School of Sustainable Development of Society and Technology
Mälardalen University

Master Thesis in Business Studies – International Marketing Program

Date of Final Seminar: 3rd June 2011

“A research of consumer attitudes to fruit snacks: A study of Thai consumers’ attitudes toward vacuum fried crispy fruits”

By: Group 2781
Montira Tandhansakul (850501)
Nuttawat Preechavibul (840514)

Supervisor: Johan Grinbergs
Examiner: Ole Liljefors
Abstract

Date: 2011-06-03

Program: MIMA-International Marketing

Course name: Master Thesis (EFO705)

Title: A research of consumer attitudes to fruit snacks: A study of Thai consumers’ attitudes toward vacuum fried crispy fruits

Authors: Montira Tandhansakul (850501) contact: mt8223@gmail.com
          Nuttawat Preechavibul (840514) contact: nut_takara@hotmail.com

Advisor: Johan Grinbergs

Problem: How should Thai snack companies create their appropriate marketing planning of vacuum fried crispy fruits for satisfying Thai target consumer?

Purpose: To investigate the Thai consumers’ attitudes towards the vacuum fried crispy fruits that will be beneficial in creating the appropriate marketing planning as well as to recommend the potential marketing mix of this product to Thai snack companies

Method: The research technique used in this study is mainly based on the quantitative method. By mailing the 400 surveys to the Thai respondents in Bangkok, the data will be collected and evaluated by using the statistic software program as well as using the secondary data to be a supportive source in this research. Moreover, there are marketing theories used in analyzing the data in this research in order to be more academic and reliable.

Conclusion: The most influence attitude factor that motivates the Thai consumers to purchase this product is the sales promotion, in particular the samples promotion. While their attitudes to the terms of nutritional content and product quality are positive that can influence them to make a decision to purchase this product easier.

Keywords: Snack fruits, Product Development, Consumer Behavior, Product Quality and Nutritional Content
In accordance with the accomplishment of this research, there have been several people who have been extremely helpful in writing the paper. The evolution of this research paper would not have been possible without the support, understanding and constructive suggestions that we have received from our advisor and the review groups through the useful discussions.

A great thank to our family, especially our parents who have been inspiring us all the way through. We are grateful considerably for their encouragement during the hard time in reaching the success of this research.

Additionally, we would like to express our sincerest gratitude to our advisor, Professor Johan Grinbergs who suggested the systematical methods in doing the marketing research and receiving the productive results. All of our success would never happen without your kind supports and advices. It was a great honor to have you as our supervisor in the Master thesis course. In some instances we have been unable to trace the owners of copyright materials, thus, we would appreciate any information that would enable us to do as well. Furthermore, we also express our great thank to all of respondents who sacrificed their valuable time to do our surveys as well as other individuals who helped directly and indirectly in developing the quality of this research. We are very grateful with all of your supports.

Montira Tandhansakul

Nuttawat Preechavibul
# Table of contents

CHAPTER 1 ......................................................................................................................... 1

1. Introduction .................................................................................................................. 1
   1.1 The manufacturing process of fruit snack ................................................................. 2
   1.2 Problem Statement ................................................................................................. 4
   1.3 Purpose .................................................................................................................. 4
   1.4 Research questions ............................................................................................... 4
   1.5 Target audiences .................................................................................................... 5
   1.6 Limitation of Research .......................................................................................... 5

CHAPTER 2 .......................................................................................................................... 6

2. Literature Review ......................................................................................................... 6
   2.1 Nutritional Content ............................................................................................... 7
   2.2 Product Quality ..................................................................................................... 7
   2.3 Product Development ........................................................................................... 8
   2.4 Consumer Behavior ............................................................................................. 8

CHAPTER 3 .......................................................................................................................... 10

3. Conceptual frameworks ............................................................................................. 10
   3.1 Attitude .................................................................................................................. 10
      3.1.1 Cognitive Component (beliefs) ........................................................................ 10
      3.1.2 Affective Component (emotions) .................................................................... 11
      3.1.3 Behavioral Component (intentions) ................................................................. 11
   3.2 Involvement and Motivation ................................................................................ 11
   3.3 Segmentation (Demographic) ................................................................................ 12
   3.4 Marketing mix ........................................................................................................ 13
      3.4.1 Product ............................................................................................................ 14
      3.4.2 Price ................................................................................................................ 14
      3.4.3 Place ............................................................................................................... 15
      3.4.4 Promotion ...................................................................................................... 15
         3.4.4.1 Discount pricing ....................................................................................... 16
         3.4.4.2 Product samples ....................................................................................... 16
         3.4.4.3 Premiums ................................................................................................. 17

CHAPTER 4 .......................................................................................................................... 18

4. Methodology ................................................................................................................ 18
   4.1 Choice of Topic ...................................................................................................... 18
   4.2 Choice of Theories ............................................................................................... 19
   4.3 Research strategy and technique ......................................................................... 19
   4.4 Data collection technique and strategy ................................................................. 20
      4.4.1 Primary data .................................................................................................. 20
      4.4.2 Secondary data ............................................................................................ 29
   4.5 Ethical issues ........................................................................................................ 30
CHAPTER 5 ............................................................................................................. 31

5. Findings .................................................................................................................... 31
   5.1 Empirical findings ................................................................................................. 31
      5.1.1 Background of snack industries ................................................................. 31
      5.1.2 Consumer Tastes and Preferences ............................................................... 33
      5.1.3 Product processing sector ............................................................................ 33
   5.2 Research results .................................................................................................... 34
      5.2.1 General background of respondents ......................................................... 34
      5.2.2 Attitudes ........................................................................................................ 37
      5.2.3 Motivation ..................................................................................................... 39
      5.2.4 Marketing mix ............................................................................................... 41
         5.2.4.1 Price ......................................................................................................... 41
         5.2.4.2 Product .................................................................................................... 43
         5.2.4.3 Promotion .............................................................................................. 43
         5.2.4.4 Place ...................................................................................................... 44

CHAPTER 6 ................................................................................................................. 45

6. Analysis ..................................................................................................................... 45
   6.1 Attitudes ............................................................................................................... 45
   6.2 Involvement and Motivation .............................................................................. 47
   6.3 Segmentation (Demographics) ............................................................................. 48
   6.4 Marketing Mix ....................................................................................................... 49
      6.4.1 Promotion .................................................................................................... 49
      6.4.3 Product ......................................................................................................... 50
      6.4.4 Place ............................................................................................................ 51

CHAPTER 7 ................................................................................................................... 53

7.1 Conclusion .............................................................................................................. 53

7.2 Recommendation ................................................................................................... 55
   7.2.1 Motivation ....................................................................................................... 55
   7.2.2 Marketing mix ................................................................................................. 55
      7.2.2.1 Price ......................................................................................................... 55
      7.2.2.2 Product .................................................................................................... 56
      7.2.2.3 Promotion .............................................................................................. 56

BIBLIOGRAPHY ........................................................................................................ 58

APPENDIX ............................................................................................................... 61

Appendix A : Questionnaire ....................................................................................... 61
Appendix B : Survey results ......................................................................................... 65
Table of figures

FIGURE 1: MANUFACTURING PROCESS OF FRUIT SNACK ............................................................... 3
FIGURE 2: MAP OF LITERATURE ................................................................................................ 6
FIGURE 3: SAMPLE SIZE FORMULA ......................................................................................... 21
FIGURE 4: QUESTIONNAIRE DESIGN PROCESS ................................................................. 24
FIGURE 5: INDEX OF CONSISTENCY FORMULA ..................................................................... 27
FIGURE 6: THAILAND SALES VOLUME OF MAJOR SNACK SEGMENTS IN YEAR 2002 .......... 32
FIGURE 7: THAILAND MARKET SHARES OF INDIVIDUAL SNACK SEGMENTS IN YEAR 2002 ...... 32
FIGURE 8: THE PERCENTAGE OF RESPONDENTS’ AGES .................................................. 35
FIGURE 9: THE PERCENTAGE OF RESPONDENTS’ GENDER ............................................... 35
FIGURE 10: THE PERCENTAGE OF PRODUCT TRIAL .......................................................... 36
FIGURE 11: FUTURE CONSUMERS ......................................................................................... 36
FIGURE 12: THE PERCENTAGE OF PRODUCT CONSUMPTION ........................................... 37
FIGURE 13: THE PERCENTAGE OF GENERAL OPINION OF VACUUM FRIED CRISPY FRUITS .... 39
FIGURE 14: THE PERCENTAGE OF PRICE EFFECT ON PURCHASING DECISION .................. 42
FIGURE 15: THE LEVEL OF PRODUCT PRICE RANGE ......................................................... 42
FIGURE 16: THE PERCENTAGE OF ATTITUDE TO THE PRODUCT FEATURES .................... 43
FIGURE 17: THE PERCENTAGE OF PROMOTION INFLUENCING ON CONSUMER PURCHASING DECISION .................................................................................................................. 44
List of tables

TABLE 1: THE NUMBER OF POPULATION IN BANGKOK ................................................................. 22
TABLE 2: THE FACTORS AND KEY INFLUENCES IN DESIGNING QUESTIONNAIRES ............... 26
TABLE 3: INTERPRETATION OF MEAN ....................................................................................... 37
TABLE 4: MEAN OF RESPONDENT’S ATTITUDE TO THE VACUUM FRIED CRISPY FRUITS ..... 38
TABLE 5: MEAN OF OCCASION TO CONSUME THE VACUUM FRIED CRISPY FRUITS .......... 40
TABLE 6: MEAN OF SOURCE OF PRODUCT .................................................................................. 41
TABLE 7: THE INDEPENDENT SAMPLES T-TEST IN THE ATTITUDE OF RESPONDENTS TO THE PRODUCT ..................................................................................................................... 45
TABLE 8: THE INDEPENDENT SAMPLE T-TEST IN GENDER OF RESPONDENTS TO THE PRODUCT PURCHASING ................................................................................................................. 48
TABLE 9: THE INDEPENDENT OF SAMPLE T-TEST IN SALES PROMOTION AFFECTING ON THE PRODUCT PURCHASING ........................................................................................................... 50
TABLE 10: THE INDEPENDENT OF SAMPLE T-TEST IN PRICING EFFECT ON PRODUCT PURCHASING .............................................................................................................................................. 50
TABLE 11: THE INDEPENDENT OF SAMPLE T-TEST IN PRODUCT TRIAL .................................. 51
List of abbreviation

IOC = Index of Consistency

IS = Information System

QFD = Quality function deployment

SPSS = Statistical Package for the Social Sciences
Chapter 1

1. Introduction

Given its geographical location where it is situated in tropical area with abundant of water, Thailand is well recognized as an agricultural country and a major exporter of various agricultural products, particularly fruits. For the economic figures, the fruits are commercially sold both in domestic and overseas markets in which they generate the income for the country approximately 23 billion baht annually (Kal, 2011). However, from times to times, Thailand has to face with the over-supplied situation of agricultural products which heads down the price and suffers many Thai planters and companies. So, instead of selling fresh fruits at unprofitable price, one of the alternatives for planters and companies to get higher price is fruit snacks which are the value-added products of fresh fruits. In addition, fruits snacks can give consumers another option other than other traditional popular snacks. This is especially true for those consumers who love snacks but still concern their health.

Accordingly, fruit snacks have become a popular choice for consuming the snack products in the most recent years. The consumers in all ages can consume this product without worrying considerably the negative side effect to their health (Medical-newswire, 2011). The production process of fruit snacks can be deposited, freeze dried, or air dried. Most of fruit snacks are generally processed by frying the fresh fruits in the vacuum fryers or laying out the pieces of fruits in the sun in order to have the moisture vaporize from the fruits. From the process, the fresh fruits have become dry and crisp and also contain the meaningful amount of fruits. There are known as “Fruit Leather”, “Dried Fruit Pieces” or “Fruit Snack”. However, the traditional production of fruit snacks might spend a long process to produce and also cause the negative side effect of health to the consumers (Fruit-snack, 2011). In response to the growing trend in health-conscious products, the better option for the business to solve this obstacle is to fry the fresh fruits in the vacuum fryers. According to the new process, it results in reducing the production period (Agnnet, 2005). Moreover, with the recently introduced technology of frying, i.e. vacuum frying, those fruit snacks can be produced with much less oil, resulting in a low fat product rather than produced from the traditional process (Bangkokpost, 2010). Thus, this can be a good choice of snack products for health-conscious consumers.
However, this product has just been launched into the market in the recent years. It is considered to be necessary for the companies to approach the consumers as early as possible. In order to become successful, the companies should do the marketing research regarding the consumer attitudes to this product as the first step in order to create the appropriated marketing planning and strategies.

