



Centre for ASEAN Studies



Centre for International Management
and Development Antwerp

ISSN-2031-4027

**The effects of attitudes, perceptions and lifestyle
of working people in Bangkok towards
frozen ready to eat meals**

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ASEAN Business Case Studies No 30

November 2011

Abstract

The purpose of this research is to study the consumers' behaviour in purchasing frozen ready to eat meals in Bangkok in term of consumer lifestyle, consumer perceptions and consumer attitudes by determining the factors which affect consumer intention to purchase frozen RTE meals. The data was collected by survey online via Google Docs website, with 210 working people in Bangkok. The collected data was analyzed using STATA through descriptive statistics, factor analysis, correlation analysis, reliability analysis and regression analysis.

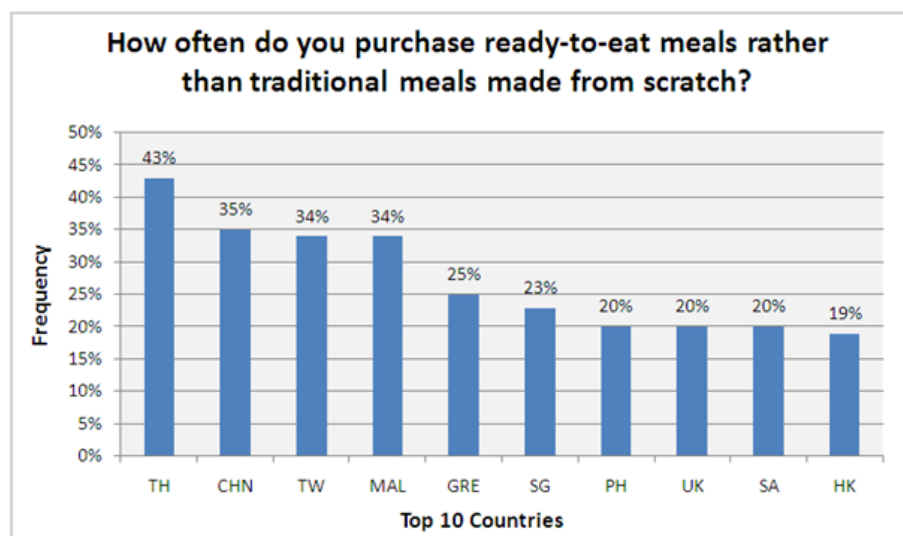
The study presents the factors that can influence the consumer intention in purchasing frozen RTE meals are lifestyle, perception (product, price and promotion) and attitude toward frozen ready meals. The result shows the respondents have a positive attitude toward frozen ready meals and they perceived that the product provide necessary information on label and it is safe for consumption. However, the perception toward price and promotion of frozen RTE meals are neutral, therefore consumer perception towards this issues still need to develop. The research found that strongly perceived on convenience of purchasing does not influence consumer intention to purchase frozen RTE meals. Furthermore, the respondents who often consume healthy foods are not likely to purchase frozen RTE meals as a results of negative relationship between lifestyle and purchase intention. The finding shows the majority of working people often consumes healthy foods, therefore the attitude and perception toward frozen RTE meals regarding healthy issue should be developed.

1. Introduction

Traditionally, Thai people have cooked by themselves and enjoyed eating with their families. In order to have a daily meal at home, people take time to prepare ingredients, cook food, wash dishes and clean kitchen. However, nowadays, Thai people live in a fast-paced society particularly who are living in the capital city such as Bangkok, their lifestyles have dramatically changed. People have more activities which push people to work harder and longer, therefore they are confronted with more pressures in the daily life. They have to spend more than 2-3 hours a days in the rush-hour traffic for travelling between office and home. So they have less time for cooking, preparing proper meals from scratch and consume food therefore it brings to the changing in consumption as they want to make their life more comfortable and convenient (Food Industry Thailand, 2009).

