# A MARKETHG RESEARCY OF FROZSN HROCESSED FISE NK BANGKOK 

## by

Ms. Vilawan Kitisuwankul

# A Final Report of the three-Credit Course CE 6998 Project 

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Computer and Engineering Management Assumption University

November 2002

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## A MARKETING RESEARCH OF FROZEN PROCESSED FISH IN BANGKOK

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A Marketing Research of Frozen Processed Fish in Bangkok

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The Graduate School of Assumption University has approved this final report of the three-credit course, CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

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#### Abstract

This project was established for the purpose of a survey for the marketing research of frozen processed fish products in Bangkok area. The Pacific Fish Processing Co., Ltd (PFP) is our case study in doing this research. The company is a manufacturing business organization producing frozen seafood and varieties of processed seafood products made from high quality frozen seafood products to satisfy consumers.

The author used primary data and secondary data for gathering the information from 200 respondents to fill out the questionnaire with random sampling method. After doing the questionnaire, we use SPSS to interpret the result of this project. From the result of the study, we found the target group, consumer's attitude towards the product, marketing situation of PFP product and brand awareness. It is also identify the requirement of target consumers and the kind of product the customer needs. From the result, we found that only $10 \%$ of respondents know PFP products. Eventhough they have tried PFP products, they recognized it, in its other brand names.

Therefore, the company needs to develop their quality of the product, sales promotion, and brand awareness of the product in order to stay competitively in the market in Bangkok area.


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## I. INTRODUCTION

### 1.1 Background of the Study

Nowadays, the Thai economy continues to grow rapidly so Thai people prefer a convenient life style, which is fast and saves time. Since our business world changes, people have limited time to spend their private life to cook their own food. This changing has affected women who are housewifive to become businesswomen. They need food that is easy to cook and saves time. These kinds of food are also available in the market. This food is for microwave or oven cooking, our product is also one of them. Therefore, Frozen Processed fish is the product that matches with this Globalizing situation. Frozen Processed fish food have long life to keep so it is suitable for working women who have no time to shop in the market everyday.

The Pacific Fish Processing Co.,Itd. is located in Songkhla, one of the major seaport cities in the south of the Gulf of Thailand adjacent to the Malaysian border. It stands in the heart of fishery areas as well as industrial estate - the hub of deepsea port for export of all the Thai local agricultural products in the Southern hemisphere.

The company was established in 1984 mamly to produce frozen fish-paste or fishmeat, otherwise known as Surimi for export with the registered capital of Bht 130 million and at present employed more than 2000 individuals. In 1992, after going through relentless efforts on research and development, the Company had invested in the new facilities to manufacture the varieties of quality processed products using Surimi as main raw material. The new lines of value added products known as kamaboko including the Immitated Crab Stick, Chikuwa etc. The company continued endessly to innovate new additional products onto the market such as Fish Tofu, Imitation Crab Claw etc, serving the needs of customers both overseas as well as
domestic markets. In 1988, a new strategic company was founded - The pacific Fishmeal Industrial Co., Ltd. In order to capitalize the by-product from Surimi factory with the registryed capital of Baht 30 million and the intial production capacity of 10,000 tons of animal feeds, thus making the operation to become the first of its kind in the same industry - the fully integrated business. With all these new ventures, the Company's current annual production capacities has thus increased by manifolds in the past years as shown in the following diagram

| Surimi | 16,000 | tons |
| :--- | :---: | :---: |
| Immitated Crab Stick | 6,000 | tons |
| Other Ready-To-Eat Products | 7,200 | tons |
| Fish Filets | 1,200 | tons |
| Animal Feeds | 10,000 | tons |

Initially, the Company products positioned at export for overseas market. Under the brand name of PFP, surimi exported to Japan, Singapore, Malaysia, and Taiwan. The other value-added processed products are exported to various countries in Europe and asia, namely France, Great Britain, The Netherlands, Russia, Peoples Republic of China, Hong Kong, Malaysia, Singapore, Brunei, Australia and Taiwan. The PFP trade name is widely known, the high standard quality of its products is accepted by the consumers and the trading partners wherever it goes. In 1994, The Pacific Fish Processing Co., Itd is the manufacturing business organization producing frozen seafood know as Surimi (Fish Paste or Fish Meat) and varieties of processed seafood products (Kamaboko) made from the high quality of Surimi, exporting Surimi and the quality frozen seafood products to satisfied consumers in various countrics around the world for almost the past two decades. With this successful history the Company has to uphold the policy of continuous development in its overall departments with the aim to surge
ahead with even better products to serve the customer wold wide. The Company foresaw the new trend in the domestic market - the Thais are ready to take on the high quality of nutrition coupled with the new consumer behaviour that demand for the healthy, clean, fast, convenient, and ready to cook products - in particular for the low fat, low cholesterol and iodine rich seafoods gourmet and bccome well accepted widely by the mass consumers.

The food processing operation of Pacific fishing processing company limited originates with fresh fish supplied by the fisheries in Songkhla and the nearby provinces only the finest of which are transported to the plant for processing into frozen mincemeat. By insisting on the highest grade of raw materials, the company is able to ensure the quality of its finished products. The production process conforms to the most rigorous industry standards of manufacturing technology and hygiene at every stage. Fish heads are removed and the body is thoroughly cleaned before the choicest meat is extracted utilizing sophisticated equipment that yields the white and sticky mincemeat or surimi. Finally, fast-freezing in the contact freezer allow the meat to maintain its high quality while in cold storage at temperature of -18 C .

Imitation Crab Sticks, Chikuwa, Fish Balls, Fish Cakcs, and others. To ensure the strictes hygiene as required in HACCP, GMP and ISO 9002, PFP has established a separate plant exclusively for the manufacture of ready to eat foods. Here, the essential raw material, the surimi, will be thawed and blended with a variety of ingredients to produce a wide array of products. One of these is the imitation Crab Stick that is processed on the most advanced equipment and technology - from mixing, to molding, grilling, coloring, boiling, and freezing. Similarly, Chikuwa is molded prior to grilling to assure customer of only the highest quality product. While fired products like Fish Cake benefits from the automation that ensure consistent cooking
temperature for appealing taste and color. The production of Fish Balls and Chinese Crab Balls, or Hoy Jor, is supervised by a team of skilled technicians who guarantee strict quality control on every stage.

PFP products are manufactured by the most advanced food sicience and technology with the most modern equipment - enabling the company to monitor its quality control at every stage of production. Experience food scientists and experts in related fields routinely collected product samples, the containers, including the packaging materials for biological, chemical and hygicnic analysis to ensure the utmost quality standards of the products before they reach the consumers. As a result, the company has been given the Official Certification from the Department of Fisheries, the Department of Medical Sciences of the Thailand Ministry of Public Health, including the Certificatc of HACCP, ISC 9000 and, GMP most recently ISO 14001 and Codex. Regarding to the environmental protection, the company has invested on the advance technology in the waste treatment and strictly follows the rule and the law of both national government and international rules. The company has also applied for the ISO 14000 Certificate which concentrate on the environment protection measures as the safeguard for the environment protection concern.

### 1.2 Significance of the Study

There are 4 factors as follows:

### 1.2.1 Social \& Cultural Factors

In the past, women couldn't get chance to work outside. They should be good housewives and need to stay home and take care of their children. In that way of life, they had much time to prepare a meal for their husband and children. In their cooking process, they could prepare all ingredients and mix them, for instance, when most housewives would like to cook lamb shish kabobs, they might first place meat in glass
bowl, pour dressing on meat, cover and refrigerate at least 8 hours. They had much time to do that.

At present, women's life styles are changing. Their roles for working outside are increased. They keep working outside in order to earn income for helping their families. However, a lot of women are still housewives. Yet their way of cooking process are changing as well. They have time to prepare a mcal. Thus, they usually need frozen food and place in the oven or microwave whenever they would like to eat. Eventhough, frozen food process is normally stored, we can still feel the original taste of the food after removing from the oven or microwave. Those housewives just wait for only 2-3 minutes without cooking, stirring or mixing that frozen food while it is in the oven or microwave. Most house wives will find it convenient and save time in preparing break fast and dimner.

With countless success testimonies alongside with the slogan of Natural Ocean Fresh, the PFP brand, Frozen Processing fish product has subsequently been approved by the Istamic Committec Office of Thailand to use the Halat emblem, certify that the products are processed strictly in accordance with the Islamic Rules.
1.2.2 Demographic Characteristics factor (http://www.bma.go.th/html/page $7 . \mathrm{html}$ )

Age and Sex structure. The sex ratio which is defined as the number of males for every 100 females in the population was 98.5 . This indicates that females are slightly more than males. Our target are both male and female. The population of the Bangkok metropolis was $5,739,897$ persons (Thailand population statistic www.bma.go.th/html.page $7 . h \mathrm{hml}$ ). The composition of population determined by age. Those in the working ages of 15-59 year are our target. They also must have microwave at home. These are middle class who have middle income.

### 1.2.3 Technology

In the past, when women would like to cook, they normally used "Tao Tan" with coal as Fucl. To light the coal in Tao tan, a rag dippod in Kcrosenc was put in the midst of the coal and lighted. The Tao Tan was then fanned by the housewife for about five to ten minutes till the coal started burning. After fanning. the Tao Tan was placed in an open place where it gave out a lot of fumesand smoke before the coal caught heat and stopped giving out smoke. Next, gas stove was introduced to increase the satisfactions of customers. Here, the amount of gas released could be regulated to the switch, which in turn made it possible to adjust the heat according to the requirement. To turn off the stove, only the burner had to be switched of and valve of cylinder closed. Lighting or putting out the flame of the gas stove was thus very convenient. It took only a few seconds. Nowadays, one more home appliance is introduced, microwave. Microwave is very convenient to use. When people use gas stove they have to cook on gas stove which means they have to mix and stir, even they would like to warm. But by using microwave, they can place their food in the microwave and set up the control for the time and then wait amtil donc. No need to cook, mix or stir at all. It is thus convenient for the modern housewife.
1.2.4 Law and Regulation

Nowadays, the frozen food business are restricted by law and regulations. Therefore;
(1) We must provide product with high quality and hygienic by registered from FDA's.
(2) The raw material that we should not have any toxic to human being.
(3) Packaging the product with high quality package.
(4) Our product should have a description clearly (ingredients and how to cook) and registered by FDA's.
(5) Our product must provide the value in terms of nutrition The significance of this research is as follows:
(a) To understand the consumer behavior
(b) To use the finding to improve the product
(c) To know the market situation of the product

### 1.3 Objectives of the Study

The objective set for the study is as follows:
(1) To analyze market situation of frozen food products.
(2) To analyze consumer markets and buyer behavior
(3) To study the consumer's attitude towards the product.
(4) To measure the brand awarencss among respondents

### 1.4 Scope of the Study

The Scope of the study is as follows:
(1) The study will focus on the survey of questionnaires from Bangkokian between 15 to oyer 65 years old.
(2) This project will use SPSS to process the questionnaire.

### 1.5 Expected Benefits

The research will provide the expected benefit as follows:
(a) The way of data collection for the survey of Information Requirement.
(b) The way to identify the target group
(c) To know the demand of the product.
(d) To know Consumer Marketing

## II. LITERATURE REVIEW

### 2.1 Marketing Research

Marketing research is the systematic and objective identification, collection, analysis, dissemination, and use of information for the purpose of improving decision making related to the identifications and solution of problems. It attempts to provide accurate information that reflects a true state of affairs. It should be conducted impartially. Although research is always influenced by the researcher's research philosophy, it should be free from the personal or political biases of the researcher or the management. Research motivated by personal or political gain involves a breach of professional standards. Such research is deliberately biased so as the result in predetermined findings. It involves the identification, collection, analysis, dissemination, and use of information. We identify or define the marketing research problem or opportunity and then determine what information is needed to investigate it. Because every marketing opportunity translates into a research problem to be investigated, the term problem and opportunity are used interchangeable here. Next, the relevant information sources are identified and range of data collection methods varying in so complexity are evaluated for their usefulness.