1.1 The manufacturing process of fruit snack

The production process of this product is generally described in five steps per one manufacturing as follow (Madehow, 2011).

- **Cooking**
  
  Fruit concentrate is generally purchased. Subsequently, the concentrate is placed in a vat and augmented with water. Corn syrup, malto-dextrin, and all of the various additives are added to the batch. Flavor enhancers and colors are added at this time as well. Only one fruit flavor is made at a time in a vat; thus, either many vats are working at one time or the vats are cleaned to receive a different-flavored puree. The fruit puree is cooked for about five minutes.

- **Extruding the puree**
  
  The fruit slurry is then piped over to another large vat. The bottom of the vat is piped to an extruder. The liquid fruit solution is fed through a metal die that pushes the hot fruit puree out of the vat, flattens it, and extrudes it onto a thin, waxy paper. Some manufacturers offer different sizes or widths of the product. The shape of the extrusion die varies with the product being manufactured at that time.

- **Drying**
  
  The fruit leather is still viscous at this time and must be and malleable enough to be able to be rolled in the packaging. It is conveyed through a drying tunnel that quickly solidifies the product. The tunnel does not use hot air to dry (as recommended in home recipes or traditional recipes) but cool air to drive off moisture and cool down the still-hot slurry. At the end of the tunnel, a mechanism rolls up the cooled fruit leather into a spool or roll (depending on the product). Some products are wrapped on the outside of the waxy paper with a strap to
keep the spools closed (particularly useful for long, thin spools). In addition, some fruit leathers have patterns or images (often cartoon characters or even letters or numbers) cut into them with a die resembling a cookie cutter plate. This occurs before the leather is rolled.

- **Pouching**

At the end of the conveyor belt, the rolled leather is taken to a hopper. Individual spools are dropped into a pouching machine, in which the product is enclosed in a wrapper either of metallic foil or plain white paper (depending on the product). The pouch is automatically sealed as it goes through the machine as shown in the figure 1.

![Figure 1: Manufacturing process of fruit snack](source: Invalid source specified)

According to the figure 1, the manufacture of fruit leather involves mixing fruit concentrate with water, corn syrup, malto-dextrin, flavor enhancers, and coloring. Next, the fruit puree is cooked. Heating thickens the liquid into a slurry that is then extruded. The solution is fed to a metal die that pushes the hot fruit puree out of the vat, flattens it, and pushes it onto a thin, waxy paper. The fruit leather is conveyed through a drying tunnel that uses cool air to quickly solidify the product.

- **Packaging**

The pouches are then dropped into a larger machine that automatically groups and packages the product. This machine is programmed to fill cardboard packages by weight. The cardboard packaging is generally made out-of-house, and includes all important information.
such as nutritional information. Packaging is often very brightly colored and full of images of popular cartoon characters and is an essential part of product marketing.

1.2 Problem Statement

Since Thailand is recognized as one of the major exporters of agricultural products in the world especially the fresh fruits. On the other words, this strong point has also the weakness due to the over-supplied situation of fruit products within the country. The vacuum frying is considered to be interesting process to the company in order to add more value into the fresh fruits and avoid wasting the products in the meantime. However, there are some Thai snack companies who wish to develop their products by using this progress whereas concern about the response to products from the consumers because the investment in this type of snack fruits’ production is considered to cost very high. Thus, it will be more beneficial for snack companies if they are acknowledged the consumer attitudes to this product before creating the marketing planning.

1.3 Purpose

The principal objective of this research is to examine the consumer attitude to fried crispy fruit products. The authors selected the vacuum fried crispy fruits as the experimented product as well as Thai consumers to be the examinees in this research. Subsequently, the outcomes derived from this research will broaden the knowledge of consumer attitudes towards the fried crispy fruit products regarding the marketing researchers. For the undergraduate and graduate marketing students, who study this research will be acknowledged how to apply the marketing frameworks into the real situation.

Nevertheless, the research also provides the advantages to the snack companies in terms of enabling to create the appropriate marketing planning and evaluating precisely the potentiality of success or failure in this product.

1.4 Research questions

As the main objective of this research is to investigate Thai consumers’ attitude to vacuum fried crispy fruits, the questions designed for this research are demonstrated as follows.
1. What is the most influence attitude factor that motivates Thai consumers to purchase the vacuum fried crispy fruits?
2. How can the Thai snack companies apply the consumer attitudes to create the appropriate marketing planning?
3. Could the Thai snack companies be successful if they launch the vacuum fried crispy fruits into the Thai snack market?

### 1.5 Target audiences

This research will acknowledge the readers towards the research results of the consumer attitudes to the product by basing on Thai consumer samples. The Thai snack companies are the main audiences of this research since the results of investigation provided are beneficial for them to further applying into their marketing planning. In addition, with the critical knowledge of marketing frameworks and the research techniques provided, this research will be suitable for the undergraduate and graduate marketing students including the marketing researchers in terms of further research of this product in the future. Therefore, it can be said that this research provides the advantage for the readers in terms of academic and business aspect.

### 1.6 Limitation of Research

The limitations of this research are mainly constrained by a time consuming. Since all of the surveys in this research were organized in Thailand, the scale of research was kept at the minimal level as far as the time could support. Moreover, it could not be confined to the respondents whether they would participate voluntarily in the study or not.

Accordingly, it must also be admitted here that it is difficult to represent the production process of the product by using simpler wording. Therefore, the authors have to use the original explanation to define the production process of the product instead. Moreover, the finding of this research is also limited. This is because of the time and secondary data resources constraints resulting in a specific source of study such as the up-to-dated researches published information of vacuum fried crispy fruits.
Chapter 2

2. Literature Review

The crispy fruit industry is recognized as one of the most popular agricultural businesses in Thailand according to the large amount of fresh fruits produced during the year. The vacuum fried crispy fruits are stated as the product development from the traditional crispy fruits which still contain nutritional quality as equal as the fresh fruits do. Consequently, it benefits Thai crispy fruit companies in terms of adding more value to the fresh fruits as well as solving the problem of excessive product demands in the marketplace. According to this research, there are many researches and articles published involving to the topic selected for example, the study of consumer behavior on the vacuum fried crispy fruits. Thus, we have selected some keywords in order to conduct the literature review relevant to this research as follows.

- Consumer Behavior
- Nutritional Content
- Product Quality
- Product Development

![Figure 2: Map of literature](image)

Source: (Own illustration, 2011)
Regarding to the map, we position the attitudes of Thai consumers to the product in the center circle of the map and surrounded by the other circles which are closely approached to the main focus. The other circles ranged from the right side to the left side are illustrated as Nutritional Content, Product Quality, Product Development and Consumer Behavior. The nutritional content circle can be defined in the meaning of healthy snack product as well as the product quality can be explained in terms of increasing the consumers’ satisfaction. The knowledge of product development is studied in terms of the resource-based theory of competitive advantage which will reduce the cost of production and enhance the product innovativeness and improvements. Apart from those three attributes, Consumer Behavior keyword is demonstrating the trends in consumption of snack foods that is likely to be healthier than in the recent years. Even if the content in the articles and researches selected are not exactly related to the subject, they are still adaptable to this research and can help the readers to follow the direction of the research easier.

### 2.1 Nutritional Content

The article shows the advantage of vacuum frying process for producing the crispy fruits. This process makes the color of product look like the original fruits. The product can be considered as healthy snacks because it contains relatively the low fat and high nutrition in the product such as vitamin C. The vacuum frying should be considered as a dehydration technique that reduces moisture contain in the short time and use the low temperature. The communication application of this technology will depend on the additional added value that it can bring to new food products in comparison with other technologies (Perez et al., 2008).

### 2.2 Product Quality

According to the product quality, it is necessary to state the degree of preference that consists of appearance, taste, texture, and overall liking that this product has product’s line like the vacuum crispy fruit (Jangchud et al., 2010). However, the taste of product can also link with the packaging color. It is considered to have an impact on product impression regarding the consumers (Becker et al., 2011).
2.3 Product Development

Product development is decisive for the prosperity and success in any company. The development and the introduction of new products and market can be reached or created. Information obtained from customers or customer involvement in the development process may strengthen the company’s ability to stay near with trends and developments in target markets as well as stay competitive in an increasingly globalised world. Moreover, the gain insight into future target market based on real needs and preferences. The potential of adding value in product development is investigated by considering the potential process related, system related and output-related advantages a company may achieve (Freytag & Munksgaard, 2011).

According to this attribute, there has an increasing number of empirical studies showing the effective Information System (IS) deployment to support product innovation that may not only significant reduce the costs of product modification and development but also improve innovativeness and flexibility. The IS makes the firms enhance their product development capabilities that will become more efficient in the new product develop process and more effective in product innovativeness and improvements. Additionally, there is the Quality function deployment (QFD) which is considered to be a powerful tool in reducing the time to improve the quality, reduce time to market the product as well as increase the customer satisfaction. It provides a comprehensive and systematic approach to ensure new products meet or exceed customer expectations (Jangchu et al., 2010).

2.4 Consumer Behavior

In the present, the people who concern their healthy will change to consume the benefit things such as fruit and vegetable. In the preferred embodiment, the dried fruit pieces comprise at least one of freeze-dried fruit pieces and dehydrated, vacuum fruit pieces. Fruit and vegetable contain various nutrients such as vitamins, minerals and other healthy compounds such as anti-oxidants. A diet that is high in fiber can reduce a person’s risk of certain cancers, diabetes, digestive disorders and heart diseases, as well as aid weight management (Basker & Niermann, 2009).
The health orientation is defined as the overall interest of an individual in the issues related to the health. They concern a variety of health activities such as exercising, fruit and vegetable consumption and other healthy eating behaviors. For instance, the US department of health and human service recommended that everyone should eat at least five serving of vegetable and fruits per day and launch the well-known for better health campaign that make the people increase to consume the fruits and vegetables (Mohan, 2005).

Apart from the behavioral health care, the women are considered to be a powerful consumer because they have the role management to buy the consumed products in the household. Therefore, women are the potential consumers of this product that the marketers should concern considerably. Nevertheless, the product price is another influent factor that affects people to buy the product in the marketplace. For example, African-American and Hispanic women will concern about the food price that they think that price is the important variable when buying food (Bowman, 2006). Therefore, price is also considered to be an important factor that will relate with advertising, quality, product design and etc. The price has influence to demand that company must focus on the income for apply in the costs of products. The some studied show the high price is the signal of high quality. The price will be positive effect that makes the consumer perceive about the quality of products attribute in the buying situation. It will be better that the price of products and packaging should be variety that consumer will perceive the products with quality advantages. Then, the physical appearance can be described the holistic perception about the process of perception for present of the consumer (Hansen, 2005).

In conclusion, the vacuum fried crispy fruits are the developing product in the snack market that the authors selected all of the literature reviews as mentioned in the early topics to support the empirical findings chapter and design the questionnaire in this research. This chapter makes the research in every part be more reliable and understandable as well as beneficial for the further study in this kind of product.


Chapter 3

3. Conceptual frameworks

The theories used in this study are consisted of Attitude, Involvement and Motivation, Segmentation (Demographic) and Marketing Mix as the base of this study. The overview content of each conceptual framework is explained as follows.

3.1 Attitude

“Attitude” describes a person’s relatively consistent evaluations, feelings and tendencies towards an object or idea. Also, the attitude can put people into a frame of mind of liking or disliking things and moving toward or away from them (Kotler & Armstrong, 1998, p. 150).

Typically, attitudes are difficult to change. A person’s attitude should fit into a pattern because changing one attitude may require difficult adjustments in many others. In terms of marketing, consumers can develop their attitudes to any kind of products, service as well as the aspect of marketing mix. Consequently, these attitudes will affect their behavior by influencing them in terms of consumer judging, through perception, evaluation, information processing or decision-making to purchase products or services. Thus, the company should usually try to fit its products or services into existing attitudes rather than to change attitudes.

The person’s attitude can be categorized into three components as following (Evans et al., 2009, p. 106).

3.1.1 Cognitive Component (beliefs)

Cognitive is an individual’s beliefs of knowledge about the product such as its attributes and benefits. It refers to the mental structures and processes involved in thinking, understanding and interpreting stimuli and events. It includes the knowledge, meanings, and belief that consumers have developed from their experience and stored in their memories (Peter & Olson, 2008, p. 22)
3.1.2 Affective Component (emotions)

Affect attitudes relate to an individual’s feeling or emotions about the product based on the belief. This feeling can be ‘positive’ or ‘negative’, involving some emotional content (Brassington & Pettitt, 2007, p. 84). It can be favorable or unfavorable and vary in intensity. Marketers typically develop strategies to create positive effect for their products and brands to increase the chances that consumer will buy them.

