

**THE MOST ATTRACTIVE FACTOR THAT INFLUENCE  
PURCHASING FOR GERMINATED BROWND RICE  
(GABA RICE)OF PEOPLE IN THAILAND**



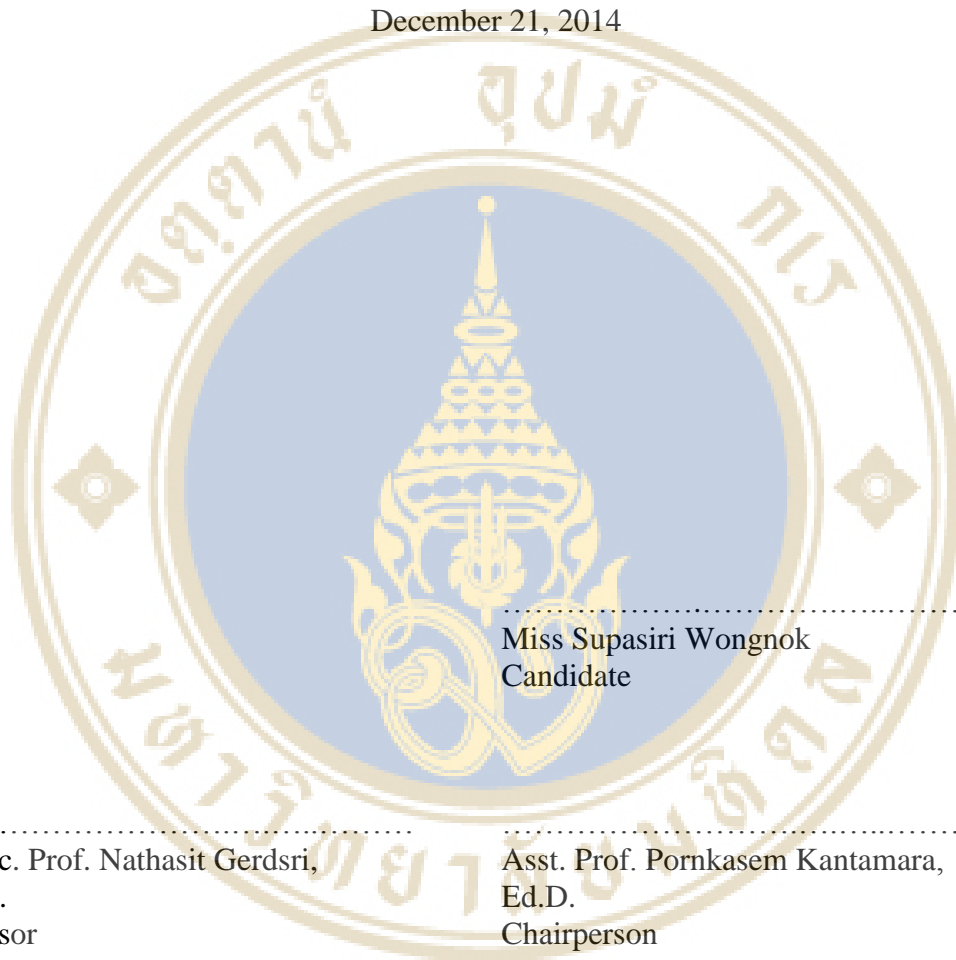
**A THEMATIC PAPER SUBMITTED IN PARTIAL  
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Thematic paper  
Entitled  
**THE MOST ATTRACTIVE FACTOR THAT INFLUENCE  
PURCHASING FOR GERMINATED BROWND RICE  
(GABA RICE) OF PEOPLE IN THAILAND**

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Supasiri Wongnok

# **THE MOST ATTRACTIVE FACTOR THAT INFLUENCE PURCHASING FOR GERMINATED BROWN RICE (GABA RICE) OF PEOPLE IN THAILAND**

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M.M. (MARKETING MANAGEMENT)

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## **ABSTRACT**

The main objective of this Thematic Paper is to find the most attractive factor however the result shows not only the most attractive factors but also the target group, behavior and perception toward the product of customer. Moreover, this research provides information and benefit of Germinated Brown Rice as well. The study was a quantitative research which 207 data is collected by questionnaire survey. Health lover in Thailand who have consumed and never consume Germinated Brown Rice were included as a sample. This paper used SPSS program for composing of factor analysis, frequency descriptive and cross tabulation for data analysis which found that, three factors can influence people to buy the product. Firstly, both of product's quality and manufacture's quality can create confident of people. Secondly, suggestion from their intimate and doctor is the other attractive factors. Finally, design of packaging.

**KEY WORDS:** Organic Germinated Brown Rice/The most attractive factors/  
Customer behavior/Healthy food

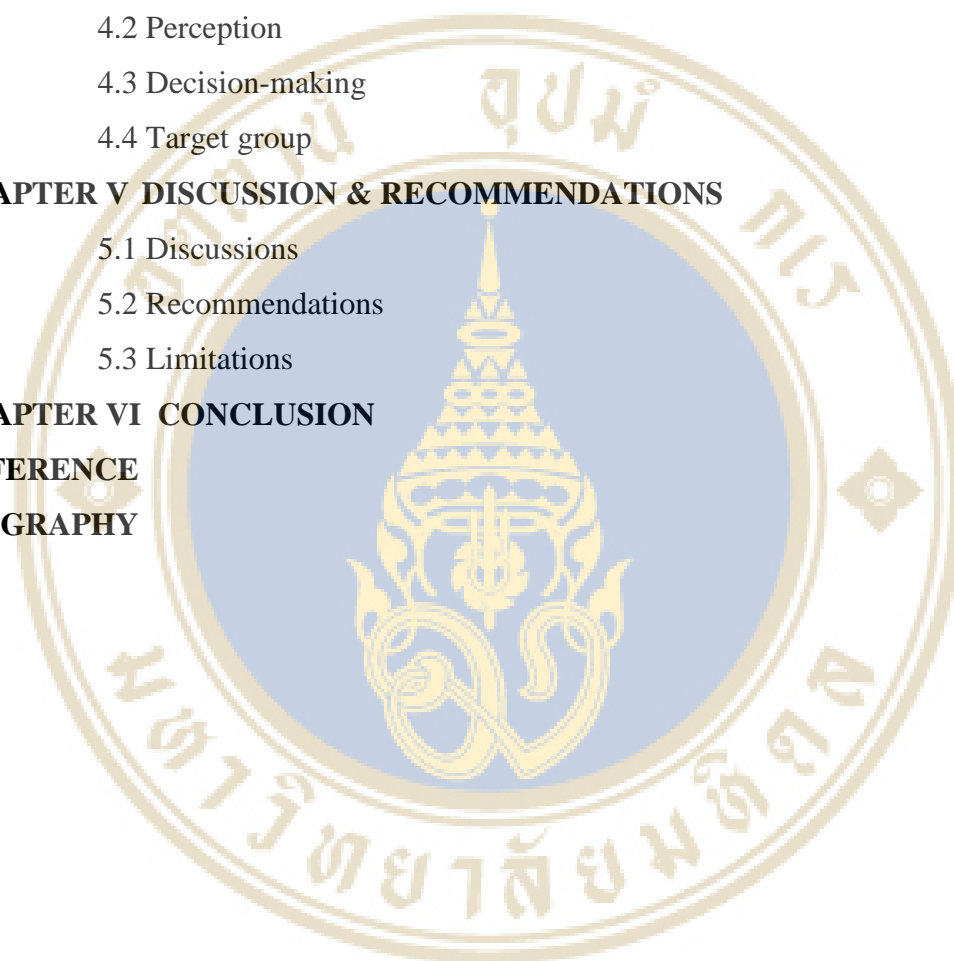
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## CHAPTER I

### INTRODUCTION

Many countries in the world face to a problem which is unhealthy population, therefore the government of some countries, there are policies that support the project for helping population turn the attention to their health. Currently, people who are interested in their health are increasing. The factor that helps people get a good health is not only workout at the gym or take all vitamins, but eat a good food is also one of the important factor.

