยู่ปัจจุบันมีระดับความเร็วเท่าไร ?

☐

ความเร็วสูง (128 KB หรือมากกว่า)

☐

ความเร็วปกติหรือช้า (56 KB)

9. ทักษะในการใช้อินเทอร์เน็ตของท่าน ?

ชำนาญมาก

ชำนาญ

ค่อนข้างชำนาญ

ไม่ชำนาญเลย

1

2

3

4

QUESTIONNAIRE

There are only three sections in this questionnaire. Each section is relatively short and easy to answer. Please take five to ten minutes to answer the following questions. Your cooperation will be deeply appreciated by the researcher.

SECTION 1 SHOPPING INFORMATION

1. Number of Dietary Supplement that you purchase via the internet recently _____ categories

SECTION 2 PURCHASE DECISIONS ATTITUDE

Price, Convenience, Privacy, Security

2. For each statement, please circle the ONE number that best describes your feeling about Online Dietary Supplement shopping.

- 5 = Stongly agree
- 4 = Agree
- 3 = Neither agree nor disagree
- 2 = Disagree
- 1 = Strongly disagree

2.1	I shop a lot of specials via the internet.	1	2	3	4	5
2.2	I am willing to respond to any internet survey					
2.3	I do not mind spending a lot of money to buy a Dietary Supplement item	1	2	3	4	5
2.4	I usually buy at the most convenient store	1	2	3	4	5
2.5	I approve of retailers collecting information about me in order to personalize what they offer me	1	2	3	4	5
2.6	I trust the security of online banking	1	2	3	4	5
2.7	I always shop where it saves me time					
2.8	It takes too much time to shopping out.	1	2	3	4	5

2.9	I usually shop where I can reduce my efforts in the process of dressing, travelling, walking, waiting, and carrying, as much as possible	1	2	3	4	5
2.10	When I consider travel time, it costs too much to shopping out	1	2	3	4	5
2.11	If asked for a password for and internet service. I would(do) choose a different one each time	1	2	3	4	5
2.12	I find myself checking the prices in stores even for small categories	1	2	3	4	5
2.13	I am willing to register by filling out a personal information form on a website	1	2	3	4	5
2.14	I am satisfied with the current payment methods available for online purchases	1	2	3	4	5
2.15	I usually watch the advertisements for anouncements of sales	1	2	3	4	5
2.16	There should be strong internet-related laws and regulations to protect an individual's constitutional rights to privacy	1	2	3	4	5
2.17	When Internet retailers are not fully identified, I worry about whether they are reliable	1	2	3	4	5
2.18	In general, the price or cost of buying Dietary Supplements is important to me	1	2	3	4	5
2.19	I am willing to give my credit card numbers to an internet Retailer	1	2	3	4	5
2.20	I am concerned about possible interception of financial information by an unidentified third party	1	2	3	4	5

- 2.21 I like to shop in environments where it is quick and easy to compare many products and screen them to choose the one I like 1 2 3 4 5
- 2.22 A person can save a lot of money by shopping around for bargains 1 2 3 4 5
- 2.23 I trust the e-tailer privacy policies specified on their websites. 1 2 3 4 5

Shopping enjoyment

3. For each statement, please circle the ONE number that best describes your feeling about Online Dietary Supplement shopping.

- 5 = Strongly agree 2 = Disagree
 4 = Agree 1 = Strongly disagree
 3 = Neither agree nor disagree

- 3.1 Online Shopping for Dietary Supplements is a leisure activity for me 1 2 3 4 5
- 3.2 Online Shopping for Dietary Supplements is a way I like to spend my leisure time 1 2 3 4 5
- 3.3 Online Shopping for Dietary Supplements is a good way to relax 1 2 3 4 5
- 3.4 Online Shopping for Dietary Supplements is a good way to dull day 1 2 3 4 5
- 3.5 Online Shopping for Dietary Supplements is entertaining 1 2 3 4 5
- 3.6 Online Shopping for Dietary Supplements is one of my favorite leisure activities 1 2 3 4 5

Product Selection and Personal Fit

4. For each statement, please circle the ONE number that best describes your feeling
About Online Dietary Supplement shopping.

- | | |
|--------------------------------|-----------------------|
| 5 = Stongly agree | 2 = Disagree |
| 4 = Agree | 1 = Strongly disagree |
| 3 = Neither agree nor disagree | |

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 4.1 | Wherever I shop for Dietary Supplements , one problem that I have is enough of a selection so that I can find willing the right treatment, cure, having management of any disease, etc. | 1 | 2 | 3 | 4 | 5 |
| 4.2 | I prefer to get more suggestions, Health information to make sure I get a suitable medicines | 1 | 2 | 3 | 4 | 5 |

SECTION 3

5. Gender

- | | |
|-------------------------------|---------------------------------|
| <input type="checkbox"/> Male | <input type="checkbox"/> Female |
|-------------------------------|---------------------------------|

6. What is your age?

- | | |
|---|---|
| <input type="checkbox"/> Less than 25 years | <input type="checkbox"/> 36 - 40 years |
| <input type="checkbox"/> 25 - 30 years | <input type="checkbox"/> More than 40 years |
| <input type="checkbox"/> 31 - 35 years | |

7. Please indicate the range below that best represents your personal income

- | | |
|--|--|
| <input type="checkbox"/> Less than ฿ 10,000 | <input type="checkbox"/> ฿ 50,000 - ฿ 69,999 |
| <input type="checkbox"/> ฿ 10,000 - ฿ 29,999 | <input type="checkbox"/> ฿ 70,000 - ฿ 99,999 |
| <input type="checkbox"/> ฿ 30,000 - ฿ 49,999 | <input type="checkbox"/> ฿ 100,000 or more |

8. Would you consider your computer system to be fast or slow? For example, do you access the internet via modem (slow) or cable(fast)? Is your computer a Pentium 3 or above (fast) or less (slow)?

☐ Fast (128 KB.or more)

☐ Slow (56 KB.)

9. Please indicate your competency in using the internet.

Very Skillful	Skillful	Somewhat Skillful	Not Skillful
1	2	3	4