3.1.3 Behavioral Component (intentions)

This component can be describes in another word as “conative attitudes”. It consists of how the person is likely to respond to the products or services based on what they believe and how they feel about them. Behavior is the physical actions of consumers that can be directly observed and measured by others. This is critical to measure the individual’s attitude toward performing in his or her behavior rather than just the attitude toward the products or services in question. According to the marketers, the conative attitude is considered to be the hardest one for them to predict or control because there have many things that can prevent the behavior from taking place, although the cognitive and affective attitudes of the products or services have been positive (Brassington & Pettitt, 2007, p. 84).

In fact, it could be demonstrated that the company would expect the consumer to form an attitude about the products or services and then act on that attitude (Blythe, 1997, p. 79). According to the marketing effort, the company often encourages the consumers to buy the products or services first and then form their attitudes. For example, offering the sales promotions; free samples and premiums. These attributes are considered to be the powerful marketing tools in order to form attitudes and behavior consistency that we will explain in deep details in the next subject.

3.2 Involvement and Motivation

“Involvement” is generally demonstrated the consumer’s personal interest in purchasing or using an item from a given product field. An individual level of involvement depends on the individual relevance and inherent interests towards one product (Evans et al., 2009, p. 150).
The level of involvement is divided into three essential dimensions. Firstly, intensity is related to the degree of interest that the consumer experiences which is high and low involvement. Secondly, it is orientated towards the product, the advertising, the purchase and purchase decision. Lastly lead to the situational involvement which is considered to be short term and normally associate with the purchase decision (Baker, 1995, p. 163)

“Motivation” is a need that is sufficiently pressing to direct the individual to seek satisfaction of the need (Kotler & Armstrong, 1998, p. 146). There are many ways of defining what constitutes a need, and probably in most people’s minds the word is associated with the necessities of life; food, shelter and clothing (Blythe, 1997, p. 10). The side of motivation can be divided into positive and negative side. The positive side of motivation is that people are looking for positive situations, mood, pleasure, sensory, satisfaction, intellectual stimulation, social approval and comfort. Whereas, the negative side of motivation is considered that people are looking for escaping the negative situations such as illness, pain and discomfort or they want to avoid and remove their current problems (Evans et al., 2009, p. 6)

According to the study, we will apply the low involvement and motivation dimension in order to analyze the result from the investigation. We argue that the vacuum fried crispy fruits are considered to be the consumed product and Low involvement is often reflected in consumers proceeding directly to purchase with no information search or evaluation of alternatives (Baker, 1995, p. 165). Furthermore, the marketers can use repetition of exposures in order to create more reinforcement in low-involvement dimension and for positive motivations towards the product (Evans et al., 2009, p. 150)

**3.3 Segmentation (Demographic)**

The marketing segmentation is dividing a market into distinct group of buyers with different needs, characteristics or behavior who might require separate products or marketing mix (Kotler & Armstrong, 1998, p. 196). Therefore, any market and business strategy should be based on understanding, meeting and even exceeding the needs of target segments. This is considered to be the core value of any marketing and business strategy because if the company can segment their offerings in the right way to respond the customer’s need, it will result in reducing the cost of reaching the customers and chances of new products and service failure (Baker, 1995, p. 396)
In the response to segment the target group, the company should select the target segments by meeting the four conditions which are measurability (ability to measure the size and characteristics of the segment), substantiality (having a minimum profitable size), accessibility (ability to reach and serve the segments) and actionability (ability to implement strategies to serve the segments) (Baker, 1995, p. 402).

According to the segmentation in this study, it is approached by clustering on some market-based demographics. It divides the market into group based on variables such age, gender, education, occupation and income. The demographic factors are the most popular bases for segmenting customer groups because consumer needs, wants and usage rate often vary closely to demographic variables (Kotler & Armstrong, 1998, p. 204).

The age segmentation divides a market into different age. We segment the Generation Y who was born from 1977 to 1994. This generation is characterized as the population in the “Information Revolution” because most of them are materialists, brand-oriented, risk-takers and keen on business (Evans et al., 2009, pp. 158-159). This kind of revolution is significantly affecting the ways in which the company is managing their operations. The gender segmentation divides a market into different group based on sex. The education segmentation differentiates a market based on the educational background. The occupation segmentation varies a market based on the occupation groups while the income segmentation divides a market into different income groups.

The concept of segmentation used in this study aims to approach and investigate the proper sample groups which will be beneficial to the company for segmenting appropriately the target market onwards.

3.4 Marketing mix

The concept of the marketing mix demonstrates the set of controllable demand-impinging instruments for the company to achieve the type of response from the target market. It is recognized as the essential instruments for the company who wishes to maximize the long-term profits by developing a high-quality product with the unique features or the best services. As a result, the company can focus on a segment of affluent purchasers who are
willing to pay for the products at a high price and preferably the exclusive services (Baker, 1995, pp. 433-435). This will result in the profit margin to the company.

The components of marketing mix can be explained into “The Four P classification” which is four heading beginning with the letter “P”: Product, Price, Place and Promotion. All of the classification must be capable of communication and delivery the value to each other.

However, “The distribution channel of product” or “Place” in the marketing mix is not taken into consideration according to the main purpose of this research. We will take the other three of them into analyzing the results of investigation instead. Nevertheless, the definition of each component in the marketing mix is well-explained as follows.

### 3.4.1 Product

“Product” can be defined as the heart of competitive marketing strategy in order to achieve the competitive advantage in terms of lower cost and differentiation. The unique product will be achieved via product quality, design, special features and packaging for example. An understanding of the more subjective motivations that condition the customer choice will lead to the product differentiation whereas the cost of production is lower. However, it is necessary for the company to learn how to define the products in terms of the customer benefits either. Consequently, these attributes will deliver the satisfying experiences to the customers. However, the product should be constantly investigated by the marketplace in order to ensure that it satisfies the customers as expected. It is the key element in competitive success for the company (Baker, 1995, pp. 438-468).

Additionally, the product should be designed to influence consumer both short run and long run. In the short run, the new product has influence consumers to try the product. In the long run, the product strategies are designed to develop into the large market shares and built the brand loyalty (Peter & Olson, 2008, p. 401)

### 3.4.2 Price

Price is commonly determined as the number of monetary units that the customer has to pay in order to receive the product or service. It is considered to be an important component of
the marketing mix in order that it can boost the demand or respond to competitive threats and also a major determinant of profit margins of the company (Baker, 1995, p. 528). It can affect the consumer behaviour in terms of being convinced by the objective price and by the price perception. It is widely believed that the consumers build up the acceptable price range for a given product or service by rely on the price perception. If the customers perceive that the price is greater than product’s value, they will not buy the product (Kotler & Armstrong, 1998, p. 331). The important advantages of perceived value pricing are that psychological pricing effect can be incorporated into the pricing decision and that the method can be used for different pricing objectives and strategies. However, the disadvantages are that it is difficult to estimate the perceived value of the products, in particular the new products. Moreover, the price perception may vary considerably among consumers and even over usage situations (Baker, 1995, pp. 532-542). Therefore, pricing of product is the important thing to bring in the market that the setting the right price as the key to success. A product’s price must be reflected the quality and value that consumer will perceive in the products (Ghauri & Cateora, 2010, p. 432).

3.4.3 Place

According to the marketing mix, “Place” can be defined in another terms as “The distribution channels”. The objective is to help differentiate products through very selective or exclusive distribution to the target groups. For instance, if the customers have needs or wants that can be addressed via the channel of distribution, the company must adapt in order to meet their requirements. In other words, the responses can range from making products more widely available to customers (Baker, 1995, p. 544). “Place” could be defined in the terms of transporting the product as well. Due to the wider distance in terms of both geography and the length of the distribution channels between producers and consumers. Passing on the information up the channel of distribution will enable the company to modify its marketing strategies for the benefits of consumers (Brassington & Pettitt, 2007, p. 268)

3.4.4 Promotion

Nowadays, the growth of sales promotion, particularly in consumer markets has increased rapidly in the recent years. It could be described that there has several factors that lead to the
promotional competitions among the companies. First, inside the company has to face the problems in increasing the current sales and promotional activities are viewed as an effective short-run sales tool. Second, the company has more competitors whose products are less differentiated. Finally, the advertising efficiency has declined due to the rising cost, media clutter, and legal restraints (Kotler & Armstrong, 1998, p. 463).

Therefore, the sales promotional activities have generated a great deal of interest to the customers. There are a variety of promotional activities available such as the indirect price reduction in the form of discount coupon, extra quantity and free samples.

Promotion can be defined in the wider perspective in terms of targeting the consumer groups as well. Most of sales promotions provide the consumers with an incentive to purchase and the reasons for buying the product whereas the consumers are considered to be various in terms of their responsiveness to a promotion for a particular product which also affect the timing and volume of consumers’ purchasing the product onwards (Baker, 1995, p. 684).

Promotional activities are various in order to gain the response from consumers but there are some types of them that are often used in the marketing activities as follows.

3.4.4.1 Discount pricing

Discounting is a widely promotional activity used in a range of market. The company needs to concern about this promotion because it will be effective if the additional sales volume can compensate for the lost revenue. The discount price should not be interpreted as a reduction in the product quality. However, the type of promotions may have some side-effect to the company because the consumers often expect for their preference price which is the reduction. This would lead them to adhere the discounting and will not return to the normal price (Baker, 1995, pp. 686-687).

3.4.4.2 Product samples

This promotion is frequently used to encourage the product trial for the items such as foods and drinks. Sampling is costly for the company if they wish to use this promotional type to promote their product because it often involves a high degree of wastage. It is considered to
be difficult for the company to access effectively to establish the new customers because they will not know whether those who receive the product samples later go on to purchase (Baker, 1995, pp. 687-688)

3.4.4.3 Premiums

Premiums are the free gifts which are supplied on the package of the product itself or involving with another product. For examples, a typical in pack-premium might involve a free mug packaged up with two jars of coffee (Baker, 1995, p. 688)

However, it is not enough for the company to have a good product and sell in cheaper price for get more sales and profit. It would be more essential to make the communication with customers by commonly use of the promotional mix such as advertising, personal selling and public relation (Ghauri & Cateora, 2010, pp. 462-485)

The marketing mix is recognized as the potential marketing tool for a company to use as introducing the new product to the market. From this point, we will know the component promotion is considered to be the most practical regarding the product. Therefore, promotion will be beneficial for the company to create the potential promotion which will result positively in the good effect from product’s introducing but also the business still gains the profit from the promotion.
Chapter 4

4. Methodology

The research methodology is a general plan for the researchers how to assess information needs and provide the relevant information in order to improve the decision making. According to the marketing research, it is the systematic and objective identification, collection, analysis, dissemination and use of information. Each phase of this process is vital for the research in order to find the proper solution and lead it to be acted appropriately the research should demonstrate the clear purpose, the procedure of data collection as well as the sources of those data. It also includes the ethical issue in the research that should be free from the personal or commercial conduction as suggested in several Marketing research textbook. It is also important that after the research methodology is performed completely, the procedure of doing the research will be taken into the real operation because it is considered to be the basis of information whether it will be valid accurately or not (Malhotra, 1999, pp. 11-31).

4.1 Choice of Topic

Since the trends in behavioral healthcare has broadened among Asian people for recent years, They are moving forwards to a healthier lifestyle such as spending on health food that is recognized as the mega trend in Asian consumer behavior. Despite the health-conscious behavior, the consumption on snack and convenience foods in Thailand are still on the increase (Ap-foodtechnology, 2005). As a result, some Thai snack companies have turned to the fried crispy fruit products which are considered to be a health snack. However, the traditional fried crispy fruits contain too much oil that will result in the obesity afterwards. Subsequently, vacuum fried crispy fruits have become an interesting alternative for the Thai snack companies to develop their products because the vacuum frying technology can produce the high quality fried crispy fruits with the original color, fruit aroma as well as an ideal crispy texture (Agnet, 2005).

Accordingly, we decided to select this topic into our thesis. In fact, we need to do the research the consumer attitude to this product. Subsequently, this research can be beneficial for Thai crispy fruit companies in order to improve their marketing planning to launch the
product into the market. However, it is also advantage for other marketing researchers or students who study in marketing field. For the marketing researchers, they will have more reliable information according to the consumers’ perspective to the product. Furthermore, this research will be beneficial for them in case that they wish to do the further research of this product in particular section such as studying the marketing strategy of this product in Thailand market. For the marketing students, this research is also designed comprehensively for them as learning to apply critically the marketing theories into the real situation.