The decision making is very difficult to decide what should be done in an organization or how to solve problems that arise. So Research is very important for a company because the company will know their way to be the leader in the market or have the information to solve the problem when it occurs.

### 2.2 Marketing Research Process

We conceptualize the marketing research process as consisting of steps:

## Step 1: Problem Definition

The first step in any marketing research project is to dcfine the problem. In defining the problem, the researcher should take into account the purpose of the study, the relevant background information, what information is needed, and how it will be used in decision making. Once the problem has been precisely defined, the research can be designed and conducted properly.

Step 2: Development of an Approach to the problem
Development of an approach to the problem includes formulating an objective or theoretical framework, analytical models, research questions, hypotheses, and identifying characteristics or factors that can influence the research design.

Step 3: Research Design Formulation
A research design is a framework for conducting the marketing research project. It details the procedures necessary for obtaining the required information, and its purpose is to design a study that will lest the hypotheses of interest, determine possible answers to the research questions, and provide the information needed for decision making. Conducting exploratory research, precisely defining the variables, and designing appropriate scales to measure them are also a part of the research design. The issue of how the data should be obtained from the respondents it is also necessary to design a questionnaire and a sampling plan to select respondents for the study. More formally, formulating the research design involved the following steps:
(a) Secondary data analysis
(b) Qualitative research
(c) Methods of coflecting quantitative data
(d) Measurement and scaling procedures
(e) Questionnaire design
(1) Sampling process and sample size
(g) Plan of data analysis

Step 4: Field Work or Data Collection
Data Collection involves a field force or staff that operates either in the field, as in the case of personal interviewing. Proper selection, training, supervision, and evaluation of the field force help minimize data collection crrors.

Step 5: Data preparation and Analysis
Data preparation includes the editing, coding, transcription, and verification of data. Each questionnaire or observation form is inspected, or edited, and if necessary, corrected. Number or letter codes are assigned to represent each response to each question in the questionnaires.

Step 6: Report preparation and presentation
The entire should be documented in a written report which addresses the specific research questions identified, deseribes the approach, the research design, data collection, and data analysis procedures adopted, and presents the result and the major findings.

### 2.3 Research Design

Research design can be classified as:
Quantitative Analysis
Quantitative research is defined as a research that is based on measurement and quantification of data. Whatever the dependent variables of interest in quantitative research are, there must be a way to transform it into numbers. There are four different

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measurement scales identified that are used in quantitative research: (a) a nominal scale; (b) an ordinal scale, (c) and interval scale, and (d) a ratio scale

Numerals are defined in terms of symbols, such as letters or words (eg., male and female), and the interval between units cannot be assumed to be equal. Nominal and ordinal scales are considered numerals. Numbers are value on which one can perform certain mathematical operation such as adding subtracting, and so on, and the distance between units is even (e.g., the interval between 101 and 102 is the same as that between 104 and 105). Interval and ratio scales are based on the use of numbers. These measurement types of scales are considered to be somewhat hierarchical in regard to the different mathematical operation s that can be performed on them. Nominal scales are considered to be the most simplistic and ratio scales the most complex. This means that the most mathematical operations may be performed on ratio types of data and the least on nominal types of data.

A nominal scale refers to one in which the researcher has assigned differences in observations or measurements or measurements to distinct categories. Nominal scale data, therefore, involves counts for each category Researcher do at time assign values to nominal scales to compute a limited number of mathematical operation.

Ordinal scales involve assigning value to data based on rank or order. This is the second least precise scale of measurement. One example of ordinal data is ranks in the military (private, corporal, sergeant, etc.) Ranks are not overly precise and do not differentiate by equal unites. For example, it might be ranking brands of ice cream by taste. If we rank brands $\mathrm{A}, \mathrm{B}$, and C , we know that ice crean brand A tastes better than B , but we do not know if brand A is twice as good as brand B . Brands A and B may be only slightly different or significantly different.

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Internal scales are another type of measurement in quantitative research and involve the use of number with equal units of measurement. However, even though numbers are used, there is no true zero point on the scale.

Ration scales are the last type of measurement and are defined in terms of equal numbered unites similar to interval scales, but there is a true zero. Weight is an example of a ratio scales, and the measurement starts at zero. The ratio is the most precise of all the scales and the one in which the greatest number of mathematical operations can be done. Thus, a study can only be considered quantitative when the variables have been operationalized into one of the four scates mentioned above.

Research design has relevant variables as follows:
An independent variable must have at least two levels or groups to compare. Attributes, or measured independent variable, have been defined as those characteristics about a person that the researcher cannot manipulate but are of interest to the research as it affects a dependent variable.

The dependent variable is defined in terms of changes in the subject as a consequence of the independent variable. In essences, dependent variables are influenced and dependent on independent variables.

Extraneous variable is considered to be either uncontrolled or unknown factors that can potentially affect the results or the response to the dependent variable. There are not variable controlled by the researcher and the results of a study may be called into question if significant extraneous variable are identified and not controlled for in the design.

The control variable is an extraneous variable, but the researcher has identified it and developed ways to control for its effects. There are several methods of addressing extraneous variables so they become control variables. One method is to build the
extraneous variable into the design and thus control its effects. Second method of making an extraneous variable a control variable is to remove the possible effects of the extrancous variable.

Descriptive research has been noted to include four different approaches: survey, observational, co relational, and causal comparative.

Descriptive designs involve no random assignment to groups, nor is there any manipulation of an independent variable. Generally, descriptive research is an attempt to describe characteristics or the effects of events for an identified population. A good portion of published psychological research may be categorized as descriptive.

A survey of descriptive design involves the use of self-report to clarify the perception, attitudes, or behaviors of a target group.

Observational descriptive research is an attempt to avoid problems with self-report and still clarify personal characteristic through observations by others or raters. The sole domain of interest is behaviors of the target group; clearly one cannot observe another's attitudes or feelings. The purpose of the study was described as an attempt to examine and identify the quality of care in a geriatric setting.

Co relational approach used to identify and understand the relationship between multiple variables, or how several variable of interest convey.

Causal comparative descriptive research concerns attempting to identify the effects of an independent variable after the fact. The independent variable is not under the control of the researcher but is of interest.

Quantitative research methods, the traditional approach to conducting research, may be defined in term of converting the results into measurable quantifiable unites for analysis. Additionally, the researcher typically has control over the variable of interest. Measurement amounts may be categorized as four different scales; nominal, ordinal,
interval, and ratio. Four different types of variable are of interest to researchers using the quantitative method: independent, dependent, extraneous, and control.

Descriptive designs, the fourth general category of research methods used in quantitative approached, include survey, observational, co relational, and causal comparative. Descriptive designs involve no random assignment, nor is there a manipulation of an independent variable. Typically, descriptive designs are an attempt by the research to characterize events or conditions of an identified population.

## Qualitative Analysis

Quality is the essential character of nature of something. Quality is what, but quantity is how much. Qualitative refers to the meaning; the definition analogy or model characterizing something, while quantitative assumes the meaning and refers to a measure of it. Qualitative research would define the being of fishing, the ambiance of a city, the mood of a citizen, or the unifying tradition of a group.

Qualitative Research can be applied into several ways as follows:
(a) Case Studies
(b) Elite interviewing
(c) In depth interview
(d) Observation
(e) Document Analysis
(f) Films, photograph and video tape
(g) Projective techniques
(h) Psychological testing

Example of Qualitative research: Case study is an intensive investigation of a single individual in an effort to treat or intervene with that person and or to make inferences about others. Case study method of qualitative research may be defined in
the intensity of focus on a particular case or set of cases and spccific phenomena of the case(s). Case study research is typically, although not always, conducted in a natural selting. There are 3 purposed: to achieve detailed descriptions of phenomena of interest, to develop possible explanations of phenomena, and to cvaluate the phenomena of the interest.

Qualitative research provides the researcher with opportunities to study phenomena in great detail and in a more natural way. Additionally, qualitative methods allow for flexibility in addressing the needs of the situation: The researcher can adjust his or her focus and approach to mect the characteristics of the situation. There has been considerable debate. In the fields of psychology and education as the validity of conducting research based on qualitalive methods, and various attempts have been made to remove some of the identified concerns.

### 2.4 Quality of Frozen Foods

Consumer Acceptance of Frozen Foods
The frozen foods industry has been quick to recognize this burgeoning and fastgrowing niche and has taken advantage for the continuing need for convenience. Development of frozen food in the form of meals and entrees, snacks, side dishes, desserts, and so forth Clew to new heights begimning in the last 1980s. Food processor scrambled to dominate the market by launching a wide array of similar frozen products, which then processed to over saturate the market. However, consumer demand for the convenience of frozen foods has not ceascd, and the market is as promising as ever, albeit still very competitive. Processors are changing their tactics and looking at new approaches to satisfying this particular niches by studying trends, becoming more innovative, and listening closely to consumers.

## Quality is defined by Consumer

Quality is defined as the assumed totality of those characteristics that (1) differentiate individual unites of a product, (2) is significant in determining a product's degree of acceptability to buyers (3) can satisfy given consumer needs. Since quality is best defined by the buyer, criteria for judging quality changes as a product travels through the marketing chain. Criteria that consumers ultimately use, as bases for purchase and consumption decision are the most significant. The definition of quality may also differ according to the needs and perceptions of consumers. Thus, marketing research constantly attempts to understand the needs and preferences of consumers so that quality standard can be set accordingly.

Quality Research Must be Consumer Driven
Delivering products of consistently superior quality is important in the successful marketing of agricultural products. In handling and marketing of food products, management strategies that emphasize consumer needs and preferences when setting quality standard have been recommended. Quality research compatible with the goals of consumer-driven management strategy has, therefore, been encouraged. Quality Enhancement (QE) is a new approach to quality research. It is allows for the continuous measurement or improvement of product quality consistent with consumer expectations without repeated consumer tests. Similar to the multiple regression approach to product optimization, it is based on the premise that there is a finite number of product attributes critical to consumer acceptance.

## Qualitative Research Offers Detailed Insights into Consumer Attitude.

Researchers attempting to improve the quality of frozen foods must know the product properties that consumer desire and expect, and translate these into technically viable options to improve the product. Quality research that fails to identify critical
product attributes may prove to be an exercise in futility. Qualitative research techniques allow for a more detailed insight into the product perception process experienced by consumers. Used properly, qualitative methods can be used to gather detailed information.

### 2.5 Data Collection

There are two kinds of data collection. They are: Primary data and Secondary Data.

Primary Data
Primary data originates from a researcher for the specilic purpose of addressing the problem at hand. The collection of primary data involves all six steps of the marketing research. Obtaining primary data can be expensive and time consuming. Using primary sources, researchers can collect precisely the information they want. They usually can specify the operational definitions used and can eliminate, or at least monitor and records, the extraneous influences on the data as they are gathered. However, secondary sources are indispensable in other ways. There is nothing wrong with using primary data under many circumstances, or secondary data under different circumstances, or rarely and prudently, substituting one for the other when either might be suitable.

## Secondary Data

Sccondary data have already been collected for purpose other than the problem at hands. These data can be located quickly and incexpensively. In the department store patronage project, secondary data on the criteria used by households to select department stores were obtained from marketing journals. Secondary data are used for three research purposes as follows:

First, they fill a need for a specific reference or citation on some point perhaps in a research proposal, to demonstrate why the proposed rescarch fills a void in the knowledge basc. Rescarch typically calls for carly cxploration to learn if the past can contribute to the present study. Data from sccondary sources help you decide what further research needs to be done and can be rich source of hypotheses.

Second, secondary data are an integral part of a larger research study or of a research report to justify having bypassed the costs and benefits of doing primary research. In essence, the researcher tries to keep from reinventing the wheel. Each of these pieces of information collected initially to track divisional performance or supplier/distributor relationships would enable a clearer statement of the research question (s).

Third, secondary data may be used as the sole basis for a research study, since in may research situations one cannot conduct primary research because of physical, legal, and cost influences. Retrospective research often requires the use of published data. The federal government frequently solves this problem for many organizations with the massive amount of data it publishes each year.