At present, the frozen ready to eat meals become more familiar for working people. According to ACNielsen Thailand (2007), Thai people are the most frequent buyers of ready to eat meal with 43 percent followed by China and Taiwan, (35 percent and 34 percent respectively) shown in figure 1.1

Figure 1.1: Frequency of purchase ready to eat meals

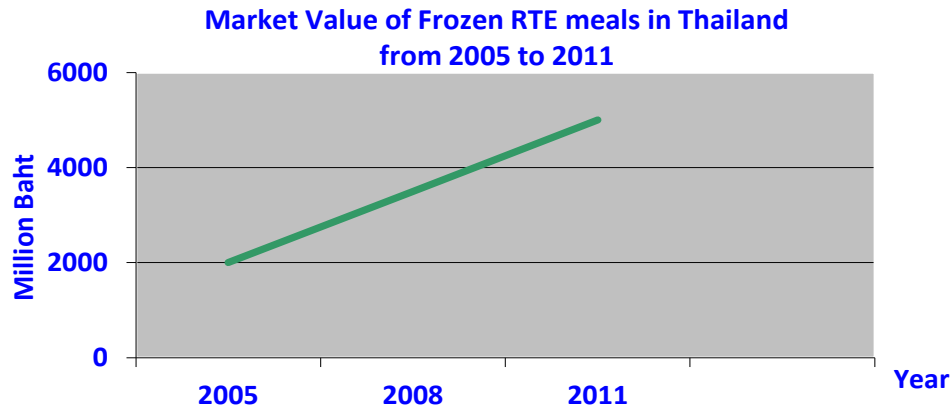


Source: ACNielsen Thailand (2007)

They tend to buy RTE meals because they do not have time to prepare meals from scratch and it is convenience. When people are hungry and do not have enough time to cook, frozen meals usually come to their minds. They are ready to eat after being warmed in a microwave, usually within 5 minutes. For these reasons, the frozen food industry in Thailand has grown continuously. Thailand's frozen ready to eat meals market growth around 10-15 percent annually, its value has grown from 2,000 million baht in 2005 to around 3,000-4,000 million baht in 2008, and the market value in the beginning of year 2011 is around 5000 million baht¹ (Figure 1.2) (Manager Magazine, 2005; Positioning Magazine, 2009; Krobkruakao, 2011). Furthermore, the increasing of convenient store also support the growth of product with providing the convenience in purchasing product such as Seven-

Eleven, the convenient store which opened 24 hours and have more than 2300 branches in Bangkok (Matichon Online, 2011).

Figure 1.2: Market Value of Frozen RTE meals in Thailand from 2005 to 2011



Source: Adapted from Manager (2005), Positioning (2009) and Krobkruakao (2011)

Consequently, the variety of frozen meals and the trend of consuming frozen food in Thailand have increasing, hence many companies also develop the healthy frozen RTE meals to serves those consumers who are health-concerned. Therefore the researcher wants to study the consumers' perception and attitude that having impact on purchasing frozen RTE products, thus the finding from the research can implement to improve and develop the frozen food market in Thailand.

The purpose of this research is to study consumer behaviour in Bangkok, Thailand related to frozen ready to eat products. In order to understand the reasons that influence buyer's behaviour, the study focuses on the factors that affect the consumer decision in purchasing frozen ready to eat meals and also provides an insight into consumers' perception and attitude of people who have working lifestyle in Bangkok. Furthermore, the aim is to provide the information that can help the frozen foods companies in planning the business activities and developing the frozen ready to eat market in Thailand.

2. Consumer Behaviour relating to RTE Meals: Evidence according to the Literature

Product is an important element of basic marketing that influences consumers when making a decision.

According to Nataya Pansen (2007) who studied the marketing mix factors affecting the purchase of frozen RTE meals in Bangkok, found that food hygiene/ safety is the most important in product factor that affected the consumer decision in purchasing frozen RTE foods. Similarly, Lakkhana

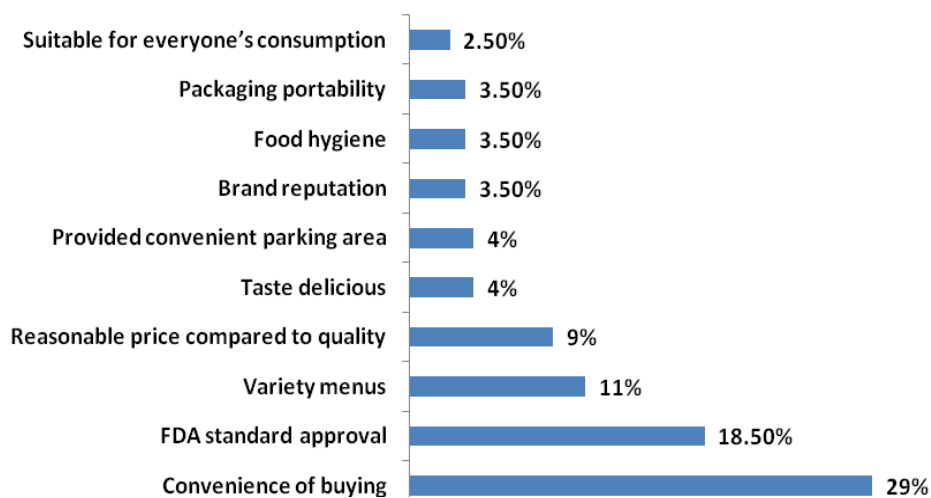
¹ Approximately 42 baht equals 1 Euro.