4.2 Choice of Theories

Since we had been studying many marketing theories for selecting some of them to be the base marketing theories in our thesis, Attitudes, Marketing Mix, Segmentation (Demographics) and Involvement and Motivation are approached closely to this study in terms of analyzing the results from the investigation because the principal contents of each theory explain the definition of each conceptual framework in marketing terms precisely. These attributes assist us to analyze the results from the investigation in accurate procedure as well. Most of the marketing theories selected in this research are derived from many marketing textbooks such as “Consumer behavior” by Evans, Jamal and Foxall, “Companion Encyclopedia of Marketing” by Baker, “The Essentials of Marketing” by Brassington and Pettitt and “Principles of Marketing” by Kotler and Armstrong”.

Whereas the research methodologies have been applied from the research methods textbooks for example, “Marketing Research – An Applied Orientation” by Malhotra, and “Research methods in education and psychology” by Mertens. All of those research textbooks contain the empirical knowledge in researching methods as well as the procedure in data collecting and analyzing including the ethical issues while doing the research.

Thus, we will gain considerably the benefits from those marketing textbooks as well as the research textbooks in order to complete this research in the most appropriate direction.

4.3 Research strategy and technique

In general, the comparative of evaluation the research strategy can be categories into two broad types which are qualitative and quantitative method. The difference between these two
types of research methodology is summarized briefly as “Qualitative methodology” provides insights and understanding of the problem solving whereas “Quantitative methodology” seeks to quantify the data and generalize the results from the sample to the population of interest by applying some form of statistical analysis. However, it seems to be efficient for the marketing research in viewing qualitative and quantitative methodology as complementary rather than in competition with each other (Malhotra, 1999, p. 149)

According to this study, the quantitative method is captured subjectively as the research technique to analyze the data collected from the survey. As suggested by Baker, the quantitative method will be the great in marketing analysis since the complicated market and the number of influences increases (Baker, 1995, p. 115). Additionally, after all of the data are collected, the procedure of conducting an experiment will begin. We will discuss this issue in the next subjects.

4.4 Data collection technique and strategy

The data collection method in the research is commonly used in the form of primary data that comes from directly the respondents and the secondary data that comes from the existing published information such as the articles in the journal and the literature review. Accordingly in this study, we will use the data collection strategy both in primary data and secondary data to answer the strategic and research questions as stated earlier in chapter 1.

4.4.1 Primary data

The primary data research techniques are used to collect the original data from the respondents by using the survey which is the descriptive method accordingly in this study. In order to narrow down the frame of sample groups in the survey, we select the sample group in Thailand aged between 18 – 35 years who are accounted for 76.3% consuming the snack products in year 2008 (Reportlinker, 2010) Additionally, the area of investigation is focused on the commercial area in Bangkok which is the capital city of Thailand and covers all of the age relevant in the study. All of the questions in the survey are translated into the local language before mailing in order to avoid misunderstanding the meaning of each question.
In the part of calculating the size of sample group, we use the statistical formula to estimate the number of respondents in order to gain the accurate and reliable information to this study as demonstrated in figure 3.

\[
n = \frac{N}{1 + N(e)^2}
\]

*n = The sample size

*N = The degree of variability in population

*e = The level of precision

Figure 3: Sample size formula
Source: (W. Thanawat MD., 2005)

Regarding to the formula created by Taro Yamane, it can be represented the definition of sample size criteria in order to calculate the different combination which are the degree of variability and levels of precision. In addition, the degree of variability is used to measure the distribution of attributes in the amount of population interest in the survey. As we selected the samples area in Bangkok as mentioned earlier, we will use the number of population in Bangkok from the National Statistical Office of Thailand at the year 2010 to be a reliably statistic information in this research (National Statistical Office of Thailand, 2010). We can use those amounts in calculating and gaining the accurate results regarding the sample size formula. The number of population in Bangkok is being demonstrated in the table 1.
<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>18 years</td>
<td>40,218</td>
<td>39,249</td>
</tr>
<tr>
<td>19 years</td>
<td>39,368</td>
<td>38,432</td>
</tr>
<tr>
<td>20 years</td>
<td>38,181</td>
<td>38,287</td>
</tr>
<tr>
<td>21 years</td>
<td>39,026</td>
<td>36,483</td>
</tr>
<tr>
<td>22 years</td>
<td>40,376</td>
<td>37,075</td>
</tr>
<tr>
<td>23 years</td>
<td>35,351</td>
<td>35,362</td>
</tr>
<tr>
<td>24 years</td>
<td>36,311</td>
<td>37,247</td>
</tr>
<tr>
<td>25 years</td>
<td>38,129</td>
<td>39,505</td>
</tr>
<tr>
<td>26 years</td>
<td>38,669</td>
<td>40,178</td>
</tr>
<tr>
<td>27 years</td>
<td>40,076</td>
<td>42,638</td>
</tr>
<tr>
<td>28 years</td>
<td>41,214</td>
<td>44,542</td>
</tr>
<tr>
<td>29 years</td>
<td>42,848</td>
<td>46,336</td>
</tr>
<tr>
<td>30 years</td>
<td>44,518</td>
<td>48,912</td>
</tr>
<tr>
<td>31 years</td>
<td>45,237</td>
<td>49,618</td>
</tr>
<tr>
<td>32 years</td>
<td>43,511</td>
<td>49,006</td>
</tr>
<tr>
<td>33 years</td>
<td>44,380</td>
<td>50,909</td>
</tr>
<tr>
<td>34 years</td>
<td>44,821</td>
<td>51,521</td>
</tr>
<tr>
<td>35 years</td>
<td>43,343</td>
<td>49,947</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>735,577</td>
<td>775,247</td>
</tr>
</tbody>
</table>

Table 1: The number of population in Bangkok
Source: (National Statistical Office of Thailand, 2010)
The amount of population in Bangkok in the table 1 is categorized by gender and age ranged from 18-35 years old. The total amount of population will be replaced in the formula and calculated into the total number of participants in the survey as illustrating follows.

\[
n = \frac{1,510,930}{1 + [1,510,930(0.05)^2]} = 1,510,930 \div 3,778.325 = 399.89 \approx 400
\]

Regarding to the number in the formula, the total amount of population in Bangkok is 1,510,930 people involving male and female. This number will replace the variable “N” in the formula. The levels of precision stated as “e” in the formula are estimated to be 0.05% sampling error. On the other words, it can be evaluated that the confidence of results from the survey is calculated to be 95%. After the number was replaced in the formula, the variable “n” would address 400 persons to be the sample size of investigation in this survey.

As stated earlier in the first paragraph of this subject, we choose to collect the primary data by using the mail questionnaire, which is either posted or handed out directly to the target respondents for completion, as a major primary research technique in this study. There have advantages and disadvantages in this method approached each other. As suggested by Mertens, mail surveys are good for collection detailed information in a closed-ended format and allow the respondents to consult records before responding. The disadvantages of this method are demonstrated that they are normally associated with lower response rather than other research methods such as phone or personal interview. Moreover, the surveyors do not have an opportunity to investigate if the respondent understands the survey questions precisely (Mertens, 1998, p. 109).
In terms of interpreting the theories and literature reviews into the questions in the survey, the researchers should study the Questionnaire Design Process that would be helpful for them to design the questions in the proper direction as instructed in the figure 4 (Malhotra, 1999, p. 295).

Figure 4: Questionnaire design process
Source: (Malhotra, 1999)
The questionnaire design process which is represented in the figure 4 indicates the series of step to design the questions in the proper procedure according to the research technique. The process in figure 4 can be explained systematically that the information needed has to be clear defined in order to be helpful in review the components of the research questions that influence the research design. The type of interviewing method should be considered how the questionnaire will be administered. After the information needed had been specified and the type of interviewing method decided, the individual question content should be determined. However, it is necessary for attempting to overcome the respondents’ inability in case that they cannot provide precise or reasonable answers to all questions in the survey. Subsequently, it will come to structure the questions and determine the wording as well as arrange them in the proper order involving the forum and layout before mailing.

Thus, it can be mentioned that these steps are interrelated each other and will lead to the development of a questionnaire that will involve some iteration and looping in each step because some respondents may misunderstand some wording of a question. However, in the last step of the procedure represents that the questionnaire should be pre-tested before mailing to the respondents. This point could be perhaps indicated as the limitation of this study that was stated earlier in chapter 1.

Nonetheless, some difficulties can occur while designing the questionnaire because there has no scientific principles that can guarantee an optimal or ideal questionnaire (Malhotra, 1999, p. 295). On the other words, it could be indicated that questionnaire design skill is acquired by an experience rather than a science. This attribute will lead to the validity experimentation of the questions that we will discuss in the next subject.

In order to avoid the lack of theory in the questionnaire design, we have indicated some factor and key influences to create the questions in the survey appropriately. They are demonstrated in the table 2.
Table 2: The factors and key influences in designing questionnaires
Source: (Own illustration, 2011)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Key influences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Content</td>
<td>• Good for health</td>
</tr>
<tr>
<td></td>
<td>• Contain the richness of nutrition after processing</td>
</tr>
<tr>
<td>Product Quality</td>
<td>• Taste</td>
</tr>
<tr>
<td></td>
<td>• Cleanliness and hygiene</td>
</tr>
<tr>
<td></td>
<td>• Freshness</td>
</tr>
<tr>
<td>Price and Promotion</td>
<td>• Buy 1 get 1 free Promotion</td>
</tr>
<tr>
<td></td>
<td>• Premiums Promotion</td>
</tr>
<tr>
<td></td>
<td>• Bundling promotion</td>
</tr>
<tr>
<td></td>
<td>• Discount Promotion</td>
</tr>
<tr>
<td></td>
<td>• Product Samples Promotion</td>
</tr>
<tr>
<td></td>
<td>• Level of pricing product</td>
</tr>
</tbody>
</table>

The table 2 represents the factors and key influences acquired by the conceptual frameworks used in this research in order to design precisely the questionnaires. The content of questions will investigate the samples’ attitudes to the vacuum fried crispy fruits in terms of nutritional content, product quality as well as price and promotion. Furthermore, we also design the questions about the background knowledge of the vacuum frying process. Consequently, they will affect the answering in product quality questions accordingly.

- **How to experiment the validity of questionnaires?**

Since we used the survey as the major method to collect the primary data, it is empirical to approve the questions in the survey. The benefit of this process is to improve the quality of data collected and the researchers can rely on them accurately (Unescap, 2004). In this research, we have two reliable methods that can experiment the validity of questions in the survey which are “Expert reviews” and “The index of consistency formula (IOC)”. The first method can be evaluated that all of the questions in the survey will be reviewed by the group of experts before mailing. Accordingly, they can identify the potential problems
and classify them into the specific points where difficulties may occur as well as predict an understanding of the respondents (Unescap, 2004). The second method is evaluated by the index of consistency or “IOC formula”. This method is used to validate the research technique used or explained commonly as a tool used to check the quality of the research technique in the study. It will review in three parts: the criterion validity, the content validity and construct validity. It will use approximately three to five experts who have knowledge and expertise on each measurement as the examinee of each question in the survey.

In terms of determining the IOC’s output, we give the survey questions to the experts to review and score each item according to the experts’ judgments. The experts will score the item with the three levels as illustrated follows.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>The investigators make sure that these questions can be used to measure the variables that they can be studied.</td>
</tr>
<tr>
<td>0</td>
<td>The investigators are not sure that these questions can be used to measure the variables whether they can be studied or not.</td>
</tr>
<tr>
<td>-1</td>
<td>The investigators make sure that these questions cannot be used to measure the variables that they cannot be studied.</td>
</tr>
</tbody>
</table>

After receiving the scores from the experts, the data will be calculated by the formula as follows in the figure 5.

\[
IOC = \frac{\sum R}{N}
\]

<table>
<thead>
<tr>
<th>IOC</th>
<th>Index of Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>The item scores according to the discretion of the investigators or experts.</td>
</tr>
<tr>
<td>N</td>
<td>The number of investigators or experts</td>
</tr>
</tbody>
</table>

**Figure 5 : Index of Consistency formula**

Source: (Srimangkornkaew S., 2010)
The results obtained from the calculation should have consistent index as equal as +0.5 or more. It interprets that a question is considered to be used. But if the IOC index is less than +.05, the question should be changed. However, if the researchers have to use that question, it is necessary to improve the question to be more appropriately regarding the advice of experts who reviewed the question.

Although all of the questions in the survey were generated directly by the authors, they were still reviewed by the advisor of this research. Moreover, we also asked the three experts relevant in Thailand to examine the survey questions in this research. The first expert is the professor in the Faculty of Agro-Industry, Department of Product Development, Kasetsart University (Agro.ku, 1980). The second expert is the professor in the Faculty of Commerce and Accountancy, Department of Marketing, Thammasat University (Bus.tu, 1938). The third expert is the professor in the Faculty of Economics, Chulalongkorn University (Econ.chula, 1970). As a result, all of survey questions in this research were reviewed by not only the advisor of this research but also the three experts from the top universities in Thailand as suggested in the IOC formula. The results after interpreting from the formula represent accurately the consistent index as equal as +0.5. Thus, it could be guaranteed that the survey questions in this research are well-reliable enough in order to use for investigating the samples. Moreover, every question in the survey are also translated into Thai language and reviewed accurately by the three experts as mentioned early before mailing to the respondents in the sample area of investigation. It could be assured that the respondents will understand accurately the meaning of each question and respond back the trustworthy answers of each question in the survey.