### 2.6 Advantage of Secondary Data

As can be seen from the foregoing discussion, secondary data offer several advantages over primary data. Sccondary data are easily accessible, relatively inexpensive, and quickly obtained. Some secondary data, such as those provided by the U.S. Bureau of the Census, are available on topics for which it would not be feasible for a firm to collect primary data. While it is rare for secondary data to provide all the answers to a non-routine research problem, such data can be useful in a variety of ways.

Table 2.1. A Comparison of Primary and Secondary Data.

A COMPARISON OF PRIMARY AND SECONDARY DATA

## Primary Data

Collection purpose
Collection process
Collection cost
Collection time

For the problem at hand
Very involved
High
Long -

Secondary Data
For other problems
Rapid and easy
Relative low
Short

### 2.7 Disadvantages of Secondary Data

Because secondary data have been collected for purposes other than the problem at hand, their usefulness to the current problem may be limited in several important ways, including relevance and accuracy. The objective, nature, and methods, used to collect the secondary data may not be appropriate to the present situation. Also, secondary data may not be accurate, or they may not be completely current or dependable. Before using secondary data, it is important to evaluate them on these factors. These factors are:
(a) Methodology used to collect the data
(b) When the data were collected?
(c) The purpose for which the data were collected
(d) The content of data
(e) How dependable are the data?

### 2.8 Classification of Secondary Data

Secondary data may be classified as either internal or external.
Internal data are those generated within the organization for which the research is being conducted. This information may be available in a ready-to-use format, such as information routinely supplied by the management decision support system. On the other hand, these data may exist within the organization but may require considerable processing before they are useful to the researcher. For example, a variety of information can be found on sales invoices. Yet this information may not be easily accessed; further processing may be required to extract it.

External data are those generated by sources outside the organization. These data may exist in the form of published material, on-line databases, or information made available by syndicated services. Before collecting external secondary data, it is useful to analyze internal sccondary data.

The collection methods used are unique to the specific situation, and collection success depends on knowing just where and how to look. Sometimes the information may exist in central files (i.e., at headquarters), in data warehouses, in data marts, or in departmental chronological files. In other organizations, a central library keeps all relevant information. Systematic searches should be made through exploratory interviews with everyone who handles the information. Internal data source may be only source of information for many studies. One of the most productive ways to identify internal source is to identify gatekeeper of those sources. Executive secretarial assistants are often knowledgeable about company documents because they oversee their preparation. The use of internal data has been steadily increasing and has accelerated sharply.

### 2.9 Questionnaire Design

Questionnaire is a structured technique for data collection consisting of a series of question, written or verbal, to which a respondent replies. A questionnaire, whether it is called a schedule, interview form, or measuring instrument, is a formalized set of questions for obtaining information form respondents. Any questionaire has three specific objectives. First, it must translate the information into a set of specific questions that the respondents can and will answer. Developing questions that respondents can and will answer and that will yield the desire information is difficult. Two apparently similar ways of posing a question may yield different information. Second, a questionnaire must uplift, motivate, and encourage the respondent to become involved in the interview, to cooperate, and to complete the interview, to cooperate, and to complete the interview. Incomplete interviews have limited usefulness at best. In designing a questionnaire, the researcher should strive to minimize respondent fatigue, boredom, and effort to minimize incompleteness and non-response. Third, a questionaire should minimize response error. The respond error was defined as the error that arises when respondents give inaccurate answer or their answers are not recorded. A questionnaire can be a major source of response error. Minimizing this error is an important objective of question design. There are 2 types of question for designing the questionnaire.

Open-ended Question
Open-ended questions are in situation where the constraints of the closed end question outweigh the inconvenience of the open-cnded question for both the research and the respondent. It is recommend that open-ended question by used sparingly and only when needed. To the extent that they are used, the researcher must be aware of certain inherent problems. First, open-ended question will be inevitable elicit a certain

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amount of irrelevant and repetitious information. In addition, the satisfactory completion of an open-ended questioned require a greater degree of communicative skills on the part of the respondent than is true for closed end question. Accordingly, the researcher may find that these questions elicit responses that are difficult to understand and sometimes is incoherent. Third, statistical analysis requires some degree of data standardization. And finally, open-ended questioned take more of the respondent's time. This inconvenience may engender a higher rate of refusal of complete the questionnaire.

## Close-ended Question

Most questions in questionnaire have closed-ended response choices or categories. Such questions provide fixed loss of alternative response and ask the respondent to select one or more of them as indicative of the best possible answer. In contrast, openended questions have no preexisting response categories and permit the respondent a great deal of latitude in responding to them. There are several advantages to Closeended question. One is that the set of alternative answers is uniform and therefore facilities comparison among respondent. Other advantage is the fixed list of response possibilities tends to make the question clearer to the respondent. Sensitive issues are frequently better addressed by asking question with a pre-established, implicit "acceptable" range of alternative answers rather than by asking some one $t$ respond with specificity to an issue that might be considered particularly personal. Certain disadvantage of close-cnded question is that the researchers should consider when developing a questionnaire. Closed-end question compel respondents to choose a "closest representation" of their actual response in the form of a specific fixed answer.

Close-ended questions tend to constrain the breadth of subject matter addressed within the questionnaire and prevent respondents from express in their opinion to the fullest extent possible.

### 2.10 Response Rate

After we choose the type of the question in questionnaire, the response method will be considered. Choosing the suitable response method for the questionnaire. The result will be efficient. There are many types of response method as follows:

Rating Scale
Use rating scale to judge properties of objects without reference to other similar objects. These rating may be in such form as "like-dislike", "approve-indifferent disapprove," or other classification using even more categories. There is little conclusive support for choosing a three-point scale over scales with five or more points. Some researchers think that more points on a rating scale provided an opportunity for greater sensitive of measurement and extraction of variance. The most widely used scale range from three to seven points, but it does not seem to make much difference which number is used with two exception. First, a larger number of scale points are needed to produce accuracy with single-item scales. Second in cross-cultural measurement, the culture may condition respondents to a standard metric- a ten point scale in Italy.

The simple category scale has two response choices. They are "yes" and "No" which could just as easily are "important" and "unimportant", "agree" and "disagree". This scale is particularly useful for demographic question or where a dichotomous response is adequate.

When there are multiple options for the rater and only one answer is ought, the multiple choice, single response scale is appropriate. In example there are five options.

The primary alternatives should encompass 90 percent of the range with the "other" category completing the respondent list. When there is no possibility for "other" or exhaustiveness of categories is not critical, this response many be omitted.

A variation of the multiple choice and multiple response scale slows the rate to select one or several alternatives. For example, we are asking seven questions and it is possible that all seven sources for home design were consulted. The cumulative feature of this scale can be beneficial when a complete picture of the respondent's choice is desired, but it make also present a problem for reporting when readers expect the responses to sum to 100 percent. This scale generates nominal data.

## Likert scales

Likert scales is the most frequently used variation of the summated rate scales. Summated scales consist of statements that express either favorable or unfavorable attitude toward the object of interest. The respondent is asked to agree or disagree with each statement. Each response is given a numerical score to reflect its degree of attitude favorableness, and the scores may be totaled to measure the respondent's attitude. For example, the respondent chooses one of five levels of agreement. The numbers indicate the value to be assigned to watch possible answer with 1 the least favorable impression of Internet superiority and 5 the most favorable. These values are normally not printed on the instrument to indicate the scoring system. Between 20 and 25 properly constructed questions about an attitude object would be required for a reliable Likert scale. It helps us compare one person's score with a distribution of scores from a welldefined group. They are also useful when we expect to conduct an experiment or undertake a program of change or improvement.

Numerical Scales
Numerical scale often has five-point scales, the scale will provide both an absolute measure of important and relative measure of the various items rated. The scale's linearity, simplicity, and production of interval data make it popular for managers and researchers.

Multiple rating list
It is similar to the numerical scale but differs two ways:
(a) It accepts circled response form the rater.
(b) The layout allows visualization of the result.

## Semantic Differential Scale

The semantic differential is a seven-point rating scale with end points associated with bipolar labels. In a typical application, respondents rate objects on a number of itemized seven-point rating scales bounded at each end by one of two bipolar adjectives, such as "cold" and "warm". We illustrate this scale by presenting a respondent's evaluation of Sears on five attitudes. The respondents mark the blank that best indicates how they would describe the object being rated.

Staple Scale
It is a scale for measuring attitudes that consist of a single adjective in the middle of an even-numbered range of value.

### 2.11 Characteristics of Good Research

A good should have the characteristic as follows:
Purpose clearly defined
The purpose of the research should be clearly defined and sharply delineated in terms as unambiguous as possible.

Research process detailed
The research procedures used should be described in sufficient detail to permit another research to repeat the research. Except when secrecy is imposed, research reports should reveal with candor the sources of data and them means by which they were obtained.

Research design thoroughly planned
The procedure design of the research should be carefully planned to yield result that are as objective as possible.


High ethical standards applied
A research design includes safeguard against causing mental or physical harm to participants and makes data integrity a first priority should be highly valued. Researchers frequently find themselves precariously balancing the rights of their subjects against the scientific dictate of their chosen method. Limitation frankly revealed

The researcher should report with complete frankness, flaws in procedural design and estimate their effect on the finding.

Adequate analysis for decision marker's needs
Analysis of the data should be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate.

Finding presented unambiguously
Language is restrained, clear, and precise, assertion that are carefully drawn and hedged with appropriate reservation and an apparent effort to achieve maximum objective tend to leave a favorable impression of the researchers with the decision maker.

Conclusion justified
Conclusion should be confined to those justified by the data of the research and limited to those for which the data provide an adequate basis.

Researcher's experience reflected
Greater confidence in the research is warranted if the researcher is experienced, has a good reputation in research and is a person of integrity.

### 2.12 Reliability

Reliability refers to the extent to which a scale produces consistent results if measurements are made repeatedly. Systematic sources of error do not have an adverse impact on reliability, because they affect the measurement in a constant way and do not lead to inconsistency. In contrast, random crror produces inconsistency, leading to lower reliability. Reliability can be defined as the extent to which measures are free from random error, $X_{R}$. If $X_{R}=0$, the measure is perfectly reliable. Reliability is assessed by determining the proportion of systematic variation in a scale. This is done by determining the association between scores oblained from different administrations of the scale. If the association is high, the scale yields consistent results and is therefore reliable. Approaches for assisting reliability include the test-retest, and alternative forms, and internal consistency methods.

## Test-Retest Reliability

In test-retest reliability, respondents are administered identical sets of scale items at two different times under as nearly equivalent conditions as possible. The time interval between tests or administrations is typically, two to four weeks. The degree of similarity between the two measurements is determined by computing a correlation coefficient. The higher the correlation coefficient, the greater the reliability. There are several problems associated with the test-retest approach to determining reliability.

First, it is sensitive to the time interval between testing. Ohher things being equal, the longer the time interval, the lower the reliability. Second, the initial measurement may alter the characteristic being measured. For example, measuring respondents' attitudes toward low-fat milk may cause them to become more heallh-conscious and develop a more positive attitude toward low-fat milk. Third, it may be impossible to make repeated measurement (for cxample, the research topic may be the respondent's initial reaction to a new product). Fourth, the first measurement may be a carryover effect to the second or subsequent measurements. Respondents may attempt to remember answers they gave the first time. Fifth, the characteristic being measured may change between measurements. For example, favorable information about an object between measurements may make a respondent's attitude more positive. Finally, the test-retest reliability coefficient can be inflated by the correlation of each item with itself. These correlations tend to be higher than correlations between different scale items across administrations.

## Alternative-Forms Reliability

In alternative-forms reliability, two equivalent forms of the scale are constructed. The same respondents are measured at two different times, usually two to four weeks apart. The scores from the administrations of the alternative scale forms are correlated to assess reliability.

There are two major problems with this approach. First, it is time consuming and expensive to construct an equivalent form of the scale. Second, it is difficult to construct two equivalent forms of a scale. The two forms should be equivalent with respect to content. In a strict sense, the requires that the alternative sets of scale items should have the same means, variances, and intercorrelations. Even if these condition

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are satisfied, the two forms may not be equivalent in content. Thus, a low correlation may reflect either an unreliable scale or nonequivalent forms.