Food is one of four factors which are essential to human life. The tradition of consuming in each country is different. In the past, they did not care too much in food that they consumed while nowadays people around the world are interested in healthy food due to promoting from media and nutrient or benefit of food. From this situation, this trend is impacting toward some restaurant. The restaurants need to adapt their menu for fitting customers' need. As you can see, Macdonald; the biggest fast food restaurant of the world, they also have to add healthy dishes into their menu. For example, Mediterranean Veggie and Santé Fe Veggie wraps are vegetarian menu that sold the first time in Canada. Macdonald in Canada creates this menu because people always ask for veggie burger. The feedback from customer is good, therefore they plan to sale vegetarian menu in other branches and other countries; moreover in some countries which do not have vegetarian menu. Customers can order hamburger that without meat. KitKat in United Kingdom is one company which adapts their recipe by decrease percent of fat in some of products.

In the past, only eldest people in Thailand who care their health and consume healthy food in order to prevent illness such as diabetes, pressure, high Cholesterol etc. but nowadays teenager are interested in healthy food as well, moreover nutrient in healthy food also help them control their shape and lose weight. Rice is the main food that most of Thais consume, but most of Thais consume the white rice, just some groups of Thais know and consume Germinated Brown Rice

(GABA rice). The king of Thailand is a model that consumes Germinated Brown Rice and suggests their populations consuming it. Germinated Brown rice is one part of healthy food, its likely Brown rice but not same. Geminated brown rice contains higher nutrition, vitamin and the texture of GABA rice is softer than brown rice because the process is more complex. Although today there are just a few people consume it, from a prediction a number the geminated brown rice consumers will be increasing in the future because of their behavior change.

From the recent studies of Agriculture and Agri-food in Canada; Health and Wellness Trends in Canada and the World, 2011 said that health and wellness food market has seen growth in 2010 and may continuously grow in both developed and new markets which health and wellness trend is becoming one of the key factors. Due to the saturation in many categories of food and the emergence of private labels which create an increasingly competitive market. Therefore information above shows that the market of healthy product and wellness in the world and Thailand seem to grow steadily. It is an opportunity in both small and medium business including a big business to develop new healthy products for serving their customers. It is an opportunity of my family business as well. Our business is one of manufacturers and distributors of Germinated Brown Rice. The product is an organic food, no insecticide, no chemical fertilizer etc. which all of process are supervised by us. This business is a new business model of us. It has been established for 1 year and a half and the product has been distributed to some department stores in north-east of Thailand. The feedback from customer is good, some customers contact us directly to ask more the product's information. It is a good chance for developing the product due to we plan to expand our business to the other markets in Thailand.

## **CHAPTER II**

### **LITERATURE REVIEWS**

The approach of finding the theory and literature for supporting this topic is information of Germinated Brown rice and consumer's behavior toward health behavior which consists of many factors that can motivate consumer to change their behavior, in addition, there are some factors that can influence consumer decision-making for purchasing which are explained below.

#### **2.1 Germinated or Sprouted Brown Rice (GABA rice)**

There is knowledge of Germinated Brown Rice, regarding to benefit and nutrient of it. Germinated Brown Rice is brown rice which passes through germination process. It contains more nutrients such as gamma amino butyric acid (GABA) and ferulic acid when it is compared with ordinary brown rice. It is good for digestion and absorption. Dried Germinated Brown Rice offers an excellent appearance which is unlike white rice; Germinated Brown Rice provides more sweetness, excellent taste, better texture and being cooked easily. (Swati Bhauso Patil and Md. Khalid Khan, 2011). The germination of brown rice is necessary to increase value of nutrients that is required for good health. The changes of main food from white rice to Germinated Brown Rice can not only maintain and promote the healthy life but also improve the quality of life (Hiroshi, 2005).

#### **What is Germinated Brown Rice?**

The process of Germinated Brown Rice is different from normal brown rice. Generally, brown rice can be germinated by soaking it in warm water of 35–40 °C for about 10–12 hours, draining water and keeping in moist condition for 20–24 hours. And during soaking period, it has to be changed the water every 3–4 hours to prevent fermentation; which usually produces undesirable odors, and maintain

consistent water temperature. The result yields a 0.5–1 mm long sprout from the brown rice grain; at this stage nutrient accumulation in the grain maximum. Manufactured is mostly sold in dried form for prolonging Germinated Brown Rice's shelf life. (Swati Bhauso Patil and Md. Khalid Khan, 2011)

### **Nutritional aspects**

Nutrients in brown rice change extremely during the process of germination. Not only existing nutrients are increased but new components are also released from the inner. The nutrients; GABA, lysine, vitamin E, dietary fiber, niacin, magnesium, vitamin B1, and vitamin B6, have increased significantly (Kayahara et al. 2001; Kayahara 2001). The other nutrients that increase in Germinated Brown Rice were inositol, ferulic acid (type of organic compound), phytic acid, tocotrienols (members of the vitamin E family), potassium, zinc, g-oryzanol, and prolyl endopeptidase inhibitor (Kayahara and Tsukahara, 2000). In particular, the amount of GABA in Germinated Brown Rice is more than 10 times, compared with white rice and 2 times when it is compared with general brown rice. Additional, Germinated Brown Rice contains less calories and sugar than milled rice.

Continuous consumption of Germinated Brown Rice is good for health due to Germinated Brown Rice has more nutrients. For example, gamma amino butyric acid (GABA) is a neurotransmitter which is abounding in brain and spinal cord, dietary fiber which activates the peristalsis of intestine, in addition Saikusa et al. (1994) found that GABA increases dramatically if brown rice is soaked in 40 °C water for 8–24 h. Okada et al. (2000) ,reported that intake of GABA suppresses blood pressure, insomnia, autonomic disorder observing during the menopausal or premenstrual period and preventing Alzheimer's disease (Go Grains E-News (2004) ,reported that GBR significantly improve levels of spatial learning in mice).

Taiichiro SEKI et al. (2005) found that Germinated Brown Rice is one of the suitable foods for diabetic patients due to result of the blood glucose-lowering effect of Germinated Brown Rice would be derived from the attributes of Germinated Brown Rice, involving considerably higher dietary fiber than white rice.

From the experiment in rat of Yeon Ri Leea, Chae Eun Kim, Mi Young Kang and Seok Hyun Nam (2007) found that Germinated Brown Rice is effective in improving cholesterol metabolism and antioxidant status under high-cholesterol conditions due to prolyl endopeptidase activity inhibitor related to the metabolism of peptide. It also contains considerable phytic acid with a powerful anticancer activity. Therefore, Germinated Brown rice is good food for preventing headache, relieving constipation, preventing cancer of colon, regulating blood sugar level, preventing heart disease and getting a good health.

**Table 2.1 Selected examples of biological activities in Germinated Brown Rice**

Nutrients	Biological activities in GBR
GABA	Hypotensive effect, Accelerating metabolism in brain, preventing headaches or depressions aftereffects of cerebral arteriosclerosis and cerebral apoplexy, Preventing climacteric disorder, Preventing prehensile derangement such as insomnia and mental irritation, Activating renal function
Dietary fiber	Relieving constipation, Preventing cancer of colon, Regulating blood sugar levels
Inositols	Accelerating fat metabolism, Preventing fatty lever, Preventing arteriosclerosis
Ferulic acid	Scavenging super oxides, Suppressing melanogenesis
Phytic acid	Antioxidative effect, Protecting cardiovascular disease, Preventing platelet aggregation
Tocotrienols	Scavenging super oxides, Protecting skin from ultraviolet rays
Magnesium	Preventing heart diseases
Potassium	Lowering blood pressure
Zinc	Activating reproductive function, Preventing arteriosclerosis
Gamma- oryzanol	Antioxidative effect, Preventing skin aging, Modulating cholesterol values
Prolylendopeptidase inhibitor	Possible preventing Alzheimer's disease

(Kayahara and Tsukahara 2000)