- *How to experiment the reliability of questionnaire results?*

Reliability refers to the extent to which a scale produces consistent results. It is assessed by determining the proportion of systematic variation in a scale. Moreover, the process is done by determining the association between scores obtained from different administrations of the scale. If the association is high, the scale yields consistent results and is therefore becoming reliable (Malhotra, 1999, p. 281).
Regarding to this research, we use the internal consistency reliability to assess the reliability of a summated scale in which several items are summed to form a total scale. The measure of reliability focuses on the internal consistency as the set of items forming the scale. The simplest measure of this reliability is “split-half reliability” which the items on the scale are divided into two halves and the resulting half scores are interrelated. In the measurement of split-half reliability, “The coefficient alpha” or “Cronbach’s alpha” is recognized as the average of all possible spilt-half coefficients resulting from different ways of splitting the scale items. This coefficient varies from 0 to 1, and a value of 0.6 or less generally indicates unsatisfactory internal consistency reliability (Baker, 1995, p. 282).

The reliability of each question will be interpreted from the scales into the statistic numbers by using the specific software program which is names as Statistical Package for the Social Science or SPSS program. This program organizes quantitative research data into various statistical formats to determine the relevance of variables associated with the research topic. Moreover, it has been adapted by practically every profession commonly using research and quantitative data analysis. It helps the researchers arrive at statistical relevance with efficiency and accuracy in their research results (Hall, 2011). However, the result will be illustrated in chapter 5.

4.4.2 Secondary data

Due to the growth of information age nowadays, the sources of information have expanded uninterruptedly. Researchers can collect data into computerized databases such as Textline, Dialog, Infoline and Nexis. All of them are available on-line for efficient and rapid searching (Baker, 1995, p. 350). However, there are some limited processes to acquire these sources collectively because of the numerous sources in the databases and time consuming. Thus, the publish report on specific products, industries and activities are increasing in order to bring together the data available from the secondary sources and provide better convenience in searching the data.

In this research, we also use the secondary data as the supportive information regarding to the primary data that we collected earlier. In the response to search the secondary data sources effectively, we use the computerized databases following.
Furthermore, we also search the secondary data from the published information such as the textbook in Marketing Research in order to have more knowledge in research techniques. As a result, the secondary sources in this research are derived from the published information and computerized databases.

### 4.5 Ethical issues

In general, the whole process of research should not do any harm to anyone or anything. In line with this ethical statement, it will be at the core of each process from the start until the end. Among those processes to complete this research, the most sensitive process in term of ethics is probably the process of interview or survey.

According to this research, all of respondents will be asked for their voluntary consent of participation and the promise of confidentiality in terms of identity and the data provided will be declared to the respondents before doing the questionnaire. Moreover, all given information from any respondents will be used only for the purpose of completion of this research. Therefore, the construction and completion of this research by using the survey method will be handled with care in the way that makes no discomfort to any respondents.
Chapter 5

5. Findings

This part consists of the empirical findings and research results which are the secondary and primary data collected in this research. All of them are stated as follows.

5.1 Empirical findings

The empirical findings demonstrate the background of snack industries, consumer tastes and preferences as well as product processing sector in Thailand. Although the findings demonstrated are not related directly to the product experimented in this research, the authors might argue that they are still useful for the readers who do not have the knowledge in snack industries, trends of taste and preference in consuming the food products and product processing sector that have existed in Thailand for many years.

5.1.1 Background of snack industries

Thailand’s snack food market is one of the largest and most diverse in Asia-Pacific region with an estimated total value of $280 million in year 2004 (Nicely, 2004). Furthermore, Thailand’s snack food market is considered to be very complex and its snack production industry highly fragmented (Stanton et al., 2010). The market is segmented into two broad types as follows.

1. Indigenous snacks: They are crispy pork, fish and seafood based products, various types of nuts, beans and peas, fruits in pickled or preserved forms, local cakes and crackers. The products also include products such as wafers that were introduced to Thailand in the distant past.

2. Non-indigenous snacks: They have been introduced to Thailand over the past 15 to 20 years. These include potato chips, extruded snacks and some non-indigenous nut and bean products.

However, the non-indigenous snack products are considered to be popular in Thailand’s snack market such potato chips, extruded snacks, fish snacks, prawn crackers and peas and
nuts over a decade. For example, the figure 6 and 7 show the relative sales volume and market shares of the various types of snacks in year 2002.

**Figure 6**: Thailand Sales Volume of Major Snack Segments in year 2002  
Source: (Nicely, 2004)

**Figure 7**: Thailand Market Shares of Individual Snack Segments in year 2002  
Source: (Nicely, 2004)

Despite the high sales volume of snack products in Thailand, the actual market size of these products is still difficult to estimate. There are many Thai companies who sell their products in the current distribution channels such as supermarkets and convenient stores. Moreover, there are also home-based producers who sell their products not only in the existing stores in the market but also in the rural areas in the country. Consequently, it is virtually impossible to
gauge the actual sales volume of these products sold in the market and estimate the entirely actual of market size of snack products in Thailand (Nicely, 2004).

5.1.2 Consumer Tastes and Preferences

Since the trend of consumer taste and preference in food products are constantly changing and becoming more sophisticated. Therefore, the demand for food is no longer for quantity but has become more demand for quality instead. The consumers turn their attention to the quality of food that they eat as well as become more concerned about the food safety (Drichoutis & Lazaridis, 2005).

In Thailand, food safety is becoming the number one priority as evidenced by the enormous numbers of certifications that guarantee the quality of food products such as ISO 9001-2000, HACCP and GMP (Foodprocessing, 2009). There are more manufacturers who are producing more quality organic and healthy products. This also affects on the consumers’ perception of the products. For example, many consumers perceive that snack products are unhealthy and less nutritious foods. As a result, it is necessary for the snack companies to overcome this obstacle by switching the new manufacturing process that we will discuss in the following subject.

5.1.3 Product processing sector

Thailand’s product processing industry has developed rapidly throughout the past decade and is one of the most developed in South East Asia. Additionally, Thailand is a leading supplier of a wide variety of commodities and/or products including rice, rubber, cassava, sugar, seafood, poultry meat, frozen, ready-to-eat foods, and processed fruits and vegetables (Sirikeratikul, 2010). Thai manufacturers are moving towards higher-valued quality in their products. As a result, the product development process occurs and increases the margin profit to the companies. Consequently, there are many processed food and fruit products available in the market nowadays.

Regarding the processed fruit products, the vacuum fried crispy fruits are considered to be the sample from this product type. Since Thai consumers love eating snacks but concern the health in the meantime, they increase looking to eat healthily more than in the past. This is
reflected in growing demand for snack products perceived as nutritious either. In order to response the consumers’ demand, the latest innovative product development in food processing is brought into the production process for achieving the market high quality and providing the healthy snacks to the consumers (Keziasnack, 2009). The result is healthy crispy fruit snacks containing the crispiness but with much lower oil content as well as nutritional quality almost equal with fresh fruits. Moreover, the product contains only 2% cooking oil by weight when comparing with the traditional deep-frying method that contains 15% cooking oil in the product. That results in less fat and lower cholesterol in the product. Thus, this type of processed fruit products can respond accurately the consumers’ demand according to the growing trends of health concerns nowadays.

5.2 Research results

In order to obtain the consumers attitude to the product chosen regarding this research, we did the survey through the Thai consumer samples approximately 420 persons. The valid results remained precisely at 400 respondents as calculated earlier in the chapter 4.

Subsequently, we collected the data and interpreted them into the descriptive statistics information. The information show the survey results which are divided into general background of respondents, attitudes to the product, motivation to purchase the product and effective marketing mix to the product. To evaluate each factor, we measure them by using the mean of scale that the respondents would rank their attitudes to the product ranged from strongly agree to strongly disagree respectively.

5.2.1 General background of respondents

Since we selected the target samples aged between 18 to 35 years old in Bangkok, the data collected from the survey can be categorized into three groups. The first group is the age between 23 to 28 years old that is considered to be the majority proportion of respondents. It can be calculated as 47.8% of total respondents. The second group ranged between 18 to 22 years old is counted to be 34.2%. The smallest group is ranged between 29 to 35 years old which is computed to be 18% of total respondents as shown in the figure 8.
Referring to the number of population in Bangkok as mentioned early in Chapter 4, the female population is more than the male population. Therefore, the most of respondents are female which is counted to be 59% whereas the rest of them are male that is evaluated to be 41% as illustrated in the figure 9.

Since the product is not recognized to be well-known considerably at the moment, the respondents also were asked about the consumption of this product. The results showed that there are only 174 respondents who have ever eaten this product which is calculated to be 43.5% from the total whereas there are 226 respondents who have never eaten this product before which is calculated to be 56.5% of them as shown in the figure 10.
However, the results in the figure 11 also demonstrated the possibility of respondents who would like to purchase the products if the business launches into the market. The majority of results in this question are illustrated that there are 83% of them will purchase this product whereas there are only 17% of them who will not prefer definitely to purchase the product if the product launches into the market.

In terms of frequency of the product, the data in the figure 12 shows that there is 59.4% of total respondents who consume the product less than once per month. Furthermore, the average of product consumption between a few times per month and once a month is evaluated in the similar level. While there is 4.6% of them who consume the product a few times per week and 2.3% consuming almost every day.
This part demonstrates the results of respondents’ belief to the vacuum fried crispy fruit product. The data is explained from descriptive statistics into the number. Each number in the range of mean is ranked from 5 to 1 which can be interpreted into strongly agree to strongly disagree respectively as shown in the table 3.

<table>
<thead>
<tr>
<th>Range of Mean</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.21-5.00</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>3.41-4.20</td>
<td>Agree</td>
</tr>
<tr>
<td>2.61-3.40</td>
<td>Neutral</td>
</tr>
<tr>
<td>1.81-2.60</td>
<td>Disagree</td>
</tr>
<tr>
<td>1.00-1.80</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

Continually, most of respondents give high frequency of agreement in each factor given in the survey regarding their attitude to the product. The data is ranked from the highest to the lowest as demonstrated in the table 4.
The data demonstrated in the table 4 shows that most of respondents agree that the vacuum fried crispy fruit products have a clean and hygienic production process that can be interpreted to be 4.00 while they give the lowest rate of agreement in nutritional content in the product after producing which can be evaluated to be 2.92. Subsequently, they think that the product taste should be similar to the fresh fruits. The mean of this answer can be interpreted to be 3.45 while the product freshness should be existed either as evaluated to be 3.32. Moreover, the result also shows that most of respondents think that the vacuum fried crispy fruit product is a healthy snack for them regarding the average of mean as 3.43. Likewise, the statistics data can also be evaluated into the percentage of strongly agree to strongly disagree in each factor questioned in the survey as illustrated in the figure 13.
Figure 13: The percentage of general opinion of vacuum fried crispy fruits
(Source: Own illustration, 2011)

5.2.3 Motivation

The respondents were asked the motivation why they consume or buy this product regarding the questions in the survey. The results are divided into two factors which are the occasions and the sources of product information respectively. Both of them are considered to motivate the respondents to purchase the product. The result from the first factor shows that most of respondents consume the product while they are reading. It is calculated to be the highest mean as 0.48 while the lowest mean of product consumption is 0.12 because the respondents think that they will eat the product when they have free time only. While the average mean of product consumption in the social meeting, television/movie time and working are calculated to be quite similar regarding the respondents’ answers as illustrated in the table 5.
Table 5: Mean of occasion to consume the vacuum fried crispy fruits
(Source: Own illustration, 2011)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Factors</th>
<th>Average (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reading</td>
<td>0.48</td>
</tr>
<tr>
<td>2</td>
<td>Social meeting</td>
<td>0.34</td>
</tr>
<tr>
<td>3</td>
<td>Television/Movie time</td>
<td>0.33</td>
</tr>
<tr>
<td>4</td>
<td>Working</td>
<td>0.33</td>
</tr>
<tr>
<td>5</td>
<td>Others</td>
<td>0.12</td>
</tr>
</tbody>
</table>

The result from the second factor shows that the most effective source to receive the product information comes from the display in the stores. It is ranked in the highest mean as 0.41 regarding the total level of mean. The second is that receiving the product information from family/friends (mean = 0.40). The third sources come from the internet (mean = 0.25). The forth is the source from commercial television (mean = 0.23). The fifth is 0.19 came from the newspapers/magazine ads. The last three sources of receiving the product information are outdoor billboard, radio broadcast and direct mail which are evaluated in the level of mean s 0.05, 0.03 and 0.01 respectively. However, there are 0.12 of the total respondents who never receive the product information from any kind of sources given in the question as shown in the table 6.
5.2.4 Marketing mix

This part results the answering of the questions focusing on the marketing mix concept of the product. Even it was mentioned earlier in the chapter 3 that the marketing mix consists of “4P” but the findings of marketing mix in this research are evaluated mainly in “Product”, “Price” and “Promotion” rather than “Place” regarding the principal objective of the research.