## Internal Consistency Reliability

Internal consistency reliability is used to assess the reliability of a summated scale in which several items are summed to form a total score. In a scale of this type, each item measure some aspect of the construct measure by the entire scales and the items should be consistent in what they indicate about the characteristic. This measure of reliability focuses on the internal consistency of the set of items forming the scales.

The simplest measure of internal consistency is split-half reliability. The items on the scale are divided into two halves and the resulting half scores are correlated. High correlations between the halves indicate high internal consistency. The scale items can be split into halves based on odd and even number items or randomly. The problem is that the results will depend on how the seale items are split. A popular approach to overcoming this problem is to use the coefficient alpha.

The coefficient alpha, or Cronbach's alpha, is the average of all possible split-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 indicate unsatisfactory internal consistency reliability. An important property of coefficient alpha is that its value tends to increase with an increase in the umber of scales items.

Therefore, coefficient alpha may be artificially, and inappropriately, inflated by including several redundant scale items. Another coefficient that can be employed in conjunction with cocfficient alpha is coefficient alpha is masking any inconsistent items.

### 2.13 Reliability Analysis Statistics

You can select various statistical models that describe the scales and items. Statistics reported by default include the number of cases, the number of items, and reliability estimates as follows:
(1) Alpha Models: A factor extraction method that considers the variables in the analysis to be a sample from the universe of potential variables. It maximized the alpha reliability of the factors.
(2) Guttman Models: This model computes Gutman's lower bounds for true reliability. Reliability cocflicients lambda 1 through lambda 6
(3) Split-half Models: Correlation between forms, Gutman split-half reliability, Spearman-Brown reliability (equal and unequal length), and coefficient alpha for each half.
(4) Parallel sand Strictly Parallel Models: Test for goodness-of-fit of model, estimates of error variance, common variance, and true variance, and estimated common inter-item correlation, estimated reliability, and unbiased estimate of reliability.

## III. RESEARCH METHODOLOGY

### 3.1 Research Overview

This research focused on the information from the population of the Bangkok metropolis was $5,739,897$ persons (Thailand population statistic: www. Ona.go.th) The composition of population determined by age. Those in the working ages from 15 until over 65 are our target.

### 3.2 Research Survey

The survey method of obtaining information is based on the questioning of respondents. Respondents are asked a variety of questions regarding their behavior, intentions, attitudes, awareness, motivations, and demographic and lifestyle characteristics.

Using Fixed-alternative questions, which require the respondent to select from a predetermined set of responses. The survey method has several advantages. First, the questionnaire is simple to administer. Second, the data obtained are reliable because the responses are limited to the alternative stated. The used of fixed-response questions reduces the variability in the results that may be caused by differences in interviewer.

Disadvantages are that respondents may be unable or unwilling to provide the desired information. For example, consider questions about motivational factor. Respondent may not be consciously aware of their motives for choosing specific brands or shopping at specific department stores. Therefore, they may be unable to provide accurate answer to question about their motive.

### 3.3 Survey Methods

The method that we use for this research are:
(1) Personal Interviews

The characteristics of personal interview are:
(a) Two-way communication initiated by an interviewer to obtain the information from a respondent.
(b) Asking face to face
(c) The interview takes place at the supermarket, workplace, and department store. This technique is used for collecting the primary data. As the product has just launch to the supermarket in Bangkok area, it has no secondary data.
(2) Telephone Interviews

Traditional telephone interviews involve phoning a sample of respondents and asking them a series of questions. The interviewer uses a paper questionnaire and records the responses. This technique is an alternative way for this research.

### 3.4 Steps to Establish the Questionnaire

Specify the Information Needed
Note that as the research project progresses, the information needed becomes more and more clearly defined. With all types of structure and unstructured data collection we have set a clear idea of the objective for the interview and data needed. The objectives for our project are:
(1) To analyze market situation of frozen food product.
(2) To analyze consumer Markets and buyer Behavior
(3) To study the consumer's attitude towards the product.
(4) To measure the brand awareness among respondents.
practical. It is easy to respond and analyze. They are arranged in five levels to either agree or disagree with influential factors.

There are five levels of agree and disagree:
5 Absolutely agree
4 Agree
3
Neutral

2
Disagree

1
Absolutely disagree
There are five levels of influential factor:


### 3.5 Questionnaire Analysis

(1) Strategies for determining sample size

Sample size refers to the number of elements to be included into the study. Determining the sample size is complex and involves several qualitative and quantitative considerations. Sample size is influenced by the average size of sample as a table below:

Table 3.1. Sample Size Use in Marketing Research Studies.

| SAMPLE SIZE USE IN MARKETING RESEARCH STUDIES |  |  |
| :--- | :---: | :--- |
| Type of study | Minimum Size | Typical Range |
| Problem identification research | 500 | $1,000-1,-1,-100$ |



These sample sizes have been determined based on experience and can serve as a rough guideline, particularly when non-probability sampling is used.

There are several approaches to determining the sample size. This include using a census for small populations, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size. This research focused on the information from the population of the Bangkok metropolis was $5,739,897$ persons (Thailand population statistic: www.bma.go.th/html/page 7 html).

Using formulas to calculate a sample size: Although table provides a useful guide for determining the sample size, you may need to calculate necessary sample size for a different combination of levels of precision, confidence, and variability. The sample size can be found by the formula:
(Taro Yamane formula http://edis.ifas.ufl.edu/BODY_006)

$$
\mathbf{n}=\mathrm{N} /\left(1+\mathrm{Ne}^{2}\right)
$$

where $n=$ the size of group to take a sample from
$e=$ tolerance of sampling error for this research not more than $7 \%$
$\mathrm{N}=$ total population

Then

$$
\begin{aligned}
\mathbf{n} & =5,739,897 /\left(1+5,739,897 * 0.07^{2}\right) \\
& =204 \text { persons }
\end{aligned}
$$

If we use the formulas our sample size will be 204 persons with sample error $7 \%$. For this project, we will refer to the Sample size use in marketing research studies table. Our sample size will be 200 persons from the total of population 5,739,897 persons.
(2) Research Instrument

In this project, the questionnaire will be used to analyze the information requirement for Marketing Research of Frozen Processed fish.
(3) Data Collection

The data will be collected from the questionnaire which all the sampled size 200 persons fill in. We emphasize on occupation such as working men, working women, housewifves, Students, as our product is ready made food, it is convenience for our consumers. Our target consumers will be the ones who like to dine out. Target market help sellers identify marketing opportumities better our company can develop the right offer for each target market our company can adjust their prices, distribution channels, and advertising to reach the target market efficiently

The company chooses the consumers who will be modern people who don't have time to cook by themselves. They have to buy ready made food to consume. Our target customers will be consumers who are aged from 15 until over 65 years old and will be the customers who prefer to buy.

## (4) Statistical Measurement

The statistical program for computation in this study is the SPSS. The following statistical procedures were employed to resolve the specific question raised in this sludy.

Part 1. Status of the Respondent
The researcher analyzed the data in the form of table as the following:

The number of respondents by sex
The number of respondents by age
The number of respondents by career
The number of respondents by income per month
The number of respondents by address area
Part 2. Marketing Information
This part is designed to receive the marketing information from the respondents. There are 18 main questions in part two which has sub questions in question no. 5 and no. 6. For the sub question, there are five choices in each sub-question in which each has a sub-scale having a score as follows:

Question No5.

| Absolutely Agree | $=$ | 1 |
| :--- | :--- | :--- |
| Agree | $=2$ |  |
| Neutral | $=3$ |  |
| Disagree | $=4$ |  |
| Absolutely Disagree | $=5$ |  |

The sub-scale level will be in reverse after using SPSS program. The score range that evaluate the factors in terms of difference between readymade frozen food and fresh food will be as follow:

| Absolutely Agree | $=$ | $4.21-5.00$ |
| :--- | :--- | :--- |
| Agree | $=$ | $3.41-4.20$ |
| Neutral | $=$ | $2.61-3.40$ |
| Disagree | $=$ | $1.81-2.60$ |
| Absolutely Disagree | $=1.00-1.80$ |  |
| estion No. 6 |  |  |

There are 7 sub-questions with 5 choices with scores as follows:
Very High Influence $=1$
High Influence $=2$
Medium Influence $=3$
Low Influence $=4$
Very Low Influence $=5$
The score will be in reverse after using SPSS program. It will range to evaluate the factors that influence respondent to make a decision in buying food.

| Very High Influence | $=$ | $4.21-5.00$ |
| :--- | :--- | :--- |
| High Influence | $=$ | $3.41-4.20$ |
| Medium Influence | $=$ | $2.61-3.40$ |
| Low Influence | $=1.81-2.60$ |  |
| Very Low Influence | $=1.00-1.80$ |  |

## IV. RESULTS AND DISCUSSION

In this chapter, the data of the survey are analyzed based on the conceptual framework developed in Chapter 3. The result will be calculated for information requirement marketing research for Frozen Processed fish in Bangkok.

After we distributed these questionnaires to all the respondents in Bangkok, the data gathered from 200 respondents can be described as follows:

### 4.1 Result

### 4.1.1 Part1: Respondent Demographic

Table 4.1. Demographic of Respondent on Sex.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :---: | :---: | :---: |
| Male | 58 | 29.0 | 29.0 |
| Female | 142 | 71.0 | 100.0 |
| Total | 200 | 100.0 |  |

For the statistics of population rate in Bangkok, most of the population are female rather than male. Therefore, the demographic variable "Sex" were collected from 200 respondents, 58 respondent are male ( $29 \%$ ) and 142 respondents are female ( $71 \%$ ).


Figure 4.1. Distribution Respondent Demographic on Sex.

Table 4.2. Demographic of Respondent on Age.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| $15-25$ years old | 56 | 28.0 | 28.0 |
| $26-35$ years old | 101 | 50.5 | 78.5 |
| $36-45$ years old | 27 | 13.5 | 92.0 |
| $46-55$ years old | 13 | 6.5 | 98.5 |
| $56-65$ years old | 2 | 1.0 | 99.5 |
| $>65$ years old | 1 | 298 | 5 |
| Total | 200 | 100.0 | 100.0 |

According to demographic variable based on "Age" it was considered that there were six groups. Of 200 respondents, the majority are from 26-35 years , 101 respondents or (50.5\%); aged 15-25 years, 56 respondents (28\%); aged from 36-45 years, 27 respondents ( $13.5 \%$ ); aged $46-55$ years old, 13 respondents ( $6.5 \%$ ); aged 56 65 years old, 2 respondents ( $1 \%$ ); and more that 65 years old, 1 respondent $(0.5 \%)$


Figure 4.2. Distribution Respondent Demographic on Age.

Table 4.3. Distribution to Respondent's Income per Month.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| $<5,000$ baht | 16 | 8.0 | 8.0 |
| $5,001-10,000$ baht | 27 | 13.5 | 21.5 |
| $10,001-20,000$ baht | 65 | 32.5 | 54.0 |
| $20,001-25,000$ baht | 26 | 13.0 | 67.0 |
| $25,001-30,000$ baht | 19 | 9.5 | 76.5 |
| $30,001-35,000$ baht | 15 | 7.5 | 84.0 |
| $35,001-40,000$ baht | 10 | 5.0 | 89.0 |
| $>40,000$ baht | 22 | 11.0 | 100.0 |
| Total | 200 | 100.0 |  |

From Income per month of 200 respondents, the highest number of respondents are from the income group of $10,001-20,000$ baht, 65 respondents ( $32.5 \%$ ); 5,00110,000 baht, 27 respondents, ( $13.5 \%$ ); 20,001-25,000 baht, 26 respondents ( $13 \%$ );
more than 40,000 baht, 22 respondents, (11\%);25,001-30,000 baht, 19 respondents $(9.5 \%)$; less than 5,000 baht, 16 respondents $(8 \%) ; 30,001-35,000$ baht, 15 respondents $(7.5 \%) ;$ and $35,001-40,000$ baht, 10 respondents $(5 \%)$


Figure 4.3. Distribution Respondent Demographic on Income per Month.