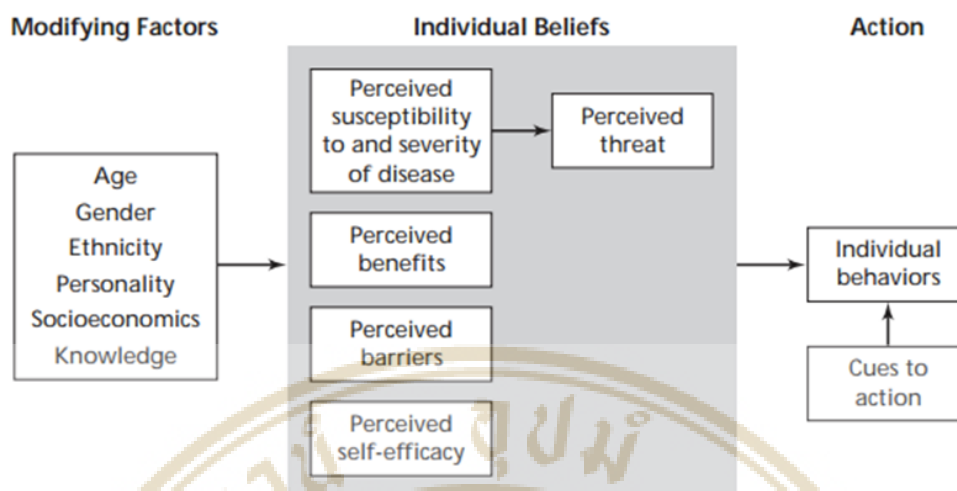
## 2.2 Health behavior

The definition of health behavior refer to the action of individuals and organization as well as their determinants, correlation, and consequences including social changes, policy development and implementation improved coppery skills and enhanced quality of life (Parkerson et al., 1993)

Currently, not only economy or technology around the world is changed rapidly but also the environment and behavior; the Global Warming, increasing of pollution, the hustle of everyday life etc. These are the important reasons which will be impacting to unhealthy of people. For example, people who hasten in everyday life. They have no time for looking after themselves; they always have ready meal or fast food in order to finish everything on time, therefore they make their health worse because the nutrition of fast food and ready meal is not enough for their body. If they eat too much fast food, all this will ruin their health. Diabetes, heart disease and liver disease are mainly disease from people who eat fast food too much due to the nutrition in fast food is high fats and carbohydrate but less vitamins.

The most frequency causes of death in the United States and all countries around the world are Chronic diseases, including heart disease cancer, long diseases, and diabetes (Yach, Hawkes, Gould and Hofman, 2004). So they make people turn attention to care their health more.

For this topic the Health Belief Model (HBM) can show the individual behavior of people that make decision about health and determine health behavior. Since early 1950s, the Health Belief Model (HBM) has been one of the most widely used conceptual frameworks in health behavior research that explains both changes and maintenance of health-related behaviors as a guiding framework for health behavior interventions. Over the past two decades, the HBM has been expanded, compared to other frameworks, and used for supporting interventions to change health behavior. (Karen Glanz, Barbara K., Pimer K. and Viswanath, 2008)



**Figure 2.1 Health Belief Model Components and linkage**

### Constructs

- Perceived Susceptibility mention to beliefs about the probability of getting diseases or conditions. If the probability is high, people will be strictly following the suggestion of doctor or someone else for avoiding or treatment of diseases.
- Perceived Severity is feelings about the seriousness of contracting an illness (for example, death, disability, and pain) and possible social consequences (such as effects of the conditions on work, family life, and social relations). When people know this information, they will look after themselves more than then.
- Perceived Benefit is the way that people seek how to treat or prevent diseases by consuming or doing something that good for their health
- Perceived Barrier is the potential negative aspects of a particular health action, perceived barrier may act as impediment of undertaking recommended behaviors.
- Cues of Action are factors that motivate people to show their action or their behavior which are internal cues and external cues.

From the information of Health Belief Model shows the reasons that why healthy food or healthy products contain popularity in currently period which avoids an illness? And it is the main reason of changing behavior for getting good health.

### **2.3 decisions-making to buy organic product of people in Thailand**

Organic food is category of food which is in the purest forms that is grown without chemical fertilizers or pesticides and sold to the consumer without adding preservatives and synthetic food enhancers. It is widely believed by advocates of alternative health care that organically grown foods are safer and more nutritious (Medical-dictionary, 2012).

Organic food is perceived as food without "chemicals" and "growth hormones" food that is "not intensively" produced and is grown as "natural" (Soil Association, 2000; Makatouni, 1999; Davies et al., 1995).

The main reason that people choose organic product to consume due to benefit to health (Aikaterini Makatouni, 2002; Siti Nor Bayaah Ahmad and Nurita Juhdi, 2010; Birgit Roitner-Schobesberger et al., 2007).therefore organic product should free from genetic modification and food additives. Although, it is organic food, the taste of is also important. (Aikaterini Makatouni, 2002). Nowadays, demand toward organic product in the market is increasing while the quantity of producers is less than consumers therefore in the same category of product; the price of organic product is higher than other. Anywise the price of product should not be too expensive because it is the reason that prevents people from purchasing that product. In addition, there are other reasons that prevent people from buying organic food which is composed of lacking of availability, satisfaction with conventional food, lacking of trust, the limited choice and lacking of perceived value (Soil Association, 2000; Makatouni, 1999; Mintel, 1999; Morris, 1996; Davies et al., 1995; Roddy et al., 1994; Tregear et al., 1994).



Organic products are a new experience purchasing of some people. Therefore, not only quality of products is turning the attention for purchasing but also more information and detail of products on product packaging are factor. Moreover, price is one of the factors that influence organic products consumers which are given more detail below.

### **Labels**

Label is important to people around the world. The labels that show information of nutrient is important to consumers' considering in many countries that interest in health Nutritional of food. (Moorman and Matulich, 1993; Wandel, 1994; Devine and Sandström, 1995).

The food labels should give the information about all the main ingredients, additives, condiments and nutrient list is also important to be provided. Although a large proportion of people cannot get all of advantages or understand the information on the food labels. (Shannon, 1993). Many consumers also want more detailed and complete list (Wandel, 1995). In addition, there is the results of Margareta Wandel, (1997) indicate that the label of healthy product, mixed product and low fat products is more important than label on general product. It is able to influence consumer to purchase.

In the market of organic products, trust of people is delicate issue due to consumers cannot verify whether product is an organic product or not. (Meike Janssen ,Ulrich Hamm,2012). Therefore, Organic certification logos from government or other organization is able to increase consumers' trust and purchasing of organic products (Meike Janssen and Ulrich Hamm, 2012; Birgit Roitner-Schobesberger , Ika Darnhofer ,Suthichai Somsook , Christian R. Vogl, 2007). There are some examples of organic certification logos in Thailand this is shown in the table 2.