5.2.4.1 Price

According to the figure 14, there is 30% of respondents who strongly agree and 43.25% of them who agree that the product price affects their purchase decision. While there is 4.25% of them disagree and only 1.75% who strongly disagree.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Factors</th>
<th>Average (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In stores</td>
<td>0.41</td>
</tr>
<tr>
<td>2</td>
<td>Family/Friends</td>
<td>0.40</td>
</tr>
<tr>
<td>3</td>
<td>Internet</td>
<td>0.25</td>
</tr>
<tr>
<td>4</td>
<td>Commercial television</td>
<td>0.23</td>
</tr>
<tr>
<td>5</td>
<td>Newspapers/Magazine ads</td>
<td>0.19</td>
</tr>
<tr>
<td>6</td>
<td>Outdoor billboard</td>
<td>0.05</td>
</tr>
<tr>
<td>7</td>
<td>Radio broadcasts</td>
<td>0.03</td>
</tr>
<tr>
<td>8</td>
<td>Direct mail</td>
<td>0.01</td>
</tr>
<tr>
<td>9</td>
<td>Others</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Table 6 : Mean of sources of product information to access the consumers
(Source : Own illustration, 2011)
The results in the figure 15 also indicate that 79.50% of total respondents are willing to pay for the product at the price range between 40 to 50 baht per one pack. Moreover, there is 19.50% of them think that price should be stated between 60 to 80 baht per one pack. While there is 0.75% of them who think that the range of product price should be 90 baht per one pack and there is 0.25% of them who accept the product price up to 150 baht per one pack.
5.2.4.2 Product

According to the figure 16, the results show the features of product that the respondents concern when the product is launched into the market. It shows that the respondents range the high level of agreement that the vacuum fried crispy fruits are the health snack as 13.2% with strongly agree and 33.8% with normally agree. However, there are only 4% of them who chose strongly disagree and 9.5% who chose normally disagree to be the answer of this question. In terms of the nutritional content in the product, there are 41.8% of total respondents who chose the neutral level of agreement while there are 7.8% and 24.5% of them who selected strongly agree and disagree respectively. Furthermore, there are 13.5% and 38% of total respondents who strongly agree and agree respectively that the taste of product should be similar to the fresh fruits while there is 3.8% and 12.8% of total respondents who strongly disagree and disagree accordingly.

![Graph showing the percentage of attitude to the product features](Source: Own illustration, 2011)

5.2.4.3 Promotion

The results show that the respondents range the high level of agreement that the “Samples promotion” have a great effect on their purchasing decision to the product. It is evaluated to be 39.20% with strongly agree and 45% with normally agree. However, there are only 1.80% of them who chose normally disagree whereas there is no respondents choosing strongly disagree to be the answer of this question. The “Buy 1 Get 1 Free promotion” and “Discount promotion” have also a great potential effect to motivate the respondents to buy the product.
The respondents rate their level of agreement to the “Buy 1 Get 1 Free promotion” at 33% of strongly agree and the “Discount promotion” at 27.80% of strongly agree while the other promotions are ranked in the lower level of strongly agree as illustrated in the figure 17.

![Figure 17: The percentage of promotion influencing on consumer purchasing decision](image)

(Source: Own illustration, 2011)

5.2.4.4 Place

Although the results in this component are not addressed significantly, the authors would like to mention that the distribution channel of this product is similar to other snack products in the market such as allocating the products through the supermarkets and convenient stores because the vacuum fried crispy fruits are the developed product that the original product has already existed in the market and it is possible to distribute the developed products with the same distributional channel as the original ones do. Thus, the authors would evaluate the consumer attitude towards the marketing mix concept of this product by using only three components relevant rather than evaluating every component.
Chapter 6

6. Analysis

In this part, we will analyze the results from the primary data and the secondary data collected by relating to the marketing conceptual frameworks mentioned in the chapter 3.

6.1 Attitudes

Due to the growing trends of health concern in the recent years, many consumers has changed their eating behavior to become more healthy by consuming more nutrient in all kinds of food even the snacks. As a result, there are many snacks companies in Thailand who try to develop the quality of snack products to be healthier. Thus, it will be a good opportunity for the Thai snack companies to introduce the new fruit snacks into the market. The vacuum fried crispy fruits can be another appropriate option for snack lovers who often consume the snacks but concern the negative side effect to their health in the meantime.

In the connection to the attitude theory, the most relevant component to this product is considered to be the cognitive component. Since the cognitive is the individual’s believe of knowledge such as its attributes, the company can apply the research results of consumers’ attitude to this product in order to create the positive belief of this product among the consumers. Moreover, the results from the Independent Samples T-Test show the difference on the product purchasing decision of respondents influenced by the factors given in the survey. The result will be different or not different by basing on the significant in the Levene’s test for the equality of variances as illustrated in the table 7.

<table>
<thead>
<tr>
<th>Independent Samples T-Test</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is a healthy snack.</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>The product still contains the nutrition after processing.</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>The taste of product should be similar to the taste of fresh fruits.</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>The production process of product is clean and hygienic.</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>The product contains the freshness.</td>
<td>Equal variances assumed</td>
</tr>
</tbody>
</table>

Table 7: The Independent Samples T-Test in the attitude of respondents to the product
(Source : Own illustration, 2011)
According to the table 7, the results are evaluated by basing on the factors experimented in this research. The result from the first factor calculated from the independent sample t-test between the product purchasing decision of respondents and their attitude towards the product as being a healthy snack shows that the significant of Levene’s test for the equality of variances is 0.085 (as illustrated later in the appendix table). Subsequently, the significant of equal variances can be assumed to be 0.004 which is lower than 0.05. Therefore, the answer of this factor is that there are different between the product purchasing decision of respondents and their attitude towards the product as being a healthy snack. It means that the factor of being a healthy snack has an influence greatly on the product purchasing decision of respondents. The result shows that the respondents concern the healthy factors. Therefore, the snack that has benefit for health can make the purchasing decision more than the snacks has not benefit for health. Accordingly, the result from the second factor calculated from the independent sample t-test between the product purchasing decision of respondents and their attitude towards the product containing the nutrition after processing shows that the significant of the Levene’s test for the equal variances is 0.497 (as illustrated later in the appendix table). We calculated the significant of the equal variances that can be assumed to be 0.313. The result is higher than 0.05. Thus, the answer of this factor demonstrates that there has no difference between the product purchasing decision of respondents and their attitude towards the product containing the nutrition after processing. It means that this factor does not have any influence on the respondents to decide purchasing this product. Then, the respondents do not care about the contain nutrition after processing of product to purchase the product and the consumer think that the production process make the product reduce nutrition.

The result from the third factor calculated from the independent sample t-test between the product purchasing decision of respondents and the result from the third factor calculated from the independent sample t-test between the product purchasing decision of respondents and the similarity between the product’s taste and the taste of fresh fruits. The table 7 shows that the significant of the Levene’s test for the equal variances is 0.056 (as illustrated later in the appendix table). Moreover, we calculated the significant of the equal variances that can be assumed to be 0.074 which is higher than 0.05. Therefore, the answer of this factor shows that there has no difference between the product purchasing decision of respondents and the similarity between the product’s taste and the taste of fresh fruits. It means the factor towards the similarity between the product’s taste and the taste of fresh fruits fruit does not have an
impact on making a decision to purchase this product. However, it is important that the taste of product should be delicious in order to attract the consumers to buy this product as well.

According to the fourth factor, the result calculated from the sample t-test between the quality of production process towards the product and the product purchasing decision of respondents. The result in the table 7 represents the significant of the Levene’s test for the equal variances is 0.412 (as illustrated later in the appendix table). The significant of the equal variances is assumed to be 0.001 which is lower than 0.05. Therefore, the answer of this factor is that there has the difference between the quality of production process and the product purchasing decision of respondents which means that this factor has an influence on decision making of respondents to buy this product. Therefore, it could be represented that the respondents concern the quality of product in terms of cleanliness and hygiene before deciding to purchase the product. Whereas the result from the last factor that is calculated from the sample t-test between the freshness of product and the product purchasing decision of respondents. From the table 7, it shows the significant of the Levene’s test for the equal variances as 0.469 (as illustrated later in the appendix table). The significant of the equal variances is assumed to be 0.031 which is lower than 0.05. Therefore, the answer of this factor represents the difference between the freshness of product and the product purchasing decision of respondents. It means that this factor has an influence on the decision making of respondents in terms of purchasing this product. For example, although the product has been produced for a while, its taste still remains exactly the same as the fresh taste. Therefore, it can be addressed regarding the research results that the attitudes to the product affect greatly to the purchasing decision of consumers to buy the product.

6.2 Involvement and Motivation

Regarding to the research results, they show that the majority of respondents receive the information of this product through the media in the stores such as the poster in the supermarket which is ranked to be the most effective media whereas the direct mail media is ranked to be the least effective media for promoting the product to the consumers.

Moreover, the respondents also suggest other channels of media to promote the product to the consumers such as the advertising. With the effect of this media, the consumers will be acknowledged more information of the product for example the benefits from consuming this
product. Nonetheless, the packaging is considered to be a motivated factor towards the consumers to buy this product. For example, the packaging can imply the product flavor to the consumers as mentioned earlier in the chapter 2. In addition, if the company uses the distinctive color in the packaging for giving the meaning of the product flavor. For instance, the orange color in the packaging mean sour flavor. As a result, this will be useful for the consumers to be perceived about the product information easier. Since the consumer is well-realized their needs as well as well-perceived about the product information, they will make a decision to buy this product easier.

6.3 Segmentation (Demographics)

As we segmented the consumers aged from 18 to 35 years old mixed between male and female to be the sample groups in this research, we would like to investigate if the age has an effect on the product purchasing decision of respondents. According to the table 9, the results evaluated from the independent sample t-test indicate that the significant of Levene’s test for the equality of variances between the attitude of respondents towards the product as being a healthy snack is 0.304 (as illustrated later in the appendix table). Also, the significant of equal variances can be assumed to be 0.073 which is higher than 0.05. It can be interpreted that the health concern to this product is evaluated to be similar level for males and females. Therefore, the answer of this factor is that there has no difference between the gender of respondents and their attitude towards the product as being a healthy snack. It means that the gender does not have an effect on deciding purchasing the product.

<table>
<thead>
<tr>
<th>Independent Samples T-Test</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is a healthy snack.</td>
<td>Equal variances assumed</td>
</tr>
</tbody>
</table>

*Table 8: The Independent Sample T-Test in gender of respondents to the product purchasing*
(Source: Own illustration, 2011)
Consequently, we can conclude from the result that the gender does not have an effect on product purchasing. Thus, the company has to segment their product in the appropriate way in order to respond accurately the consumers’ need. Moreover, it can reduce the cost of reaching the consumers and chances of new products failure.

6.4 Marketing Mix

In this part of analysis, we category the contents into four topics regarding the classification of 4P by explaining as follows.

6.4.1 Promotion

The results from the independent sample t-test in table 9 indicate the sales promotion that have the most effect on making a decision to buy the product. First, it is Buy 1 Get 1 Free promotion has the significant of equality of variances higher than 0.05. It means that Buy 1 Get 1 Free does not have an influence on the product purchasing decision of respondents. Second, it is the premium promotion has the significant of equality of variances higher than 0.05. It means that the premium promotion does not affect on the decision making to buy the product. Third and Fourth are the bundling promotion and discount promotion have the same significant of equality of variances which is higher than 0.05. As a result, it means that those sales promotions do not have an effect to the consumer in deciding to purchase this product. Lastly, the sample promotion has the significant of equality of variances which is lower than 0.05. Therefore, this sales promotion can make the consumers decide easily to buy this product.