Table 4.4. Distribution of Respondent's Career.

| Career | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Student | 21 | 10.5 | 10.5 |
| Government officer | 8 | 4.0 | 14.5 |
| Company employees | 144 | 72.0 | 86.5 |
| Housewife | 5 | 2.5 | 89.0 |
| Business owner | 11 | 5.5 | 94.5 |
| Merchant | 4 | 2.0 | 96.5 |

Table 4.4. Distribution of Respondent's Career. (Continued)

| Career | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Unemployment | 2 | 1.0 | 97.5 |
| Others | 5 | 2.5 | 100.0 |
| Total | 200 | 100.0 |  |

From all carcers of 200 respondents, most of respondents are company employees, 144 respondents ( $72 \%$ ); Student, 21 respondents ( $10.5 \%$ ); Business owner, 11 respondents ( $5.5 \%$ ); Government officer, 8 respondents (4\%); Housewife, 5 respondents $(2.5 \%)$; Other, 5 respondents $(2.5 \%)$; Merchant, 4 respondents ( $2 \%$ ); and Unemployment, 2 respondents ( $1 \%$ ).


Figure 4.4. Distribution Respondent Demographic on Career.

Table 4.5. Distribution of Respondent's Address Area.

| Area | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Bangkok | 183 | 91.5 | 91.5 |
| Up-country | 17 | 8.5 | 100.0 |
| Tolal | 200 | 100.0 |  |

According to the respondents 200 people, there are 183 respondents who lives in Bangkok area (91.5\%) and Up-country, 17 respondents ( $8.5 \%$ ).


Figure 4.5. Distribution Respondent Demographic on Address Area.

### 4.1.2 Part 2: Marketing Information

The survey data can be rearranged to present the result as follows:
Item No. 1 Have you ever tried ready-made frozen food.

Table 4.6. The Distribution of the Respondent on Trying Ready-Made Frozen Food.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Yes | 167 | 83.5 | 83.5 |
| No | 33 | 16.5 | 100.0 |
| Total | 200 | 100.0 |  |

According to the respondents there are 167 respondents $(83.5 \%)$ who ever tried ready-made frozen food but only 33 respondents ( $16.5 \%$ ) has never tried ready-made frozen food.


Figure 4.6. Percentage of Respondents' Attitude toward on Ready-Made Frozen Food.

Item No. 1.1.2 Which of the following is/are your reason(s) in not consuming readymade frozen food?

Table 4.7. The Distribution of Respondents Reasons on Consuming Ready-Made Frozen Food.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| not delicious | 12 | 36.4 | 36.4 |
| not clean | 3 | 9.1 | 45.5 |
| Expensive | 2 | 6.1 | 51.5 |
| not as nutrient as newly | 6 | 18.2 | 69.7 |
| cooked food | 6 | 18.2 | 87.9 |
| afraid of preservative |  |  |  |
| chemical contents | 4 | 12.1 | 100.0 |
| Others | 33 | 100.0 |  |
| Total | 167 |  |  |
| Missing System | 200 |  |  |
| Total |  |  |  |

From the table, there are 167 missing. It means that not 200 respondents have answered this question. It is only 33 respondents who answered this question. Therefore, most of the reasons that the respondents are not consuming ready-made frozen food are not delicious, 12 respondent ( $36.4 \%$ ). For not as nutritious as newly cooked food and afraid of preservative chemical contents are similar 6 respondents $(18.2 \%)$. Respondents who think that the other reasons are 4 respondents ( $2 \%$ ); not clean, 3 respondents ( $1.5 \%$ ); and expensive, 2 respondents ( $1 \%$ ).


Figure 4.7. Percentage of Respondents' Attitude Toward The Reason on Not to Consuming Ready-Made Frozen Food.

Item No. 1.1.3 If there were a Frozen Processed fish available in the market at the price similar to freshly cooked fish, would you like to try? (answering this and end of questionnaire).

Table 4.8. The Distribution of the Possibility of Trying Ready-Made Frozen Food in the Future.

| Item | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Yes | 2 | 6.1 | 6.1 |
| May be | 21 | 63.6 | 69.7 |
| No | 10 | 30.3 | 100.0 |
| Total | 33 | 100.0 |  |
| Missing | 167 |  |  |
|  | 200 |  |  |

From the result of the table, it indicated that there are only 33 respondents who have answered the question. It means that there are 167 respondents who have tried ready-made frozen food and 33 respondents have not. There are 21 respondents $(10.5 \%)$ who may have tried the ready-made frozen food; do not want to try, 10 respondents $(5 \%)$; and will try ready-made frozen food, 2 respondent ( $1 \%$ )

Total: 33 respondents

Figure 4.8. Pcrcentage of Respondents' Attitude toward the Possibility of Trying Ready-Made Frozen Food.

Item No. 2 What kind of ready-made frozen foods have you ever consumed? (can choose more than one answers).

Table 4.9. The Distribution of Kind of Ready-Made Frozen That the Respondents Ever Consumed.

| Items | Count | Responses (\%) |
| :--- | :---: | :---: |
| Meal pack | 99 | 13.4 |
| Snack (fries) | 85 | 11.5 |

Table 4.9. The Distribution of Kind of Ready-Made Frozen That the Respondents Ever Consumed. (Continued)

| Items | Count | Responses (\%) |
| :--- | :---: | :---: |
| Cake | 107 | 14.5 |
| Culttle fishball | 66 | 9 |
| Dim sam | 89 | 12.1 |
| Pizza | 53 | 7.2 |
| Chicken (nugget) | 31 | 6.9 |
| Vegetable (green beans) | 108 | 4.7 |
| Crab Stick | 37 | 14.7 |
| Fish Tofu | 7 | 5 |
| Others | 737 | 0.9 |
| Total answers (167 respondents) | 100 |  |

As the questions can be answered more than once answers, the total is 167 respondents and 737 answers. (Respondents can answer more than one choice) From the percentage of the respond, most respondents answer Crab Stick (14.7\%); cake ( $14.5 \%$ ); Meal pack ( $13.4 \%$ ); Dim sam $(12.1 \%)$; Snack ( $11.5 \%$ ); Culttle fishball $(9 \%)$; Pizza (7.2\%); Chicken (6.9\%); Fish Tofu (5\%); and others ( $0.9 \%$ ).


Figure 4.9. Percentage of Respondents' Attitude toward Kinds of Ready-Made Frozen that the Respondents Ever Consumed.

Item No. 3 How often do you eat ready-made frozen food?

Table 4.10. The Distribution of Kind of the Frequency of Respondents in Consuming Ready-Made Frozen Food.

| Time | Frequency | Valid Percent | Cumulative Percent |
| :--- | :---: | :---: | :---: |
| 1 time / week | 132 | CEI 79.0 | 79.0 |
| 2 times / week | 13 | 7.8 | 86.8 |
| 3 times / week | 9 | 5.4 | 92.2 |
| $>3$ times / week | 13 | 7.8 | 100.0 |
| Total | 167 | 100.0 |  |
| Missing | 33 |  |  |
|  | 200 |  |  |

Most of the respondents are frequently eating ready frozen food by once a week, 132 respondents ( $79 \%$ ). There are 13 respondents ( $7.8 \%$ ) who have it twice a week and more than 3 times/weck. For 3 times/week, there are 9 respondents ( $5.4 \%$ )


Figure 4.10. Percentage of Respondents'Attitude toward Frequency in Consuming Ready-Made Frozen Food.

Item No. 4 During the last week, which of the following ready-made frozen food you have consumed?

Table 4.11. The Distribution of Time and Kinds of Ready-Made Frozen Food the Respondents Has Consumed.

| Items | Count | Responses (\%) |
| :--- | :---: | :---: |
| Meal pack | 30 | 11.3 |
| Snack (fries) | 30 | 11.3 |
| Cake | 48 | 18 |
| Culttle fishball | 33 | 12.4 |
| Dim sam | 26 | 9.8 |

Table 4.11. The Distribution of Time and Kinds of Ready-Made Frozen Food the Respondents Has Consumed. (Continued)

| Items | Count | Responses (\%) |
| :--- | :---: | :---: |
| Pizza | 13 | 4.9 |
| Chicken (nugget) | 20 | 7.5 |
| Vegetable (green beans) | 14 | 5.3 |
| Crab Stick | 39 | 14.7 |
| Fish Tofu | 2 | 4.1 |
| Others | 266 | 0.8 |
|  |  | 100 |

As the question can answer more than one answer, it indicates that most of respondents had cake (18\%); Crab Stick (14.7\%); Culttle fishball (12.4\%), Meal pack and Snack, 30 respondents ( $11.3 \%$ ); Dim sam ( $9.8 \%$ ); Chicken ( $7.5 \%$ ); Vegetable ( $5.3 \%$ ); Pizza ( $4.9 \%$ ); Fish Tofu ( $4.1 \%$ ); and Others (0.8).


Figure 4.11. Percentage of Respondents'Atitude Time and Kind of Ready-Made Frozen Food Being Consumed.

Item No. 5 Please cvaluate the following factors in terms of difference between readymade frozen food and fresh food.

As the question is allowed 167 respondent to answer in scale, therefore, we will use statistics of Mean and Standard Deviation to help us in tabulation of the answer of this question. We have separated the table into two types of food as follow:

Table 4.12. Description Statistics of Respondents' Attitude toward Ready-Made Frozen Food and Fresh Food.

| Items | N | Min | Max | Mcan | Std. Dev. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Frozen Food : Easily Storage | 167 | 2.00 | 5.00 | 4.3653 | .6340 |
| Fresh Food: Easily Storage | 167 | 1.00 | 5.00 | 2.7006 | .8748 |
| Frozen Food: Good Taste | 167 | 1.00 | 5.00 | 2.9222 | .7991 |
| Fresh Food : Good Taste | 167 | 2.00 | 5.00 | 4.4072 | .6320 |
| Frozen Food : Easily Cooking Process | 167 | 1.00 | 5.00 | 3.8683 | .8819 |
| Fresh Food : Easily Cooking Process | 167 | 1.00 | 5.00 | 3.3653 | .9207 |
| Frozen Food : Cheap in price | 167 | 1.00 | 5.00 | 2.5210 | .7671 |
| Fresh Food : Cheap in price | 167 | 1.00 | 5.00 | 3.5090 | .8277 |
| Frozen Food : Convenience of buying | 167 | 1.00 | 5.00 | 3.9461 | .8450 |
| Fresh Food : Convenience of buying | 167 | 2.00 | 5.00 | 3.5749 | .8601 |
| Frozen Food : Quality/Hygienic | 167 | 1.00 | 5.00 | 2.9880 | .8642 |
| Fresh Food : Quality/Hygienic | 167 | 2.00 | 5.00 | 4.0898 | .8053 |
| Frozen Food : High Nutrient | 167 | 1.00 | 5.00 | 2.7066 | .7939 |
| Fresh Food : High Nutrient | 167 | 2.00 | 5.00 | 4.4192 | .7141 |

The sub-scale level will be in reverse after using SPSS program. The score range that evaluate the factors in terms of difference between ready-made frozen food and fresh food will be as follows:

| Absolutely Agree | $=$ | $4.21-5.00$ |
| :--- | :--- | :--- |
| Agree | $=$ | $3.41-4.20$ |
| Neutral | $=$ | $2.61-3.40$ |
| Disagree | $=1.81-2.60$ |  |
| Absolutely Disagree | $=1.00-1.80$ |  |

For the easly storage in frozen food, the mean is 4.3653 which is higher than fresh food. It means that most of respondents absolutely agree that frozen food is easly to store. For the taste, most of respondents are absolutely agree with good taste in fresh food rather than frozen food. For the cooking process, most of respondents agree that frozen food is easly to cook. For the price, most respondents agree that fresh food is cheaper in price than frozen food. For the convenience of buying, most respondents agree that frozen food is convenient to buy rather than fresh food. For the quality, most respondents agree that fresh food is more quality than frozen food. Finally comparing nutrient, most of respondents are absolutely agree that fresh food has high nutrient than frozen food.

For the total point of view, the means between both are not much different, which means that marketing of frozen food can be grown as the market of fresh food.