**Table 2.2 Major safe food labels in Thailand**

Label	Title of the label (including the translation of the Thai text on the label)	Origin and description
	<p>Hygienic food Pilot project for hygienic fresh vegetables and fruits – Hygienic fresh vegetables and fruits – Department of Agriculture</p>	<p>The label was originally used on produce originating from the “Hygienic fresh fruit and vegetable production pilot project” that was initiated in 1991 by the Dept. of Agriculture (Ministry of Agriculture and Cooperatives). In the project, the use of synthetic chemicals is regulated and controlled. The label is meant to be replaced by the new ‘Food quality and safety’ label (below)</p>
	<p>Food quality and safety Ministry of Agriculture and Cooperatives – “Safe Food”</p>	<p>This quality and safety certification label is given to agricultural commodities and food products that conform to the standards established by the National Bureau of Agricultural Commodity and Food Standards (Ministry of Agriculture and Cooperatives)</p>
	<p>Pesticide-free vegetables Quality certification for toxic substances control Department of Medical Science–Ministry of Public Health</p>	<p>The Ministry of Public Health assigns the label to retailers who conduct tests for toxic substances before selling the products. The label is used on fresh food products that meet the safety requirements of the Ministry of Public Health</p>
	<p>Organic Thailand Organic Products</p>	<p>The official organic label by the Department of Agriculture. It indicates that the product has been produced according to the organic farming standards set by the Department of Agriculture</p>
	<p>Organic Agriculture Certification Thailand (ACT)</p>	<p>These products are certified organic by Organic Agriculture Certification Thailand (ACT), a private certification body accredited with IFOAM since 2001</p>
	<p>IFOAM</p>	<p>Label of the International Federation of Organic Agriculture Movements (IFOAM). Although IFOAM does not certify organic farms itself, the label can be used by certifying bodies accredited by IFOAM</p>

## **Packaging**

Packaging is one of the most important factors for purchasing decisions that people decide at the market (Prendergast and Pitt, 1996). Packaging is an essential part of the selling process due to it is a primary instrument for communication and branding because it shows a characteristic of product to consumers as the “salesman on the shelf” at the point of sale (Rettie and Brewer, 2000). Graphic and color, size and shape, Information and Technology are four elements of packaging that stimulate purchasing decision of people, however it depends on the difference of each consumer's perspective (Pinya Silayoi Mark Speece, 2004). In addition, the purpose of the ‘packaging’ is also extension of food’s shelf-life and maintenance or improvement of its quality (Dario Dainellia, Nathalie Gontardb, Dimitrios Spyropoulosc, Esther Zondervan-van den Beukend and Paul Tobback)

## **Price**

Price is the sensitive one for decision making of consumer. For the price of Organic products is higher than other products. It’s as a premium price but price is not the main reason for decision making of people to buy organic products. People will buy it because quality and benefit of product that can make them healthy. From the study of Marvin T. Batte, Neal H. Hooker, Timothy C. Haab, Jeremy Beaverson, (2007) shows that consumers who are more concerned about health issues would be more likely to pay premium prices for food because they perceive to be healthier but consumers can decide to buy the cheaper product, instead of choosing the expensive ones which offers similar benefits (John A. Bowera, Mohammad A. Saadatb, Catherine Whitten, 2002). Birgit Roitner-Schobesberger, Ika Darnhofer , Suthichai Somsook, Christian R. Vogl, (2007) indicated that people who consume organic product in Bangkok tend to be an older, adult or the group of people who hold an academic degree and have higher income than those people who do not purchase organic products. In addition, price of organic products that suitable to quality of them, which is important factor that influence consumers to purchase them.

## **CHEPTEER III**

### **METHODOLOGY**

According to the diagnostic, the aim of this research is to study behavior, perception and attitude of consumers for finding “The most attractive factors that influence purchasing Germinated Brown Rice of people in Thailand.

#### **3.1 research scope**

##### **Population**

Thais and foreigners who have awareness of health

##### **Area**

Thailand

##### **Sampling Frame**

This part will be separated into 2 subgroups.

1. Health lover in Thailand who never consume Germinated Brown Rice
2. Health lover in Thailand who have consumed Germinated Brown Rice

\*\* Health lover is not only people who have awareness of the healthiness of their diet and lifestyle, but also group of people who always workout or take vitamin etc. Therefore, they would be our customers in the future because both of them would like to choose the best products that give complete nutrition for consuming.

##### **Sample size**

Sample size is important for the result of research. It should not be smaller or bigger size. The population of this research is infinite quantity because it is hard to

count number of health lover. The number of health lover would be increase in the future; therefore this research will calculate sample size by using Cochran's formula.

$$n = \frac{Z^2(p(1-p))}{e^2}$$

n = the sample size

z = the number relating to the degree of confidence that the researchers wish it happens in the result

p = an estimate of the proportion of people who fall into the group in which be interested in the population

e = the proportion of error that prepared to accept

The percentage for population proportion is estimated at 50% (0.5). The confidence level is 90%, therefore Z value is 1.65 and this research accept error around 10% or 0.1

$$n = \frac{1.65^2(0.5(1-0.5))}{0.1^2}$$

Sample size 60 respondents

At least 60 respondents is the respondents ' quantity that should be collected data for this research. Data will be collected over 200 data, from over 200 respondents as well because it is more stable.

## Content

Content scope of this research will include

1. To find the factors that influences purchasing Germinate Brown Rice of people.
2. To study behavior of health lover
3. To study perceptions and attitudes of consumers in group of health lover toward product of Germinated Brown Rice for developing product in the future.
4. To find the target group and other information
5. Provide the knowledge and benefit of Germinated Brown Rice

## **3.2 Data collection**

### **Primary data**

Data is collected from Thais and foreigners who concern about their health and living in Thailand, including consumer that have consumed Germinated Brown Rice. The methodology for data collection and result orientation would be quantitative method, collected by online questionnaire survey (Survey Monkey).

There are three samplings for data collection of this research, which are

The first sampling is snowball sampling. They are general respondent who never consume Germinated Brown Rice but they take care of their health in other ways. The questionnaire will be send to anyone who do other activities that help them get good health after that they will forward this online survey to their friends who have lifestyle same as them. The proportion of respondents in this group is around 50 percentages.

The second sampling is purposive sampling. The character of respondents in this sampling is suited with research's objective due to they are customers of company. The company has information contacts of respondents in this group; therefore company will be sending online survey to get perception and attitude of their customers. 40 percent is the proportion of respondents in this group.

The last sampling is accessible sampling. They are master degree students at Collage of Management Mahidol University. The proportion of respondents in this group is 10 percent.

### **Secondary data**

Collecting and studying data from thesis, articles, information, news and analysis on websites involved.

### **3.3 Instrumentation**

The method of this research is questionnaire survey which is collected data by online questionnaire survey; Survey Monkey, it is a program that can create online surveys and polls, send survey to anyone, and monitor the results anywhere, anytime. This research aims to study behavior, perception and attitude of health lover for finding the factors that influence purchasing Germinate Brown Rice for developing the product to fit with needs of consumer in the future. There are 4 parts of questionnaires, which are

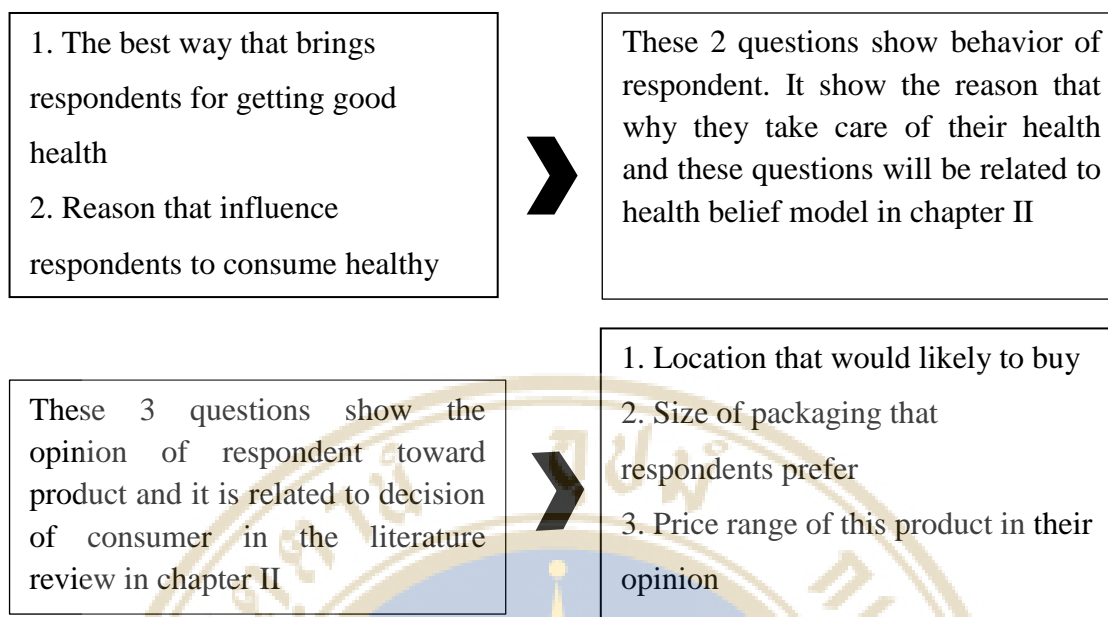
#### **Part 1 Screening question**

Screening question always is in the beginning of questionnaire in order to determine whether characteristic or behavior of respondents that would make them suited to take part in a study. People considered unsuited by these questions and then finished from the survey. (Rick Penwarden, September 3, 2013)

There is only one question in this part; Do you take care of your health? This question can screen respondents' characteristic that suited with research objectives due to only some group of respondents can provide helpful information.