Although Buy 1 Get 1 Free promotion and sample promotion are considered to have quite similar in the significant of equality of variances, the level of significant between them are different. Therefore, the most appropriate sales promotion of this product should be the sample promotion that can motivate the consumers to buy this product rather than other sales promotions. However, the company should not invest considerably in promoting the product by using the sales promotion only because it might return the company with the large amount of profit as expected.
### Table 9: The Independent of Sample T-Test in sales promotion affecting on the product purchasing
(Source : Own illustration, 2011)

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Variances Assumed</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy 1 Get 1 Free</td>
<td>Equal variances not assumed</td>
<td>.157</td>
</tr>
<tr>
<td>Premiums</td>
<td>Equal variances not assumed</td>
<td>.239</td>
</tr>
<tr>
<td>Bundling promotion</td>
<td>Equal variances assumed</td>
<td>.609</td>
</tr>
<tr>
<td>Discounts</td>
<td>Equal variances not assumed</td>
<td>.135</td>
</tr>
<tr>
<td>Samples</td>
<td>Equal variances assumed</td>
<td>.000</td>
</tr>
</tbody>
</table>

6.4.2 Price

From the table 10, the result of independent sample t-test indicates that the significant of the Levene’s test for equality of variances is lower than 0.05 (as illustrated more in the appendix table). It means that the price does not affect to the consumer in purchasing the product.

### Table 10: The Independent of Sample T-Test in pricing effect on product purchasing
(Source : Own illustration, 2011)

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Variances Assumed</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The price of product affects your purchase decision</td>
<td>Equal variances not assumed</td>
<td>.208</td>
</tr>
</tbody>
</table>

However, the company should set the pricing strategy at the reasonable level in order to attract more consumers and avoid losing the consumers who are sensitive to the price of product.

6.4.3 Product

According to the table 11, the result calculated from the independent sample t-test shows that the significant of Levene’s test for equality of variances of the nutritional content in the product is lower than 0.05. It means that most of respondents will try this product in the future because it is recognized as a healthy snack that has the nutrient in the product even after having already been processed. It can be represented that the strong points of being healthy snack and containing the nutrition after processing attract considerably the consumers to buy this product in the future. While the significant of Levene’s test for equality of variances between the similarity of product taste and the taste of fresh fruits is higher than 0.05. It means that the product taste does not have an effect in making the respondents try the product in the future. Thus, the taste of product as being similar to the fresh fruits cannot definitely interest the consumers to buy this product.
Table 11: The Independent of Sample T-Test in product trial
(Source: Own illustration, 2011)

<table>
<thead>
<tr>
<th></th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy snack</td>
<td>.035</td>
</tr>
<tr>
<td>Containing the nutrition after processing</td>
<td>.028</td>
</tr>
<tr>
<td>Taste similar to fresh fruits</td>
<td>.682</td>
</tr>
</tbody>
</table>

Nevertheless, Thailand has the policy in verifying and controlling the quality of food products such as ISO 9001-2000. This certification is recognized as the effective policy to control the consumer’s safety in consuming in every kind of food products due to the high concern in health nowadays. Therefore, the vacuum fried crispy fruits can be considered to be healthy snack products because they are produced by the new technology in frying process. As a result, those fruit snacks contain the oil in the product much less than the ones produced by the traditional process. Thus, this benefit of product can attract the consumers to try in this product in the future.

6.4.4 Place

Since the distribution channel of snack products are assumed to use the same sources such as the supermarkets, the authors would like to mention this subject in this research by discussing how to make the products more widely perceived by the consumers instead of indicating directly the distribution channel of this product. According to the suggestion from the respondents, they mention that the product should be promoted in wider range in order that the general consumers will be acknowledged more information about this product and purchase this product in the future.

Regarding to the research results and empirical findings stated earlier in the previous chapter, there has three factors that impact the consumers to buy this product. Firstly, this product is recognized as a healthy snack that fits to the trends of health concern towards the current consumers. Secondly, due to the effect of food quality control certification such as ISO 9001-2000, the company needs to ensure the consumers about the quality in their food products even it is snacks. The clean and hygiene production process as well as the freshness of product are also considered to be the important attitude factors for convincing the consumers to make a purchase of product.
In order to answer the first research questions as stated in chapter 1, the authors would argue that there are three attitude factors used in investigating what the most influence attitude factor can motivate the respondents to purchase this product. After evaluating the data from the statistic software program, the results show that the three attitudes experimented have an influence on decision making to this product at the similar level. First, the vacuum fried crispy fruit is considered to be the healthy snacks and this advantage point of the product can interest greatly the health-conscious consumers. Secondly, according to the government policy in terms of controlling the quality of product, the company needs to assure the consumers about the product quality in terms of cleanliness and hygiene. These factors also affect greatly in consumer’s purchasing decision. Lastly, the product need to remain the freshness even it had been produced for a while. Thus, all of three factors are considered to be the most influence attitude factor that motivates Thai consumers to purchase the vacuum fried crispy fruits.

According to the second research question, the product samples is the most effective sales promotion that can make the consumers buy the product when comparing with other sales promotions in this research. The company can use this result in order to create the appropriate marketing planning to this product in the long run. Moreover, after trying the product, the consumers will have more experience in this product and purchase it afterwards.

From the third research question, Thai snack companies have opportunity to success if they launch the vacuum fried crispy fruits into the snack market in Thailand because there are 83% of respondents who would like to try the product. Additionally, they also think that the vacuum fried crispy fruits are the new choice of consumers who love consuming the snack but wish to be healthy in the meantime. However, we will give some suggestions to acquire the success in this product instead and we will discuss about this issue again in the next chapter.
Chapter 7

7.1 Conclusion

As Thailand is the agriculture country that produce mainly in agriculture products and sell them in the domestic and overseas markets. Despite facing the over-supplied situation of these products within the country, the product development is considered to be a potential solution for this problem. The fruit snacks are the example from using the product development in terms of giving value-added into the fresh fruits. However, the fruit snacks cannot respond completely the consumers’ needs because they are still containing too much oil in the product. This will lead to the negative side effect to the consumer’s health.

Thus, the vacuum frying is used for producing better quality fruit snacks that results in the new fruit snack products. They are named as “vacuum fried crispy fruits”. Subsequently, there are some Thai snack companies who interest in this product and wish to produce and launch it into the market in the future. Unfortunately, this product has not just been introduced in the wide range of consumers. If the company wishes to invest in this product line, it will be beneficial for it to have the knowledge of consumer attitudes to this product before launching it into the market. Moreover, the company can also create the productive marketing planning to this product by using the knowledge from this research.

According to the research process, the authors mailed the 400 surveys to the target respondents who are the teenagers and working people aged between 18 to 35 years old because the people in this range of age are the young generation who have different lifestyles but want to be healthy in the meantime. After collecting the data from the survey, the authors found that there are 33.34% of males and 66.66% of females from the total respondents who have ever been experienced in consuming the vacuum fried crispy fruits. Moreover, most of them who have an experience in consuming this product eat the vacuum fried crispy fruits less than one time per month. While most of respondents consume the product when they are reading that is evaluated to be the most frequent time of product consuming. In terms of pricing, the most suitable price range of this product is between 40 to 50 baht per one pack.
The result also show the consumers’ attitudes toward the product experimented in this research that the consumers are perceived that the vacuum fried crispy fruits are the healthy snacks, the manufacturing process is clean and hygienic and the product taste is similar to the fresh fruits. According to the conceptual frameworks mentioned in the chapter 3, the cognitive component in the attitude theory is stated as the important factor for the Thai snack companies to study because the product knowledge perceived by the consumers can affect the decision making of product purchasing.

It is evaluated that the motivation does not have an effect much in stimulating the consumers to purchase the product because most of them do not ever know this product before. It is caused by the lack of promoting through the advertising media such as commercial television and posters in the stores. However, some of them who used to eat this product prefer to keep consuming it because it is the new kind of snack products that affect positively to the health. Nevertheless, the segmentation does not have definitely any influence to the purchasing decision because this product can be consumed in every range of age and every gender. The product is produced from the fresh fruits which is absolutely beneficial to the consumers’ health.

According to the marketing mix analysis, it could be stated that the most appropriate sales promotion of this product is the product samples promotion because the vacuum fried crispy fruits are considered to be the new kind of snack products and there are many consumers who have never been received the information of this product before. Therefore, it is necessary to give the product experience to the consumers in order to make them feel interesting and make a purchasing decision easier. However, the price of product is not considered to be the important factor for making a purchasing decision because the consumers are perceived that if the higher product price is, the higher product quality will be. Therefore, the suitable price range of this product should be set between 40 to 50 baht per one pack because the price range of fresh fruits in Thailand is cheap. Nonetheless, the opinion from the consumers to the product feature is that it is needed to have the good manufacturing process by concerning the cleanliness and hygiene. They are considered as the influence factors that make the consumer decide to purchase the product eventually.
7.2 Recommendation

Suggestions drawn from this research will be introduced in two aspects. First is the suggestion special for Thai snack companies in terms of research results. This aims to provide suggestion which, more or less, may benefit the companies for creating the effective marketing planning. The second suggests the areas in which the topic can be expanded further for future researches.

For the first issue, the authors would recommend the potential motivation and suitable marketing mix mentioning about “Price”, “Product” and “Promotion”. As such, below is the suggestion for the companies.

7.2.1 Motivation

From the findings mentioned in the chapter 5, there are many aspects that the companies should concern especially how to stimulate the consumers to buy the product. The authors would give the recommendation in this aspect that the companies should focus on designing the attractive product packaging in order to interest the consumers when they walk through the product’s shelf. For example, it is possible to use the innovative package design by informing the consumers towards the product flavor with the different colors. It is easy way for the consumers to recognize and memorize the product.

7.2.2 Marketing mix

The authors would suggest the suitable marketing mix of this product by mentioning the “3P” which are “Price”, “Product” and “Promotion” rather than discussing the whole “4P” because the term of “Place” in this research has already existed as mentioned early.

7.2.2.1 Price

The price factor is important for the every company that can make the consumer purchase the company’s product. From the survey result, the price of fresh fruits in Thailand is recognized to be cheap and has many kinds of fruits for choosing. According to this term, the price of the vacuum fried crispy fruits should be set at the reasonable level by basing on the price of each kind of fresh fruits in Thai fruit market.
Additionally, the company might give the special price during the introduction period of the product. This affects the positive response to the company in terms of promoting the product to the consumers in the wide range and it would increase the sales volume of the product in the meantime. For example, the company may give the special price for 15 days to promote the product and return to the normal price after the introduction period. However, the company should do this strategy in the long term because it probably causes the negative perception to the product and the company. For example, there are some consumers who think that low price means low quality.

7.2.2.2 Product

The Thai snack companies should design the product to be attractive in order to gain the attention from the consumers and come to buy the product afterwards. According to the findings, it is suggested that the company should develop the product by using different kinds of fresh fruits. This can increase the opportunity for the company to create its own competitive advantages. For instance, the company can serve the consumers’ need with different vacuum fried fruit snacks although that kind of fresh fruits is out of season. Moreover, the company should also concern the quality of product by maintaining the cleanliness and hygiene in the manufacturing process in order to assure the consumers about the quality of product.

7.2.2.3 Promotion

According to the survey result, the sales promotion and advertising are evaluated to be the important factors in terms of promoting the product to the consumers.

- **Sales Promotion**

The product samples promotion is the most effective sales promotion that affects greatly the decision making of purchasing the product. The Thai snack companies should organize some promotion activity in the store such as setting up the booth near the product’s shelf and giving the product samples to the customers in the store. In case that those who try the product and feel impressive with it, they can go the product’s shelf and buy it immediately.
• Advertising

The Thai snack companies should have more investment in the advertising during the introduction period of the product. This makes the consumers have the product knowledge and the benefit of product. The company should create the advertisement by focusing on the people who concern the health and try to make them recognize the product image as being healthy snacks. The suitable advertising channels suggested are commercial television, newspapers, billboards and posters in store.

For the second issue, we can determine this in many aspects. One way is to look beyond what topic is, without any boundary. Or we can think about the next step which the finding leads us to. Another way is to look from limitations of this research by determining the area around this topic in which the future researchers can cope with. The future researchers or marketing students might wish to study the same topic but with other products or industries. They might also want to conduct the research in a more objective way or do the research in wider scope. Thus, it could be suggested that the results and research techniques provided in this report are reliable well enough and benefit for everyone both in business and academic aspect.
Bibliography


Appendix

Appendix A : Questionnaire

This questionnaire is subjected for a research entitled “What is the attitudes of Thai consumers' towards the vacuum fried crispy fruits whether the business introduces them into the market?” studied by the two master degree students in International Marketing program at Mälardalen University, Västerås, Sweden. The information collected by the respondents will be used for academic research only. Your answers are anonymous.

Thank you for your cooperation

---

**Vacuum fried crispy fruits** is processed by the vacuum frying technology that will result in the high quality and are considered to be healthy fruit snacks.