Item No. 6 Please evaluate the following factors in terms of their influence on your food choice decision.

Table 4.13. Description Statistics of Factors in Terms of Their Influence on Their Food Choice Decision.

| Items | N | Min | Max | Mean | Std. Dev. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Easily Storage | 167 | 1.00 | 5.00 | 3.6287 | .8883 |
| Good Tastc | 167 | 1.00 | 5.00 | 3.4671 | 1.0166 |
| Easily Cooking Process | 167 | 2.00 | 5.00 | 3.6527 | .7107 |
| Cheap in price | 167 | 1.00 | 5.00 | 3.1916 | .9628 |
| Convenience of buying | 167 | 1.00 | 5.00 | 3.8623 | .7755 |
| Quality/Hygienic | 167 | 1.00 | 5.00 | 3.7246 | 1.0100 |
| High Nutrient | 167 | 1.00 | 5.00 | 3.5868 | 1.0485 |
| Total | 167 | 1.29 | 5.00 | 3.5877 | .6074 |

This table is similar to the item no. 5 for which we are using the same method of tabulation of result for the question. The sub-scale level will be in reverse after using SPSS program. The score will be in reverse after using SPSS program. It will range to evaluate the factors that influence respondents to make a decision in buying food.

| Very High Influence | $=\operatorname{SIN} 4.21-5.00$ |  |
| :--- | :--- | :--- |
| High Influence | $=$ | $3.41-4.20$ |
| Medium Influence | $=$ | $2.61-3.40$ |
| Low Influence | $=$ | $1.81-2.60$ |
| Very Low Influence | $=$ | $1.00-1.80$ |

From the table, it indicates that the factor that influences their buying decision the most is convenience to buy, quality of food, easly in cooking process, easly to store, high nutrient, good taste, and the last factor is cheap in price.

Item No. 7 From which of the following media/sources you have obtained the information regarding Frozen Food?

Table 4.14. The Distribution of Media Respondents Have Obtained the Information Regarding Frozen Food.

| Items | Count | Responses \% |
| :--- | ---: | ---: |
| T.V | 86 | 25.7 |
| Magazine | 61 | 18.2 |
| Radio | 22 | 6.6 |
| Newspaper | 35 | 10.4 |
| Brochure | 74 | 22.1 |
| Billboard | 39 | 11.6 |
| Others | 18 | 5.4 |
| Total responses | 335 | 100 |

From the table, 167 respondents can be able to select more than one media. Most of respondents are watching T.V ( $25.7 \%$ ); Brochure ( $22.1 \%$ ); Magazine ( $18.2 \%$ ); Billboard (11.6\%); Newspaper ( $10.4 \%$ ); Radio ( $6.6 \%$ ); and others ( $5.4 \%$ ). For other places, respondents said that they went to the food convention and food exhibition.


Figure 4.12. Percentage of Media Respondents Have Obtained the Information regarding Ready-Made Frozen Food.

Table 4.15. The Distribution of Source Respondents Have Obtained the Information Regarding Ready-Made Frozen Food.

| Items | Count | Responses \% |
| :--- | ---: | ---: |
| Friends | 121 | 45.3 |
| Brother/Sister | 45 | 16.9 |
| Neighbours | 43 | 4.9 |
| Spouse | 36 | 4.9 |
| Relatives | 28 | 13.5 |
| Parents | 13 | 10.5 |
| Others | 267 | 4.9 |
| Total responses |  | 100 |

Most the respondents have got source of information of frozen from friend (45.3\%); Brother/Sister (16.9\%); Relatives (13.5\%); Parents (10.5\%); Neighbours $(4.9 \%)$; others $(4.9 \%)$; Spouse ( $4.1 \%$ ). For other sources are salesman, and free trial.


Figure 4.13. Percentage of Sources Respondents Have Obtained the Information Regarding Ready-Made Frozen Food.

Item No. 8 Have you ever tried Frozen Processed fish?

Table 4.16. The Distribution of Respondents Who Have Ever Tried Frozen Processed Fish.

| Items | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Yes | 81 | 48.5 | 48.5 |
| No | 86 | 51.5 | 100.0 |
| Total respondents | 167 | 100.0 |  |
| Missing | 33 |  |  |
| Grand total | 200 |  |  |

From 167 respondents, there are $86(51.5 \%)$ respondents who have never tried frozen process fish and 81 respondents ( $48.5 \%$ ) who ever tried.


Figure 4.14. Percentage of Respondents Who Have Ever Tried Frozen Processed Fish.

Item No. 9 Which of the following is/are your reason(s) in not consuming ready made Frozen Processed food?

Table 4.17. The Distribution of the Respondents Reason(s) in Not Consuming ReadyMade Frozen Processed Food.

| Items | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| very difficult to find | 14 | 16.3 | 16.3 |
| having foul odour of raw fish | 23 | 26.7 | 43.0 |
| expensive | 10 | 11.6 | 54.7 |
| afraid of preservative <br> chemical contents | 15 | 17.4 | 72.1 |
| Others | 24 | 27.9 | 100.0 |
| Total | 86 | 100.0 |  |

From 167 respondents, there are 816 respondents who have never tried frozen process fisher because it has never seen (others $27.9 \%$ ); having foul odour of raw fish ( $26.7 \%$ ); afraid of preservation ( $17.4 \%$ ); very difficult to find ( $16.3 \%$ ); and expensive (11.6\%)


Figure 4.15. Percentage of Respondents Reason(s) in Not Consuming Ready-Made Frozen Processed Food.

Item No. 10 What kind of Frozen Processed fish have you ever consumed?

Table 4.18. The Distribution of Respondents towards Kind of Frozen Processed Fish They Have Ever Consumed.

| Items | Count | Responses \% |
| :--- | ---: | ---: |
| Crab Stick | 69 | 27.5 |
| Chikuwa | 35 | 13.9 |
| Fish Tofu | 29 | 11.6 |
| Imitation Crab Claw | 17 | 6.8 |
| Salmon Ball | 25 | 10 |

Table 4.18. The Distribution of Respondents Towards Kind of Frozen Processed Fish They Have Ever Consumed. (Cont.)

| Items | Count | Responses \% |
| :--- | :--- | :--- |
| Seaweed Roll | 22 | 8.8 |
| Shrimp and Fish Chip | 6 | 2.4 |
| Fish Chip | 28 | 11.2 |
| Oboro Tsuki | 19 | 7.6 |
| Others |  | 1 |
| Total responses | 251 | 0.4 |

From 81 respondents who have ever tried frozen process fish, most of respondent consumed Crab Stick (27.5\%); Chikuwa (13.9\%); Fish tofu (11.6\%); Fish Chip ( $11.2 \%$ ); Seaweed Roll ( $8.8 \%$ ); Obro Tsuki(7.6\%); Imitation Crab Claw(6.8\%); Shrimp and Fish Chip (2.4\%); and others ( $0.4 \%$ ).


Figure 4.16. Percentage of Respondents towards Kind of Frozen. Processed Fish Have You Ever Consumed

Item No. 11 Have you ever tried PFP Frozen Processed fish?

Table 4.19. The Distribution of Respondent toward Product Brand Name.

| Items | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Yes | 21 | 25.9 | 25.9 |
| No | 60 | 74.1 | 100.0 |
| Total | 81 | 100.0 |  |
| Missing | 119 |  |  |
|  | 200 |  |  |

From 81 respondents, there are 21 respondents ( $25.9 \%$ ) who know the product and 60 respondents ( $74.1 \%$ ) who do not know the product.


Figure 4.17. Percentage of Respondent Toward Product Brand Name

Item No. 12 Are you the person buying PFP Frozen Processed fish?

Table 4.20. The Distribution of Respondents Who Buy PFP Frozen Processed Fish.

|  | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Yes | 11 | 52.4 | 52.4 |
| No | 10 | 47.6 | 100.0 |
| Total | 21 | 100.0 |  |
| System | 179 |  |  |
|  | 200 |  |  |

21 respondents know PFP products, there are only 11 respondents $(52.4 \%)$ who buy PFP by themselves and 10 respondents ( $47.6 \%$ ) are not. In the overview, there are only $5.5 \%$ of over 200 respondents who know and buy PFP products.


Figure 4.18. Percentage of the Respondents Who Buy PFP Frozen Process Fish by Themselves.

Item No. 13 Who usually bought the PFP Frozen Processed fish? (Can choose more than one answer).

Table 4.21. The Distribution of Other Persons Who Buy the PFP Frozen Processed Fish for the Respondents.

| Items | Count | Response \% |
| :--- | :---: | :---: |
| Friends | 3 | 30 |
| Brother/Sister | 4 | 40 |
| Relatives | 1 | 10 |
| Parents | 2 | 20 |
| Total responses | 10 | 100 |

As there are 10 respondents who do not buy PFP frozen food by themselves, they are other people who buy for them such as brother/sister (40\%); friends (30\%); parents ( $20 \%$ ); and relative ( $10 \%$ )


Figure 4.19. Percentage of the Other Persons Who Buy the PFP Product for the Respondents.

Item No. 14 Where did you make a purchase?

Table 4.22. The Distribution of the Place That the Respondent Purchase PFP Product.

| Place | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| 7 eleven | 2 | 9.5 | 9.5 |
| PFP Frozen unit | 2 | 9.5 | 19.0 |
| Lotus | 6 | 28.6 | 47.6 |
| Top Supermarket | 4 | 19.0 | 66.7 |
| Food Land Supermarket | 3 | 14.3 | 81.0 |
| Big C | 3 | 14.3 | 95.2 |
| The Mall | 1 | 4.8 | 100.0 |
| Total | 21 | 100.0 |  |

From 21 respondents who know the product, most of them like to purchase it from Lotus ( $28.6 \%$ ); Top Supermarket (19\%). Food Land Supermarket and Big C are $14.3 \%$ ). 7 eleven and PFP Frozen Unit are (9.5\%) and The Mall ( $4.8 \%$ ).


Figure 4.20. Percentage of the Place That the Respondent Purchase PFP Product.

Item No. 15 What do you think about the price of PFP Frozen Processed fish?

Table 4.23. The Distribution of Attitude toward Range of Price for PFP Frozen Processed Fish.

| Items | Frequency | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- |
| Too expensive | 9 | 42.9 | 42.9 |
| Appropriate | 12 | 57.1 | 100.0 |
| Total | 21 | 100.0 |  |
| Missing | 179 |  |  |
|  | 200 |  |  |

Most respondents $57.1 \%$ think that PFP frozen is appropriate in price and respondent $9 \%$ think that PFP is too expensive. Nobody thinks that it is worthy in price.


Figure 4.21. Percentage of Attitude toward Range of Price for PFP Frozen Processed Fish.

Item No. 16 If there is a ready made PFP Frozen Processed fish available in the market. At what price are you going to buy?

Table 4.24. The Distribution of the Respondents toward the Price That the Respondents Would Like to Buy PFP Frozen Processed Fish.

| Price | Frequency | Valid Percent | Cumulative Percent |
| :--- | :---: | :---: | :---: |
| $40-50$ baht | 14 | 66.7 | 66.7 |
| $51-60$ baht | 5 | 23.8 | 90.5 |
| $61-70$ baht | 2 | 9.5 | 100.0 |
| Total | 21 | 100.0 |  |
| Missing | 179 |  |  |
|  | 200 |  |  |

All 21 respondents who know the PFP frozen process fish product would like to buy PFP frozen process fish at $40-50$ baht ( $66 \%$ ); 51-70 baht ( $23.8 \%$ ); and $61-70$ baht (9.5\%).


Figure 4.22. Percentage of the Respondents toward the Range of Price for PFP Frozen Processed Fish.