#### **Part 2 General question**

The questions of general part are simple, easy to answer and non-threatening. These questions will be asked for getting respondents' thinking about concept or products. This part can show respondents' behavior or lifestyle. In this part, there are 5 questions, which each question will show opinion and behavior of respondents. Additionally questions will be related to the Literature Reviews in chapter II, as follows below



**Figure 3.1 Relationship between questions and literature review**

### Part 3 Specific question

In this part, the question will be about respondents' opinion which agree or disagree with this question. This part will be related to the factors of products to understand what are important factors that make them buy Germinated Brown Rice. There are different scales for making respondents select the best choice that fit with their opinion. For examples factor in this part about benefit of product, packaging, labels and other factors that related with this research.

This is List of statement that respondents have to choose the number that corresponds to their opinion.

- |                       |                    |
|-----------------------|--------------------|
| 1 = strongly disagree | 2 = disagree       |
| 3 = agree             | 4 = strongly agree |

### Part 4 Demographic question

This part is closed end question that would be asked about individual information of respondents. For this research there are only three questions in this part which are their gender, their income range and their age range. This part can help me know target group of this product.



### 3.4 Data analysis

For data analysis, this research will use SPSS program; factors analysis and descriptive statistic as a tool for analysis data that get from the answer of respondents.

Factor analysis is a useful tool for investigating variable relationships for complex concepts such as social economic status, dietary patterns, or psychological scales. It allows researchers to investigate concepts that are not easily measured directly. For this research, factor analysis is used for the most attractive factor that influence purchasing Organic Germinated Browed Rice of people in Thailand. It will cut or reduce the unattractive factors. The result from factor analysis can show the attitude or perception of sample as well.

Descriptive statistic, this research uses the frequencies and cross tabulation command for counts. Both of them are used for obtaining information on the number of cases that have a certain characteristic. For frequencies, this command is used for obtaining counts on a single variable's values. But for Cross tabulation, this command is used for obtaining counts on more than one variable's values.

## CHAPTER IV

### RESEARCH FINDINGS

According to the methodology, the online questionnaire survey collected data from 207 respondents for finding the most attractive factors in people mind. This chapter will explain and analyze data that is collected from respondents.

Due to the respondents of this research have to be a group of health lover, therefore in the first part of questionnaire that mentioned in chapter 3 is the part which screen respondents' characteristic. From the data collection, there are 207 respondents who provided their information but only 205 respondents who have character that suite to the objective and provide helpful information for this research. The data collection is separated in 2 groups which are respondents who say yes; they are a group of people who already take care of their health around 156 or 75.4 percentages and a group of respondent who say no but they are interested in taking care their health, therefore the researcher will be using data of 205 respondents for analyzing. The information will be shown in table 4.1

**Table 4.1 Quantity of respondents**

People who care their health	Frequency	Percent
Yes	156	75.4
No, but I'm interested	49	23.7
No, I'm not interested	2	1.0
Total	207	100.0

## 4.1 Behavior

### The best way for getting good health

From the table below, the quantity of respondent who take care their health by work out is the highest, around 93 respondents or around 45percentages. The quantity and percent are quite similar with respondent that get good health from consuming organic food and high nutrient food, around 91 respondents or 44.4 percentages. On the other hand, there are 3 respondents who do other ways which 2 respondents specify in the same answer; they are not only workout but consuming organic and high nutrient food as well. Another person getting good health by having good mind

**Table 4.2 Quantity and percent of respondents toward their activities for getting a good health**

The best way for getting good health	Frequency	Percent
Work out	93	45.4
Consume organic food and high nutrient food	91	44.4
Take vitamin	7	3.4
Consume dietary	11	5.4
Other	3	1.5
Total	205	100.0

### The reason for changing consumption

From table 4.3, perceiving benefit of product is the best reason for respondents, around 53 percentages. They will change their behavior by consuming organic and healthy food, if they know benefit of product. The second reason which makes them change their behavior is avoiding and preventing diseases, around 22 percentages. Anyway, there is 1 respondent who specify 3 reasons are perceived benefit of product, perceived susceptibility and Treating illness.

**Table 4.3 The reason of respondents, if they have to change their consumption**

The reason for changing behavior	Frequency	Percent
Perceived benefit of product	108	52.7
Perceived susceptibility	21	10.2
Suggestion from doctor, friend or family	12	5.9
Avoiding or preventing diseases	44	21.5
Treating illness	1	.5
Getting a good shape	18	8.8
Other	1	.5
Total	205	100.0

## 4.2 Perception

This part illustrates respondents' perception and attitude toward products. It is helpful information for developing product to be better.

### Location

From table 4.4 show the location that is easy to accessibility and comfortable to buy Germinated brown rice for respondents is convenient store, 32.7 percentages. The second and the third location are supermarket, 43 percentages and Department store, 42 percentages respectively. Moreover, there are 2 respondents specified planting by himself and everywhere is the most convenient location for him.

**Table 4.4 Location that easy to accessibility**

Location	Frequency	Percent
Convenience store	67	32.7
Mom & Pop shop	7	3.4
Department Store	42	20.5
Market	8	3.9
Supermarket	43	21.0
Organic shop	34	16.6
Online shop	2	1.0
Other	2	1.0
Total	205	100.0

### Packaging Size

Most of respondents around 67 percentages prefer the small packaging of Germinated Brown; 1 kilogram per pack. The quantity of respondents who like the small size of packaging is higher than respondents who like the big one. From table 4.5 the biggest size of packaging, which contains 10 kilograms per pack is not popular for respondents, it gets only 4.4 percentages.

**Table 4.5 Packaging size**

size	Frequency	Percent
1 kg. per pack	138	67.3
5 kg per pack	58	28.3
10 kg per pack	9	4.4
Total	205	100.0

### Price

This is the opinion of respondents toward price per 1 kilogram of Germinated Brown Rice. From the table below, the price between 80 to 100 baht is the most suitable for this product. Anyway, there are 3 respondent who answer in other way; the first person answered, if the product can provide more benefit, she is willing to pay, the second person answered the price of product should depend on cost and should not be higher than 10-15 baht, compared with the cost and the last person said the price between 40-60 baht can influence her to buy.

**Table 4.6 The price per 1 kilogram of Germinated Brown Rice**

Price per 1 kilogram	Frequency	Percent
80-100 baht	125	61.0
101-120 baht	54	26.3
121-140 baht	22	10.7
more than 141 baht	1	.5
other	3	1.5
Total	205	100.0

### 4.3 decision making

For this part will explain and analyze the result from factor analysis, after reducing factors for finding the most influence factors purchasing organic and healthy food.

Start with, Kaiser-Meyer-Olkin as a tool for measure data's appropriate for using factor analysis technique. In this research KMO value that show in table 4.7 is 0.938 which is higher than 0.5 and close to 1, therefore this information is appropriate to use factor analysis technique.