**Instruction** : Please complete all questions by putting the mark in the box of your choice.

**Part 1 : General information of the product**

1. Have you ever eaten the vacuum fried crispy fruits before?
   - Yes *(Skip to question no.3)*
   - No

2. In the future, would you like to try the vacuum fried crispy fruits?
   - Yes *(Skip to question no.4)*
   - No............................*(Please state some reasons and skip to question no.5)*

3. How often do you eat the vacuum fried crispy fruits? *(Choose only one answer)*
   - Almost everyday
   - A few times per week
   - A few times per month
   - Once a month
   - Less than once per month
4. What kind of occasion do you eat the vacuum fried crispy fruits? (Can choose more than one answer)

☐ Social meeting  ☐ Movie time  ☐ Working

☐ Reading  ☐ Others.................. (Please specify)

5. What kind of sources do you get the information about the vacuum fried crispy fruits? (Can choose more than one answer)

☐ Newspaper / Magazine ads  ☐ Direct mail

☐ Radio broadcasts  ☐ Outdoor billboard

☐ Internet  ☐ Friend / Family

☐ Commercial television  ☐ In store (supermarket , convenient store)

☐ Others ................. (Please specify)

Part 2: These statements following are the consumers’ attitude towards “the vacuum fried crispy fruits”. (5 = Strongly agree , 4 = Agree , 3 = Neutral , 2 = Disagree , 1 = Strongly disagree)

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The price of product affects your purchase decision.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I will buy the product with the promotion “Buy 1 get 1 free”.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I will buy the product if there has the premiums.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I will buy the product if there has the bundling promotion ex. Canned juice and vacuum fried crispy fruits.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I will buy the product with the discount.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. I will buy the product because there has the samples.

12. The product is a healthy snack.

13. The product still contains the nutrition after processing.

14. The taste of product should be similar to the taste of fresh fruits.

15. The production process of product is clean and hygienic.

16. The product contains the freshness.

17. What is the price level per one pack considered to be acceptable to purchase the products?

- [ ] 40-50 Baht  
- [ ] 60-80 Baht  
- [ ] 90-120 Baht  
- [ ] up to 150 Baht

18. If the business launches the vacuum fried crispy fruits into the market, would you purchase the products?

- [ ] Yes  
- [ ] No  

(Please state some reasons)

19. Do you think that the vacuum fried crispy fruits should be developed or improved in any factors? (ex. Price, Quality, Taste and Package)

................................................................................................................................................
................................................................................................................................................

................................................................................................................................................
Part 3: Personal data

20. What is your gender?
☐ Male       ☐ Female

21. What is your age?
☐ Under 18 years old ☐ 18-22 years old ☐ 23-28 years old
☐ 29-35 years old ☐ More than 35 years old

22. What is your education level?
☐ High School   ☐ Bachelor Degree   ☐ Master Degree
☐ Doctoral      ☐ Others ............ (Please specify)

23. What is your occupation?
☐ Student       ☐ private company employee ☐ Business owner
☐ Government employee ☐ Others ............ (Please specify)

24. How much is your income per month?
☐ Less than 10,000 Baht ☐ 10,001 – 20,000 Baht
☐ 20,001 – 30,000 Baht ☐ 30,001 – 40,000 Baht
☐ More than 40,001 Baht

End of questionnaire

Thank you for your cooperation
### Appendix B: Survey results

#### Part 1: General background of respondents

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-22 years old</td>
<td>137</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
</tr>
<tr>
<td>23-28 years old</td>
<td>191</td>
<td>47.8</td>
<td>47.8</td>
<td>82.0</td>
</tr>
<tr>
<td>29-35 years old</td>
<td>72</td>
<td>18.0</td>
<td>18.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>164</td>
<td>41.0</td>
<td>41.0</td>
<td>41.0</td>
</tr>
<tr>
<td>Female</td>
<td>236</td>
<td>59.0</td>
<td>59.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precedent Fruit</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>174</td>
<td>43.5</td>
<td>43.5</td>
<td>43.5</td>
</tr>
<tr>
<td>No</td>
<td>226</td>
<td>56.5</td>
<td>56.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

<p>| If the business launches the vacuum fried crispy fruits into the market, would you purchase the products? |
|---------------------------------------------------------------|---------------------------------------------------|</p>
<table>
<thead>
<tr>
<th>Precedent Fruit</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>332</td>
<td>83.0</td>
<td>83.0</td>
<td>83.0</td>
</tr>
<tr>
<td>No</td>
<td>68</td>
<td>17.0</td>
<td>17.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
**Part 2: Attitudes**

**The production process of product is clean and hygienic.**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>4</td>
<td>1.0</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>disagree</td>
<td>10</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>neutral</td>
<td>121</td>
<td>30.2</td>
<td>30.2</td>
<td>32.8</td>
</tr>
<tr>
<td>Agree</td>
<td>126</td>
<td>31.5</td>
<td>31.5</td>
<td>64.2</td>
</tr>
<tr>
<td>strongly agree</td>
<td>143</td>
<td>35.8</td>
<td>35.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**The taste of product should be similar to the taste of fresh fruits.**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>15</td>
<td>3.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>strongly disagree</td>
<td>54</td>
<td>13.5</td>
<td>13.5</td>
<td>100.0</td>
</tr>
<tr>
<td>disagree</td>
<td>51</td>
<td>12.8</td>
<td>12.8</td>
<td>16.5</td>
</tr>
<tr>
<td>Neutral</td>
<td>128</td>
<td>32.0</td>
<td>32.0</td>
<td>48.5</td>
</tr>
<tr>
<td>Agree</td>
<td>152</td>
<td>38.0</td>
<td>38.0</td>
<td>86.5</td>
</tr>
<tr>
<td>strongly agree</td>
<td>54</td>
<td>13.5</td>
<td>13.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
The product is a healthy snack.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strongly disagree</td>
<td>16</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>38</td>
<td>9.5</td>
<td>9.5</td>
<td>13.5</td>
</tr>
<tr>
<td>Neutral</td>
<td>158</td>
<td>39.5</td>
<td>39.5</td>
<td>53.0</td>
</tr>
<tr>
<td>Agree</td>
<td>135</td>
<td>33.8</td>
<td>33.8</td>
<td>86.8</td>
</tr>
<tr>
<td>strongly agree</td>
<td>53</td>
<td>13.2</td>
<td>13.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The product contains the freshness.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strongly disagree</td>
<td>15</td>
<td>3.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>disagree</td>
<td>56</td>
<td>14.0</td>
<td>14.0</td>
<td>17.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>165</td>
<td>41.2</td>
<td>41.2</td>
<td>59.0</td>
</tr>
<tr>
<td>Agree</td>
<td>112</td>
<td>28.0</td>
<td>28.0</td>
<td>87.0</td>
</tr>
<tr>
<td>strongly agree</td>
<td>52</td>
<td>13.0</td>
<td>13.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The product still contains the nutrition after processing.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strongly disagree</td>
<td>31</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>disagree</td>
<td>98</td>
<td>24.5</td>
<td>24.5</td>
<td>32.2</td>
</tr>
<tr>
<td>Neutral</td>
<td>167</td>
<td>41.8</td>
<td>41.8</td>
<td>74.0</td>
</tr>
<tr>
<td>Agree</td>
<td>80</td>
<td>20.0</td>
<td>20.0</td>
<td>94.0</td>
</tr>
<tr>
<td>strongly agree</td>
<td>24</td>
<td>6.0</td>
<td>6.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
## Part 3: Motivation

**What kind of occasion do you eat the vacuum fried crispy fruits?**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(social meeting)</td>
<td>378</td>
<td>0</td>
<td>1</td>
<td>.34</td>
<td>.475</td>
</tr>
<tr>
<td>(movie time)</td>
<td>378</td>
<td>0</td>
<td>1</td>
<td>.33</td>
<td>.472</td>
</tr>
<tr>
<td>(working)</td>
<td>378</td>
<td>0</td>
<td>1</td>
<td>.33</td>
<td>.470</td>
</tr>
<tr>
<td>(reading)</td>
<td>378</td>
<td>0</td>
<td>1</td>
<td>.48</td>
<td>.500</td>
</tr>
<tr>
<td>(others)</td>
<td>378</td>
<td>0</td>
<td>1</td>
<td>.12</td>
<td>.330</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>378</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What kind of sources do you get the information about the vacuum fried crispy fruits?**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Newspaper / Magazine ads)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.19</td>
<td>.391</td>
</tr>
<tr>
<td>(Direct mail)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.01</td>
<td>.111</td>
</tr>
<tr>
<td>(Radio broadcasts)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.03</td>
<td>.156</td>
</tr>
<tr>
<td>(outdoor billboard)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.05</td>
<td>.223</td>
</tr>
<tr>
<td>(internet)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.25</td>
<td>.431</td>
</tr>
<tr>
<td>(friend / family)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.40</td>
<td>.491</td>
</tr>
<tr>
<td>(commercial television)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.23</td>
<td>.425</td>
</tr>
<tr>
<td>(in stores)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.41</td>
<td>.492</td>
</tr>
<tr>
<td>(others)</td>
<td>400</td>
<td>0</td>
<td>1</td>
<td>.12</td>
<td>.325</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part 4: Marketing mix

Price

Indepenent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>41.768</td>
<td>.000</td>
<td>1.744</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>1.269</td>
<td>.774</td>
<td>77.342</td>
</tr>
</tbody>
</table>

The price of product affects your purchase decision.

What is the price level considered to be acceptable to purchase the product?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-50 baht</td>
<td>318</td>
<td>79.5</td>
<td>79.5</td>
<td>79.5</td>
</tr>
<tr>
<td>60-80 baht</td>
<td>78</td>
<td>19.5</td>
<td>19.5</td>
<td>99.0</td>
</tr>
<tr>
<td>90-120 baht</td>
<td>3</td>
<td>.8</td>
<td>.8</td>
<td>99.8</td>
</tr>
<tr>
<td>up to 150 baht</td>
<td>1</td>
<td>.2</td>
<td>.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
**Product**

The product still contains the nutrition after processing.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>31</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>strongly disagree</td>
<td>16</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>disagree</td>
<td>98</td>
<td>24.5</td>
<td>24.5</td>
<td>32.2</td>
</tr>
<tr>
<td>neutral</td>
<td>167</td>
<td>41.8</td>
<td>41.8</td>
<td>74.0</td>
</tr>
<tr>
<td>Agree</td>
<td>80</td>
<td>20.0</td>
<td>20.0</td>
<td>94.0</td>
</tr>
<tr>
<td>strongly agree</td>
<td>24</td>
<td>6.0</td>
<td>6.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The product is a healthy snack.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>31</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>strongly disagree</td>
<td>16</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>disagree</td>
<td>98</td>
<td>24.5</td>
<td>24.5</td>
<td>32.2</td>
</tr>
<tr>
<td>neutral</td>
<td>158</td>
<td>39.5</td>
<td>39.5</td>
<td>53.0</td>
</tr>
<tr>
<td>Agree</td>
<td>135</td>
<td>33.8</td>
<td>33.8</td>
<td>86.8</td>
</tr>
<tr>
<td>strongly agree</td>
<td>53</td>
<td>13.2</td>
<td>13.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The taste of product should be similar to the taste of fresh fruits.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>15</td>
<td>3.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>strongly disagree</td>
<td>15</td>
<td>3.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>51</td>
<td>12.8</td>
<td>12.8</td>
<td>16.5</td>
</tr>
<tr>
<td>Neutral</td>
<td>128</td>
<td>32.0</td>
<td>32.0</td>
<td>48.5</td>
</tr>
<tr>
<td>Agree</td>
<td>152</td>
<td>38.0</td>
<td>38.0</td>
<td>86.5</td>
</tr>
<tr>
<td>strongly agree</td>
<td>54</td>
<td>13.5</td>
<td>13.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
### Promotion

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will buy the product with the promotion “Buy 1 get 1 free”</td>
<td>400</td>
<td>1</td>
<td>5</td>
<td>4.10</td>
<td>.793</td>
</tr>
<tr>
<td>I will buy the product if there has the premiums.</td>
<td>400</td>
<td>1</td>
<td>5</td>
<td>3.74</td>
<td>.923</td>
</tr>
<tr>
<td>I will buy the product if there has the bundling promotion ex. canned juice and vacuum fried crispy fruits.</td>
<td>400</td>
<td>1</td>
<td>5</td>
<td>3.44</td>
<td>.972</td>
</tr>
<tr>
<td>I will buy the product with the discount.</td>
<td>400</td>
<td>1</td>
<td>5</td>
<td>3.94</td>
<td>.891</td>
</tr>
<tr>
<td>I will buy the product because there has the samples.</td>
<td>400</td>
<td>2</td>
<td>5</td>
<td>4.22</td>
<td>.746</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>