### 4.2 Discussion

### 4.2.1 To Analyzc Market Situation of Frozen Food Product.

In the current ready-made frozen foods market, there are various products on sales, such as Mcal pack, Snack (fries), Cake, Culule fishball, Dim sam, Pizza, Chicken (nagget), Vegetable (green beans), Crab Stick and Fish Tofu. From the research, we have found that most people have ever tried ready-made frozen food. The most consumed type of frozen food is Crab Stick. It is followed by cake and suack (fires). Most people like to eat Crab Stick as it is one type of our product therefore, we still have an opportunity to expand the market. From the statistics and comparison between frozen food and fresh food, we know that consumers still like fresh food more because it has high nutrients but they like frozen food because it is casly in storage. Consumers also consider the convenience of buying either fresh food or frozen food. There are half of our respondents who have ever tried frozen processed fish. This may be caused by the confusion of the respondents as they may not be clear what frozen processed fish is however they have tried crab stick before. From the Table 4.15, it is indicated that most respondents feply on others. This indicates that frozen food still can stay in the market competitively.

### 4.2.2 To Analyze Consumer Markets and Buyer Behavior.

This will be related to the respondents Demographics. From Table 4.1, as we are using random method on interviewing respondents, we will find that there is not an equal number of male and female respondents. The reason females are more than males is because the population number in Bangkok is mostly female rather than male. For the result of the survey, most of our target group should be in the range of 26-35 years old with $10,000-20,000$ baht income and company employees.

This target group will have a purchase power for our product. There are only $9 \%$ of respondent who leave in up-country. We found that most people not often having frozen food. Most of them having cake, and followed by crab stick during recent period. From the Table 4.12, most respondents like to watch TV and friend are the source of their information of frozen food. For Table 4.19, Most respondents do not buy frozen food by their own but the member of the family will be the person who buys. The place that most respondents like to go is Lotus and Top supermarket.

### 4.2.3 To Study the Consumer's Attitude towards the Product.

From the finding, we found that most respondents, who have never tried readymade frozen, they though that it was not delicious. From the statistic, we found that most respondents have a good attitude towards fresh food as it was high nutrient and frozen food was easily in storage. Regarding to the influence factor on their buying decision, most of respondents thought that the convenience of buying was an important factor. Form the Table 4.12, most of respondents like to watch television and not the person who buying food back home. From the Table 4.21, it indicates that people still like to buy good product with cheapest price.
4.2.4 To Measure the Brand Awareness among Respondents.

As the market of ready-made frozen food products are not emphasize on brand name. We found that not many of respondents are known PFP frozen processed fish product. There are only $10 \%$ from 200 respondent knowing the brand name of the product. From the Table 4.21 , the respondents in this group agreed that the price of PFP frozen processed fish are appropriate for $57 \%$ and too expensive for $42.9 \%$. The respondents also would like to buy PFP frozen processed fish in the cheapest price. Therefore, we must develop our pricing and brand awareness for our product in order to stay competitive in the market.

### 4.3 Limitation

In doing the research, we face many obstacles that create some difficulties in the completion of this research report.

Those are as follows:
(1) TIME FRAME: Since I have a routine job, I have to allocate my limited time to this project.
(2) The bias caused by the respondents for not cooperating well in answering the questions. Thus, it is hard to maintain research efficiency. Some of them are not willing to answer. Some of them are not inclined to read and answer the questions.
(3) The interviewer lacks of experience to probe sufficiently and we could not approach and introduce myself well enough.
(4) Parts of sample designs, which are intended to follow strictly, could not be done completely as the time is limited.

Nevertheless, I have contributed most of my effort in monitoring other relevant factors, which at least should be kept at optimum level.

### 4.4 Survey Reliability

This research is very important in order to make sure that the result of information is accurate. The result of reliability analysis in alpha scale as follows:
(1) The result of reliability analysis of respondents' attitude towards frozen food. The result shows that the alpha scale is .6959. If alpha scale is nearest to 1.0 it means that the survey is reliable. And the result of this survey is more than half of 1.0 , which is shown that it is most likely accurate.
(2) The result of reliability analysis of respondents' attitude towards fresh food. The result shows that the alpha is .5726 . The result of this survey is more than half of 1.0 , which is shown that it is medium accurate.
(3) The result of reliability analysis of respondents' attitude towards influence factors in buying decision. The result shows that the alpha is .7810. Alpha scale is very nearest to 1.0 and it shows that the attitudes of respondents are almost accurate.


## V. CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

From the total size of 200 samples who live in Bangkok area with random sampling method during weekday and weekend. We have summarized result of this market survey to find out consumer behavior and attitude towards frozen process fish product. To achieve this purpose we created a questionnaire that contained valuable questions regarding frozen processed fish products. After doing the questionnaire, we use SPSS to process the result and interpret the result into this project. First of all, we summarized general oyerview of this survey by the following, most of our respondent is female, which represent 71 percent. Majority of aging is in between 26-35 years old, which represent 50.5 percent. Most respondents from this survey have got an income between $10,000-20,000$ baht, which represents 32.5 percent. Majority are company employees, which represents 71 percent. Therefore, this will indicate our target group who has got a purchasing power on ready-made frozen food product.

Then we are going to focus on the consumer's atlitude and behavior toward frozen process fish product. Majority of respondents has ever tried ready-made frozen food product but only half of them have ever tried frozen process fish product, which is 49 percent. It was because the respondents did not know and understand what frozen process fish is and they thought that frozen process had got octor of raw fish. The important factor that influences the respondents on buying decision was convenience of buying the product. There are only $10 \%$ from total 200 respondents who know PFP frozen processed fish brand name. Television and the respondents' friends are the most sources of media that the respondents are known our products. Top Supermarket and Lotus are the most places that our samples are usually buy PFP frozen process fish.

From the respondents' perspective, they feel that PFP price is appropriate, which represent 57 percent.

From the result, we found which ready-made frozen has potential to be a profitable product of the company but it is not enough to launch this product successfully, we should also consider on what kind of consumers that respond for ready-made frozen food products, so we will focus on general information for those who respond for ready-made frozen food product.


Figure 5.1. Cross Tab on Gender Who Have Ever Tried Several Kinds of Ready-Made Frozen Food.

From the Cross tab Figure 5.1, we can see that Crab Sticks are in the group that received the highest score on both male and female. Our conclusion from this result can answer our purpose of this survey that Crab Stick is the most potential ready-made frozen food in the present market.


Figure 5.2 Cross Tab on Gender Who Have Ever Tried PFP Frozen Processed Fish.

From the Cross tab Figure 5.2, we can see that only 21 respondents of both male and female know our product. Therefore, the result of the research indicates that consumers need more information regarding our product. The products need more promotion.

### 5.2 Recommendations

Nowadays, Pacific Fish Processing Co., Ltd, is a production and sales oriented company. The company intends to achieve export oriented and internal sales. There are three boundaries of sales. (1) Bangkok area; (2) North and East; and (3) South. The company is emphasis on convenience store, supermarket and hypermarkets. For this research, we will focus on only in Bangkok area. We found that from 200 respondents. There are 167 who have ever tried ready-made frozen food product. Most of them have ever tried Crab Stick. We will recommend the company to focus on this product on the first stage. Then we can introduce other products later. This can be done by promotion our product in the supermarket. The customer will be able to get a free test of Crab Stick under PFP brand name. In order to create brand awareness of the frozen process fish, we need advertising our product as only 21 respondents from total 200 respondents who aware PFP products. We will plan to advertise it on TV, Brochure and more on magazines. At the moment, the company has already started to advertise on the magazine and radio ( 97.0 MHz ). This will help consumers in making decision to buy our product.

From the result, we found that not really often that the customer liked to have frozen food. Therefore, we will add our discount coupon into the instant noodle which most of respondents like to have it often than frozen food product. It will encourage consumers to buy our product.

Another important factor is the consumers' attitude toward frozen food product.


Figure 5.3. Description Statistics on Respondents' Attitude toward on Ready- Made Frozen Food.

The figure indicated that most of the respondents having a good attitude on frozen food in the way frozen food can be kept in a long period of time. Therefore, we will keep a this good attitude and will also add more nutrient in our product as the respondents agreed that fresh food has got a high nutrient rather than ready-made frozen food.

From the research, we found that the factor that the respondents have the most influence on buying decision was convenience of buying. This means that we need to invest more on convenience store, and supermarket.


Figure 5.4. Cross Tap on Gender and the Place the Respondent Liked To Go for Shopping.

The result of the chart indicated that most of femaie respondents are like to go shopping rather than men. The supermarket and hypermarket are the places, which the respondents will purchase our products because it has more choices for selecting. Therefore, we will recommend adding more yaricty of products in order to cover the customers' need. Promotion and discount also needed in the first stage of launching the product. As soon as the consumers know our product, we can change the package and increase the price. For the research, we found that respondent still would like to buy the product with the cheapest price and high quality. Therefore, we need to show that our product is high quality but not really expensive as other producis do. The result also indicated that the only 10 per cent of respondent who knew our products though that our price was in the appropriate level. In order to stay in the market competitively, we will keep the price in this state and focus on sales promotion and product development.

### 5.3 Recommendation for Further Works

There following recommendations are:
(1) As Pacific Fish Processing Co., Ltd has got a sales boundaries including North, East and South area in Thailand, this study is the results only of the population in Bangkok area and their attitude towards frozen processed fish product and recommendations of some process for the company to consider.
(2) There should be more research on the other boundaries of all branches of the company in order to compare and understand the needs of consumers of each area.


## ATTITUDE TOWARDS FROZEN PROCESS FISH QUESTIONNAIRE

 This is a questionnaire regarding to the research of "Frozen process fish" which is conducted to fulfill the course for Master Degree at ASSUMPTION UNIVERSITY. Your participation is highly appreciated, so please spare your time for a few minutes answering the question honestly as possible. The information will be used for educational purpose only and will be kept as a confidential document without any usage in other purpose. Thank you very much.Part 1: General Information

4. Career $\qquad$ Student $\qquad$ Government officer
$\qquad$ Company employees $\qquad$ Housewife
$\qquad$ Business owner $\qquad$ Merchant
$\qquad$ Unemployment $\qquad$ Others (please specify $\qquad$ )
5. Address $\qquad$ Bangkok $\qquad$ Up-country (please specify $\qquad$ )

Part 2: Marketing Information

1. Have you ever tried ready-made frozen food?
$\qquad$ Yes (Go to question 2) $\qquad$ No (answering 1.2, 1.3 and end of questionnaire)
1.2. Which of the following is/are your reason(s) in not consuming ready-made frozen food?
___ very difficult to find __ not delicious
$\qquad$ not clean 11
$\qquad$ not as nutrient as newly cooked food.
$\qquad$ afraid of preservative chemical contents.