**Table 4.7 KMO and Bartlett's Test**

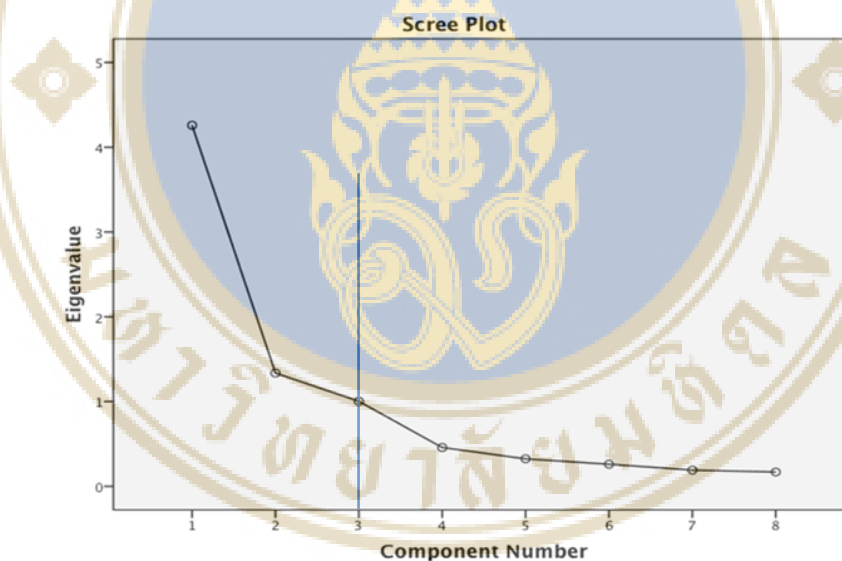
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b><u>.938</u></b>
Bartlett's Test of Sphericity	Approx. Chi-Square	5834.671
	df	630
	Sig.	.000

From the table 4.8, this is a comparison between the non-rotation and the rotation axis by Orthogonal Varimax, found that only 3 factors can be used due to total eigenvalues is higher than 1, moreover cumulative percent of 3 factors both on before and after rotation is 82.472 percentages which is more than 60 percentages, therefore only 3 factors is the most attractive that can influence respondents purchasing. In addition, not only table from variance explain can help researcher know the quantity of important factors but scree plot in figure 4.1 also show the point of attractive factors.

**Table 4.8 Total variance explained (Total Variance Explained) on a rotation  
Varimax**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.259	53.233	53.233	2.445	30.561	30.561
2	1.336	16.7	69.933	2.341	29.262	59.823
3	1.003	12.538	82.472	1.812	22.648	<b><u>82.472</u></b>
4	0.458	5.719	88.191			
5	0.324	4.051	92.242			
6	0.261	3.258	95.5			
7	0.191	2.39	97.89			
8	0.169	2.11	100			

Extraction Method: Principal Component Analysis



**Figure 4.1 Scree Plot**

From the result in table 4.9 below found that, there are 3 factors or components and 8 attributes that relate to the most attractive factors in respondents' opinion which can influence them to buy Germinated Brown Rice are

The first factor has 3 attributes that can influence respondents to buy Germinated Brown Rice which are ,they prefer product that labels have clear

information such as expire date, contact information etc. , they are willing to buy rice that has certificate standard of factory and they prefer product of rice that labels show nutrient list. Therefore this is the factor of consumers' confidence.

The second factor has 3 attributes as well. This is the factor of people who motivate and influence the respondents, which are suggestions of doctor, families and friends are affected to decision making of respondents to buy the product.

The last factor has only 2 attributes. It is the factor of packaging design that not only color of packaging is able to increasing respondents' interests but modern product design can increase interests of respondents as well.

On the other hand, this part not only shows the attractive factors that can influence respondents to buy the products but also show the percentage of respondents ' possibility for buying in the future. From the figure 4.2 below found that, 82.5 percentages of respondents who are willing to buy Germinated Brown rice, if the company has these 3 factors. The factor of Consumers' confidence is the first factor that affected to decision-making of respondents, 30.56 percentages. Followed by the factor of people who influence the customers, 29.26 percentages and the last factor that affected to decision-making of customer is packaging design, 22.65 percentages.

**Table 4.9 Rotated Component Matrixes**

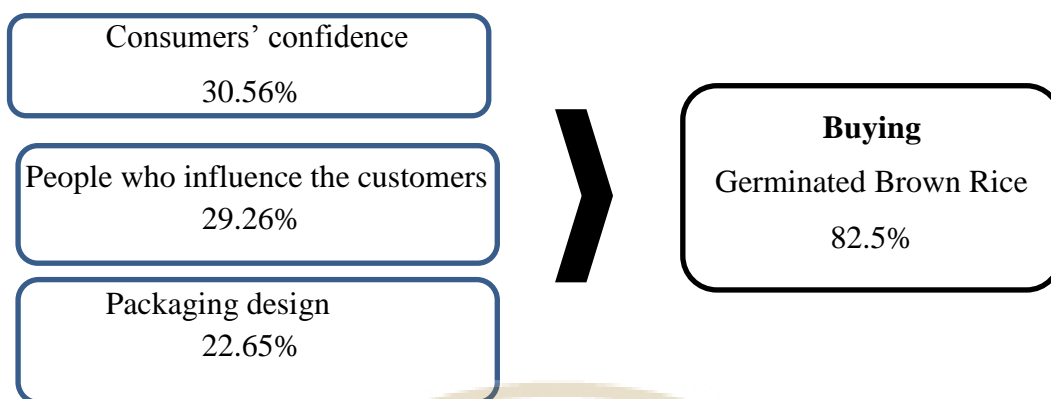
Factors	Component		
	1	2	3
I prefer product that labels have clear information	0.89		
I'm willing to buy rice that has certificate standard of factory	0.857		
I prefer product of rice that labels show nutrient list	0.841		
Suggestion from doctor can influence me to buy the product		0.863	
My family can influence my purchase		0.84	
My friends can influence my purchase		0.812	
Color of package is able to increasing my interest			0.919
Modern product design can influence me to buy			0.874

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.





**Figure 4.2 Intentions to buy**

From table 4.10 shows mean value of each factor after reducing factors which affect to decision-making of respondents. Mean value of clear information's label is the highest, 3.6683; therefore this is the best factor that can influence purchasing of respondents, followed by mean value of certificate standard of factory, 3.5073. The lowest mean value is influencing other people buy Germinated Brown rice by friend, 2.8439.

**Table 4.10 Descriptive statistic**

Factor	Mean
I prefer product that labels have clear information i.e. expire date, contact information	3.6683
I'm willing to buy rice that has certificate standard of factory	3.5073
I prefer product of rice that labels show nutrient list	3.4
Modern product design can influence me on purchasing behavior	3.1024
My family can influence my purchase	3.0976
Suggestion from doctor can influence me to buy rice which higher benefit	3.0683
Color of package is able to increasing my interest	2.9854
My friends can influence my purchase	2.8439

#### 4.4 Target group

This part shows the quantity of respondents who would buy Germinated Brown Rice in the future. In this part, the percentage of data will be used for explaining the result due to the quantity of respondents in each part is different; for example part of gender, the quantity of female is higher than male.

From table 4.11 found that, male and female who will certainly not buy Germinated Brown Rice is same score, 3.4 percentages. The score is quite similar between male and female who may not buy this product, 6.9 percentages for male and 6.8 percentages for female. The percentage of female and male that will buy and definitely buy Germinated Brown Rice is higher than respondents who do not want to buy it. The percentage of male who may buy this product is more than female; 62.1 percentages for male and 54.4 percentages for female. But the percentage of respondents who definitely buy Germinate Brown Rice, female is more than male; 27.6 percentages for male and 35.4 percentages for female. On the other hand, the data of combined respondents who may buy and respondents who definitely buy this product, the percent of each gender is quite similar; 89.7 percentages for male and 89.8 percentages for female. Therefore the proportion of gender who would be customer of this product in the future is not different.

**Table 4.11 Gender affect to decision-making to buy**

ITB * Gender		Gender		Total	
		male	female		
ITB	strongly disagree	Count	2	5	7
		% within Gender	3.4%	3.4%	3.4%
	disagree	Count	4	10	14
		% within Gender	6.9%	6.8%	6.8%
	agree	Count	36	80	116
		% within Gender	62.1%	54.4%	56.6%
	strongly agree	Count	16	52	68
		% within Gender	27.6%	35.4%	33.2%
Total	Count	58	147	205	
	% within Gender	100.0%	100.0%	100.0%	

From table 4.12 found that, most of respondents who have income between 9,000 baht to 33,000 baht may buy Germinated Brown Rice. But respondents who have income is higher than 33,001 baht, there the same score between may buy this product and would definitely buy Germinated Brown Rice, 46.9 percentages.

**Table 4.12 Income affect to decision-making to buy the product**

ITB*Income	Income						Total
	<9,000 baht	9,001- 15,000 baht	15,001- 21,000 baht	21,001- 27,000 baht	27,001- 33,000 baht	>33,001 baht	
ITB strongly disagree	3 4.8%	3 7.7%	0 0.0%	0 0.0%	0 0.0%	1 3.1%	7 3.4%
disagree	6 9.7%	2 5.1%	2 7.4%	2 6.5%	1 7.1%	1 3.1%	14 6.8%
agree	34 54.8%	24 61.5%	20 74.1%	16 51.6%	7 50.0%	15 46.9%	116 56.6%
strongly agree	19 30.6%	10 25.6%	5 18.5%	13 41.9%	6 42.9%	15 46.9%	68 33.2%
Total	62 100.0%	39 100.0%	27 100.0%	31 100.0%	14 100.0%	32 100.0%	205 100.0%

From the result below, age is not affect to buying Germinated Brown Rice. But respondents who are 55 years old to 64 years old, they are willing to be the customer of Germinated Brown Rice. They would certainly buy Germinated Brown Rice around 67 percentages.

**Table 4.13 Age affect to decision-making to buy**

ITB*Age	Age							Total
	<18	18-24	25-34	35-44	45-54	55-64	>65	
ITB strongly disagree	3 8.3%	0 0.0%	3 5.0%	0 0.0%	0 0.0%	1 16.7%	0 0.0%	7 3.4%
disagree	6 16.7%	2 4.9%	3 5.0%	1 4.5%	2 5.1%	0 0.0%	0 0.0%	14 6.8%
agree	18 50.0%	19 46.3%	41 68.3%	13 59.1%	23 59.0%	1 16.7%	1 100.0%	116 56.6%
strongly agree	9 25.0%	20 48.8%	13 21.7%	8 36.4%	14 35.9%	4 66.7%	0 0.0%	68 33.2%
Total	Count 36 100.0%	41 100.0%	60 100.0%	22 100.0%	39 100.0%	6 100.0%	1 100.0%	205 100.0%

The result in table 4.14 found that, the respondents who take care of their health and respondents who are interested in taking care of their health in the future may buy Germinated Brown Rice, around 56.6 percentages. It is the highest percentages for this result. The data of respondents who may be buy this product and respondents who would definitely buy is combined around 90 percentages. It is quite high due to closing to 100 percentages.

**Table 4.14 People who take care of their health affect to decision-making to buy**

		Take care		Total
		Yes	No, but I'm interested	
ITB* respondents who take care of their health		Yes	No, but I'm interested	Total
ITB strongly disagree	Count	5	2	7
	% within Take care	3.2%	4.1%	3.4%
disagree	Count	8	6	14
	% within Take care	5.1%	12.2%	6.8%
agree	Count	83	33	116
	% within Take care	53.2%	67.3%	56.6%
strongly agree	Count	60	8	68
	% within Take care	38.5%	16.3%	33.2%
Total	Count	156	49	205
	% within Take care	100.0%	100.0%	100.0%

Not only respondents who consume organic food and high nutrient food would buy Germinate Brown Rice but respondents who care their health in other ways would buy Germinate Brown Rice in the future as well. From the result of table 4.15 below found that, respondents who prefer working out may buy this product, 60.2 percentages. The quantity of respondents who care their health in other ways are also interested in this product and they may buy this product in the future, which are respondents who take vitamin is 42.9 percentages, respondents who consume dietary is 54.5 percentages and respondent who do all activities is 100 percentages. In addition the percentages quantity of respondents who would definitely buy germinated Brown Rice is the highest.

**Table 4.15 Activities for getting good health affect to decision-making to buy**

		Best Way					Total
		work out	consume organic food and high nutrient food	Take vitamin	consume dietary	other	
ITB	strongly disagree	4 4.3%	2 2.2%	0 0.0%	1 9.1%	0 0.0%	7 3.4%
	disagree	8 8.6%	4 4.4%	2 28.6%	0 0.0%	0 0.0%	14 6.8%
	agree	56 60.2%	48 52.7%	3 42.9%	6 54.5%	3 100.0%	116 56.6%
	strongly agree	25 26.9%	37 40.7%	2 28.6%	4 36.4%	0 0.0%	68 33.2%
<b>Total</b>		93 100.0%	91 100.0%	7 100.0%	11 100.0%	3 100.0%	205 100.0%

## **CHAPTER V**

### **DISCUSSION & RECOMMENDATIONS**

The objective of the research is finding the most attractive factors that influence people in Thailand for purchasing Germinated Brown Rice. The research will combine the information regarding consumer behavior and perceptions toward the product to understand the right need of them and bring the result for developing the product.

#### **5.1 Discussion**

Discussion part will be shown information and result of people that related and important to developing the product in the future which is divided in 4 parts

##### **Behaviors**

The result in chapter 4 show the quantity of people who take care their health and interested is higher than another group; from data collection, there are 207 respondents but only 2 respondents who do not care their health and they would not do other activities that support getting their good health. Most of people have many reasons that make them change behavior to be healthy, which Health Belief Model Components and linkage theory in chapter II show factor that make people change their behavior. The difference factors will be affected to different group of people due to their different basic needs and necessary. From five reasons in Health Belief Model Components and linkage, perceive the benefit of product is the best reason that affects to peoples changing behavior to be healthy by working out and consumption good food. Anywise the reason and activities for getting good health also depends on lifestyle of each people.

## **Perception**

From chapter II; the present study in other researches indicates that, although price of organic product is higher than other products, it is not the main reason. However, the price should suit to the quality and benefit of product as well. The studies from chapter 2 relate to the result of respondents in chapter 4; the price of Germinated Brown Rice (Organic rice) that respondents prefer is more expensive than some types of rice in the market. Show that price is not the most reasons that influence purchasing of people. They are willing to pay, if they will get more benefit. Anyway the price should not be too expensive but it should suit with the quality and benefit of product. If the price of product is too expensive, people will buy other brands which are cheaper. In addition, nowadays lifestyle of people change therefore convenience is the key that affect directly to their behavior. Most of people would likely to buy small size of product and they will go shopping in the store where is easy to accessibility.

## **Decision-making**

Price is not only factor which is affected to decision-making purchasing Organic Germinated Brown Rice of people but any component part is the important factors as well. The result that researcher found, number of customer will be increased, if the company has standard for both of product and manufacturing. It can make customer more confident in product. On the other hand, mention to the product, solicitation and suggestion from doctor and intimate is the factor that affects to decision-making. Moreover, package including modern design and color of label on the packaging can motivate purchasing of people as well.

## **Target group**

From the result in chapter 4, the demand of buying Organic Germinated Brown Rice between male and female is not different. Moreover age range and income range is not affect too much due to people of all ages turn into take care their health therefore they willing to pay, if the product can provide more benefit. Although, most of people have difference activities to get a good health, they are willing to buy Organic Germinated Brown Rice for getting better health.

## **5.2 recommendations**

These are recommendations for developing the product to suit with needs of customer. It can increase products' interestedness which these recommendations apply from the information of all result in this research.

### **Size and price**

The company should Manufacturers and distributes small size of packaging; 1 kilogram per pack for people who live alone and 5 kilogram per pack for family. In addition, price of 1 kilogram per pack should set around 80 baht and it should not higher than 100 baht. The 5 kilogram of product per pack should set price around 350 to 500 baht.