## -

Others (please specify) $\qquad$
1.3. If there were a Frozen Processed fish available in the market at the price similar to freshly cooked fish, would you like to try? (answering this and end of questionnaire)
$\qquad$
Yes
May be
$\qquad$
2. What kind of ready-made frozen foods have you ever consumed? (can choose more than one answers)

3. How often do you eat ready-made frozen food?
$\qquad$ 1 time / week $\qquad$ 2 times / week
$\qquad$ 3 times / week
$\qquad$ $>3$ times / week
4. During the last week, which of the following is/are the ready-made frozen foods you have consumed?
__ Meal pack
Cake
$\qquad$ Dim sam
$\qquad$ Chicken (nugget)

Crab Stick
___Snack (fries )
__Culttle fishball
Pizza
Vegetable (green beans)
$\qquad$ Fish Tofu

Others (please specify)
5. Please evaluate the following factors in terms of difference between ready-made frozen food and fresh food. Please tick $(\sqrt{ })$ in the empty table. (Note: $A A=$ Absolutely Agree, $\mathrm{A}=$ Agree, $\mathrm{N}=$ Neutral, $\mathrm{D}=$ Disagree, $\mathrm{AD}=$ Absolutely

| Type | Frozen Food |  |  |  |  | Fresh Food |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Factors * | $\begin{aligned} & \mathrm{AA} \\ & \text { (1) } \end{aligned}$ | A <br> (2) | N <br> (3) | D <br> (4) | AD <br> (5) | A A <br> (1) | A <br> (2) | N <br> (3) | D <br> (4) | AD <br> (5) |
| Easily Storage |  | 1 | ลย | ['6 |  |  |  |  |  |  |
| Good Taste |  |  |  |  |  |  |  |  |  |  |
| Easily Cooking Process |  |  |  |  |  |  |  |  |  |  |
| Cheap in price |  |  |  |  |  |  |  |  |  |  |
| Convenience of buying |  |  |  |  |  |  |  |  |  |  |
| Quality/Hygienic |  |  |  |  |  |  |  |  |  |  |
| High Nutrient |  |  |  |  |  |  |  |  |  |  |

6. Please evaluate the following factors in terms of their influence on your food choice decision. (Note: $\mathrm{VHI}=$ Very High Influential, $\mathrm{HI}=$ High Influential, $\mathrm{MI}=$ Medium Influential, $\mathrm{LI}=$ Low Influential, $\mathrm{VLI}=$ Very Low Influential )

| Factors | VHI <br> (1) | HI <br> (2) | MI <br> (3) | LI <br> (4) | VLI <br> (5) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Easily Storage |  |  |  |  |  |
| Good Taste |  |  |  |  |  |
| Easily Cooking Process |  |  |  |  |  |
| Cheap in price |  |  |  |  |  |
| Convenience of buying |  |  |  |  |  |
| Quality/Hygienic |  |  |  |  |  |
| High Nutrient |  |  |  |  |  |

7. From which of the following media/sources you have obtained the information regarding Frozen Food?

___ Others (please specify) $\qquad$
8. Have you ever tried Frozen Processed fish?
$\qquad$
Yes
$\qquad$ No (answer number 9 and end of questionnaire)
9. Which of the following is/are your reason(s) in not consuming Frozen Processed fish?
__ very difficult to find
$\qquad$ having foul odour of raw fish afraid of preservative chemical contents.
___ Others ( please specify $\qquad$
10. What kind of Frozen Processed fish have you ever consumed? (can choose more than one answers )
$\qquad$

Crab Stick
Chikuwa


Fish Tofu
Imitation Crab Claw
Shrimp and Fish Chip
___ not delicious
___ expensive
$\qquad$
$\qquad$

$\qquad$ Seaweed Roll
$\qquad$ Fish Chip
$\qquad$ Oboro Tsuki
$\qquad$ Others (please specify)
11. Have you ever tried PFP Frozen Processed fish?
$\qquad$ Yes $\qquad$ No (end of questionnaire)
12. Are you the person buying PFP Frozen Processed fish?
$\qquad$ Yes (Go to question 14) $\qquad$ No
13. Who usually bought the PFP Frozen Processed fish? (Can choose more than one answer)
$\qquad$ Friends $\qquad$ Brother/Sister
$\qquad$ Neighbours $\qquad$ Spouse
$\qquad$ Relatives $\qquad$ Parents
___ Others (please specify) $\qquad$
14. Where did you make a purchase?

15. What do you think about the price of PFP Frozen Processed fish?
 Too expensive Appropriate Good value for money
16. If there is a ready made PFP Frozen Processed fish available in the market.

At what price are you going to buy?
$40-50 \mathrm{baht}$
_ $61-70$ baht
$81-90$ baht
_ 51-60 baht
_ 71-80 baht
_ 91-100 baht


แบบสอบถามนี้ เป็นแบบสอบถามเกี่ยวกับการทำวิจัยการตลาด เรื่อง"ปลาทะเลแปรรูปแช่เช็ง"ซื้งเป็นส่วนหนึ่ง ในโครงการวิจัยของนักศึกษาปริญูญูาโทมหาวิทยาลัยอัสสัมชัญทางผูจัดทำหวังเป็นอย่างยิ่งที่จะได้้ัคความร่วม มือจากท่าน โดยตอบแบบสอบถามตามความเป็นจริงแบบสอบถามชุดนี้จะใช้ป็นข้อมูลทางด้านการศึกษาเท่า นั้น หลังจากที่เราได้ำการวิจัยและวิเคราหขอมูลแบบสอบถามชุดนี้จะไมดูกนำไปได้าพื่อวัตถุประสงคอ์อื่นอก จากไดว้บความเห็นชอบจากท่าน ขอขอบคุณมา ณ โอกาสนี้

ส่วนที่1 ข้อมูลทั่วไาที่เกี่ยวของกับผูกรอกแบบสอบถาม

1. เพศ $\qquad$ ชาย $\qquad$ 19 ญิง
2. อายุ $\qquad$ 15-25 ปี $\qquad$ 26-35 ป็
$\qquad$ 36-45 ป1 46-55 ग]
$\qquad$ มากกว่า 65 ปป
3. ราย"ด้
 นอยกวา 5,000 บาท $10,001-20,000$ บาท $25,001-30,000$ บาท $35,001-40,000$ บาท
4. อาชีพ $\qquad$ นักเรียน นักรุรกิจ เจาของกิจการ
$\qquad$ $5001-10,000$ วาาท
$\qquad$ $20,001-25,000$ บาท $30,001-35,000$ บาท มากกวา 40,000 บาท
$\qquad$ ขาราชการ
$\qquad$ แมบบาน
$\qquad$ พอคา/แวคา
$\square$ จื่นๆ (โปรดระบุ)
5. ที่อยู่งจจุบัน $\qquad$ กรุงะทพฯ

## 2

 ตางจังหวัดโปรดระบร$\qquad$
ส่วนที่ 2 ข้อมูลด้านการตลาด

1. คุณแคยลองทานอาหารแช่แข็งหรือไม่
_ เคย (ข้ามไปที่คำถามที่ 2) $\qquad$ ไม่เคย (กรุณาตอบ ขอ1.2,1.3 และ จบการสัมภาษณ่)
1.2 ข้อใดดังตอไปนี้เป็นเหตุผลที่กุณไม่เลือกรับประทานอาหารแช่แข็ง
$\qquad$ หายาก $\qquad$
$\qquad$ ไม่สะอาด $\qquad$ แพง
$\qquad$ สรอาหารไม่ครบถว้นเหมือน อาหารสด
$\qquad$ กลัวสารกันบูด
$\qquad$
$\qquad$
1.3 ถ้ามีปลาทะเลแปปรูปไแ่งเง็งมาขายในราคาที่ถูกกว่าอาหารสดคุณจะลองหรือไม่ ( ตอบขอนี้แล้ว จบการสัมภาษณ์ค่า)
$\qquad$
ลอง $\qquad$ อาจจะ $\qquad$ ไyลอง
2. อาหารแร่แข็งประเภทไหนที่คุณเคยรับประทาน (เลือกได้วากกว่า। คำตอบ)
$\qquad$ อาหาวกลอง $\qquad$ ขนม เช่น ม้นฝวั่งทอด
$\qquad$ เค็ก
_ ลูกชิ้น
$\qquad$ ติ่มซำ
$\qquad$ พิซตา
$\qquad$ ไก่ทอต
$\qquad$ ผัก
$\qquad$ ปูอัค
$\qquad$ อื่นๆ (โปรดระบุ) $\qquad$
3. คุณรับประทานอาหารแชแจ็งบอยแค่ไหน
$\qquad$ 1 ครั้งตอสัปดาห์
$-$ 3 กรั้งต่อสัปดาห์
$\qquad$ 2 กรั้งตอสัปดาาห์
$\qquad$ มากกว่า 3 ครั้งตอสัปดาห์
4. ในระหว่างสัปดาหที่แล้วกุณรับประทานอาหารแช่แข็งชนิดใดดังต่อไปนี้ (เลือกได้มากกวา 1 ข้อ)

5. โปรดระบุค่าของปัจจัยดังตอไปนี้ที่บอกความแตกต่างระหว่างอาหารแช่แข็งและอาหารสด ให้ทำเครื่องหมายถูก $\sqrt{ }$ ในชองวาง

| ประเภทอาแาร | ก11ารแหนเข็ง |  |  |  |  | จาาเรสค |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21\% 17 | เทัหต วยมเก <br> (i) | เที้ยสวย <br> (2) | เกย) <br> (3) | ไมเท่าต่าย <br> (4) | ไมเหาเต่วยมาก <br> (5) | เที่หต่ยหทา <br> (1) | เทีหตทย <br> (2) | ing (3) | ไมเทำตวย <br> (4) | ไม่เหันต่วยมกก <br> (5) |
| งบต่กกาวเก็บจักษา |  |  |  |  |  |  |  |  |  |  |
| รกษติดี |  |  |  |  |  |  |  |  |  |  |
| ตรหที่ |  |  |  |  |  |  |  |  |  |  |
| วคเูก |  |  |  |  |  |  |  |  |  |  |
| กะดวกไบกรชื่า |  |  |  |  |  |  |  |  |  |  |
| กุกกา\% |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

6. โปรดระไุปัจจัยที่มีอิทิิพลต่อการตัดสินใจในการเลือกซื้ออาหาร สดและจาหารแง็งของคุณ ทำเครื่องหยายถูก $\sqrt{ }$ ในช่องว่าง

| ราขการ | อิทโิพลสูงสุด <br> (1) | อิทสิพลมาก <br> (2) | ลิทโิพลาดาเกลาง <br> (3) | อิทลิพลาเอย <br> (4) | ไม่มีอิทสิพล <br> (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| งายต่อการเก็บรักษา |  |  |  |  |  |
| รสชาติดี |  |  |  |  |  |
| กรรมวิธิในกาว1รุงงาย |  |  |  |  |  |
| รากาถูก |  |  |  |  |  |
| สะควกในการซื้อ |  |  |  |  |  |
| คุณภาพและหลักอบาบัยดี |  |  |  |  |  |
| คุณค่าทางอาบารสูง |  |  |  |  |  |

7. จากแหล่งข้อมูลหรือสื่อใดดังต่อไปนี้ที่กุณไไดรับข่าวสารเกี่ยวกับอาหารแช่เขึง

8. คุณเคยรับประทานปลาทะเลเปรรูปแชเแข็งหรือไม่
$\qquad$ เคย (ข้ามไปตอบข้อ 10)
ไม่เคย (ตอบข้ 9 และจบการสังภาษณ่
9. ข้อใดดังต่อไปนี้เป็นเหตุผลที่คุณไม่เคยรับประทานปลาทะเลแปรรูปแช่แข็ง (จบการสัมภาษณ่)
$\qquad$ หายาก $\qquad$ ราคาแพง
$\qquad$ เหม็นคาว $\qquad$ กลัวสารกันขูด
$\qquad$ อื่นโปรคระบุ $\qquad$
10. ปลาทะเลแปรรูปแช่แข็งประเภทไหนที่กุณเคยกิน (เลือกได้วากกว่า 1 คำตอบ)
___ ปข้ด (ทำจากปลา) เต้าหูปลา
$\qquad$ ปลาหมึกาหลอด (ทำจากปลา)
$\qquad$ ก้ามปูไทียมง (ทำจากปลา)
$\qquad$ ถูกชิ้นปลาแซสมอน
$\qquad$
$\qquad$ ปลาม้วนสาหร่ายยัด"ไส้
$\qquad$ กุ้งิิพย (ทำจากปลา) $\qquad$ ปลาทิพย์
$\qquad$ ปลาม้วนยัดไส้
$\qquad$ อื่นๆ (โิปรดระบุ)
11. คุณรู้กักปลาทะเลแปรรูปแช่แข็งยี่ห้ห PFP หรือไม่
$\qquad$
รูจัก
__. ไมรู้จัก (จบการสังภาษณ์)
12. คุณคือผู่ที่ซื้อ PFP ปลาทะเลแปรรูปแช่แข็งองใช่รื่อไม่
$\qquad$ ใช่ (ข้ามไปขขอ 14)
ไม่ใช่
13. ปกติแล้วใครเป็นผู้ซื้อ PFP ปลาทะเลแเปรรูปแช่แง็ง (เลือกได้มากกว่า เข้อ)
$\qquad$


$\ldots$ Food Land Supermarket

$$
-\square 0
$$

ร้านที่มีตูแห่ PFP Top Supermarket อื่นๆ (โปรดระบู)
12. ถ้ามี PFP ปลาทะเลแปรรูปแหแข็งในตลาคคุณอยากที่จะเลือกซื้อในราคาเทาใด

| $61-70$ บาท | $71-80$ บาท |
| :---: | :---: |
| $81-90$ บาท | 91-100 บาท |

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