### **Location**

It is an opportunity of business, if the company can join business with convenience store due to nowadays most of people always do activities that can save their time. Therefore convenience is the main point of them, which 7-Eleven can meet their needs. Moreover, 7-Eleven have a lot of branches, which covered almost all of the area in Thailand around 7,000 branches in nowadays, at the same time they plan to expand it to 10,000 in next 2 or 3 years. It is easy for customer to accessibility; therefore the company is able to increase their sale. Anywise, another interesting store is supermarket because some group of people such as housewife will buy consumer goods, fresh food etc. here. They will come to supermarket for buying consumer goods for their family and Rice is also one of them. However, competition of consumer goods in supermarket is high. There are many brands of each product therefore positioning of shelf can influence purchasing of people. The product should place in eye-level of people.



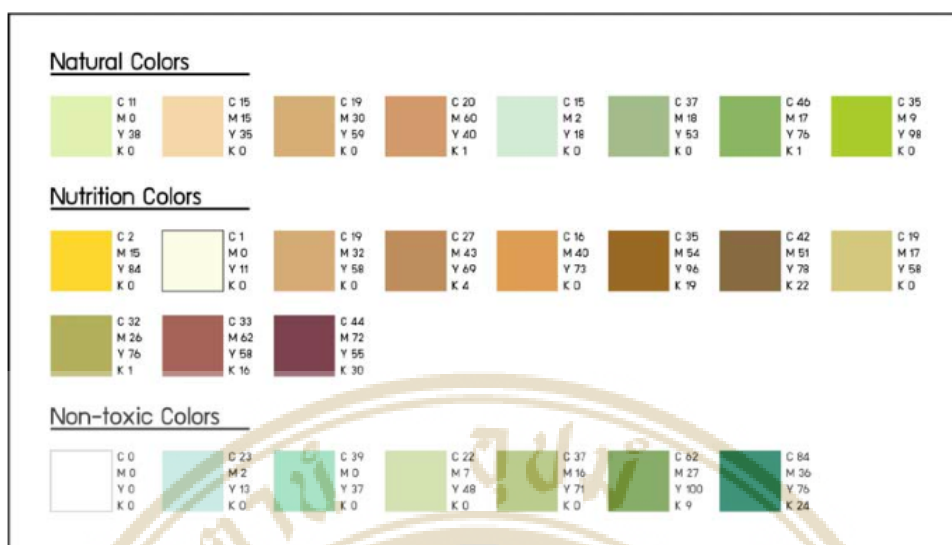
### **Social media**

Social media as a tool that can help the company increase awareness of people by giving products' information and other information which involve product then people may share information that posted by the company to their friends and other people. Information can be dispersed rapidly due to quantity of social media users is high and it is easy to use. Moreover cost of social media is cheaper than any media.

### **Packaging design**

Design of packaging is an important part for presenting the products. It can show characteristic of each product. Although Organic Germinated Brown Rice is type of healthy food and organic food but it is not necessary to have obsolete design. It can be modern packaging design but the meaning or feeling that the company wants to communicate to customer should not change which design of product can use colors for communication that meaning to customers.

For colors that suit with packaging of organic product is natural colors, nutrition colors and non-toxic colors which call 3N. It should not be colors that too fresh and bright because it looks like toxin products. The natural colors are the group of color that reflects to the natural which the color is not too bright therefore the feeling of people toward product, it is product that have ingredients from nature. The Nutrition color is a group of warm color that suit with showing the nutrition of organic product. Non-toxic colors, this group will focus on green tones of color which reflect to safety of product and no chemical add in the product. There is the picture of 3N colors shown in figure 5.1 below.



**Figure 5.1** The colors that suit with packaging of organic product (3N).

## Label

Label can improve customers' confidence. It is the important factor that influence customer to buy the product. Packaging design is the first thing that customers see then they will buy product or not, depending on many things which label of product is one part. If the label can provide all information, customer can compare information with other brands and choose the best one that they trust and it can meet their need. The information that is put into label should be composed of contact information of all stakeholders, expire date, ingredients, size, some benefit of product, nutrient list, how to cook and how to keep it. Moreover, it is better if the label hold not only all certification logo but also ORGANIC word into the label. The most important thing that is put into label is name of the product because people will remember it therefore it should be easy to pronounce and remember. For certification logo, including the logo for organic product which can guarantee the product is organic and logo for measuring manufacturing's quality; GMP is primary regulation that necessary for production and controlling the quality of food which is the regulation of food safety.

## **Other**

This is the recommendation for increasing product line in the future. The company should manufacture and distribute cooked Germinated Brown Rice and pack it into plastics box because most of people want to consume good food but they have no time to cook by themselves due to lifestyle urgency in today's society therefore their activities have to against time. Many people ignore or give little attention to their own health. This way not only increase sale of company but it is also another choice for people who want to get good health although they lack of time.

## **5.3 limitations**

There are 2 limitations in this research. Firstly, in data collection, data have to be collected more than 200 respondents and it is specific group therefore it is quite hard to collect due to limited of time so researcher have to work against time. Secondly, some respondents never know and they never consume Germinated Brown Rice before. It is hard for them to answer this questionnaire.

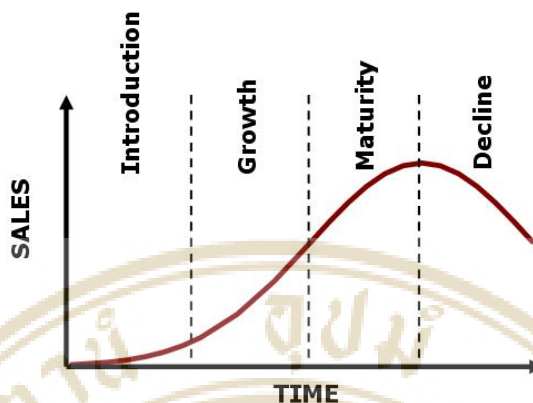
## CHAPTER VI

### CONCLUSION

According to the study in this research indicated that, customer behavior changes rapidly. From the result show that, nowadays there are not only oldest people who take care of their health but the quantity of teenagers that turn attention to care their health also increase. Therefore the demand of the organic or healthy food market would also increase. However, the price of these products is higher than other products in the market therefore it may affect to customer who have low income. In addition, perception, attitude and need of customer are different and also change rapidly. It is an opportunity for the business, if they can understand need of customer and then, they can create product that fit with need of customer. In this research, the attractive factors that can influence customer buy the product are three groups. Firstly, standard of both product and manufacturing due to it can be measured the quality of them, therefore the customers have more confidence for purchasing the product. Secondly, suggestion from doctor and intimate affect to decision making of customer. Lastly, packaging design including color of label and packaging can influence customer as well.

From the study in this research can identify product life cycle stage of Germinated Brown Rice product, it is growth stage (Growth stage is stage 2 from 4 stage of product life cycle including introduction stage, growth stage, maturity stage and decline stage that show in figure 6.1). Growth stage is the most appropriate to Germinated Brown Rice in the market due to some group of people already know properties of Germinated Brown Rice therefore they are willing to buy GABA rice to consume which affect to sale and profit of the company because the company can get benefit from economies of scale in production. However, there is still high cost in this stage, owing to competition in the market is high; the company needs to be improving their product such as standard of product, packaging design and variety of product size etc... Moreover, the important thing in stage 2 for influencing customer to buy the

product is not only benefit of it but also other factors that can increase trust of customer and factor that more attractive for customer.



**Figure 6.1 Product Life Cycle**

In addition, nowadays digital media can influence decision purchasing of customer. From the analysis of TMBA NIDA, show the decision behavior of Thai people who use digital media for finding the information. For example, group of male who are 25-34 years old, they use digital media to find information of healthy products: they read some reviews on the internet before they decide to buy that product even though the product is not expensive. However, they will ask someone who is professional in this product as well such as doctor, salespersons at the point of sale etc. and they may change their mind at the point of sale, if they see the another product that more attractive. From the information above show that, most of customer will find information of the product that they are interested before. They will know important information of the product such as properties and nutrition but they would be changing their mind, if the product can increase their trust and packaging design including color of packaging is more attractive.

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