Laohawirotphot (2010) reported in the same way that food hygiene was the strongest influence on purchasing decision of frozen meals in women in Chiang Mai.

Regarding price, Lakkhana Laohawirotphot (2010) found that the respondents claimed for the high prices of frozen meals since they highly concern for the reasonable price comparing to quality when purchasing frozen ready to eat products.

As to “Place” in the marketing mix, Nano Search (2007) indicated that convenience of buying is the most essential factor for purchasing frozen RTE products (See figure 2.4).

Figure 2.1: Top-ten factors affecting on consumer decision of buying frozen meals



Source: Nano Search (2007)

Figure 2.1 shows the factors that affect consumer decision in purchasing frozen RTE meals. The main factor that has impact on the decision of purchasing frozen RTE meals is convenience of buying with 29%, following by standard approved from FDA (Food and Drug Administration), having a variety of menus and reasonable price with 18.5%, 11%, and 9%, respectively.

In the frozen RTE meal market, sales promotion and advertising are the major tools employed. The research by Lakkhana Laohawirotphot (2010) stated that advertising is one of important factors which affected the consumer decision in purchasing frozen RTE meals.

The study of Amornsri Tanpipat (2001) also indicated that demographic characteristics (gender, age, marital status, education level, occupation, and monthly income) have impact on the food consumption. Hence, the research of Nataya Pansen (2007) emphasized that gender, age, occupation, income make a difference in response to price and promotion on frozen RTE meals.

In the present day, also consumer lifestyle has changed due to high competition in working, people spend more time at work which causes people having less time for preparing and cooking food. For the frozen meals market, the consumer lifestyles can be determined with regard to working people,

convenient living and health-consciousness. They search for the products as frozen ready meals which are convenient for buying, consuming and some healthy options for those who are health concerned. Consequently, lifestyle has an impact on purchasing behaviour of the consumer. Assael (1992) added that considering personality and lifestyles of consumer characteristics help to better understand of consumer behaviour than demographics alone. Therefore, this research will study the different effects of attitudes and perceptions between working people who are health concerned and non-health concerned.

In order to understand the frozen RTE meal market situation, this study will focus on the detail of frozen RTE meals by analyzing the factors that have influenced consumers' attitude and perception, and how these factors affect the consumers' behaviour intention. Hence, consumer lifestyle will be examined in their relation to the consumer purchasing of frozen RTE meals.

3. Research Methodology

3.1 Research Hypotheses

There are 3 main hypotheses that are tested statistically.

H1: There is a relationship between consumer lifestyle and the intention to purchase frozen RTE meals.

H2: There is a positive relation between consumer attitudes and the intention to purchase frozen RTE meals.

H3_a: There is a relationship between consumer perception of product and the intention to purchase frozen RTE meals.

H3_b: There is a relationship between consumer perception of price and the intention to purchase frozen RTE meals.

H3_c: There is a relationship between consumer perception of place and the intention to purchase frozen RTE meals.

H3_d: There is a relationship between consumer perception of promotion and the intention to purchase frozen RTE meals.

3.2 Data Collection Sources

An online survey will be used as a method to collect primary data via computer networks such as intranet or internet through the use of email or web-based survey.

Secondary data are gathered from the various relevant sources such as textbooks, academic journals, reports, websites, articles and newspapers, prior research and also databases from university websites. These secondary data will cover all data needed to analyses in this research which consists of both quantitative and qualitative data analysis.

3.3 Research Design

A descriptive survey research is conducted to understand attitudes and perceptions toward frozen food on consumption of RTE meals of respondents. Descriptive research is designed to provide further insight into the previous research problem by describing the variables characteristic of the topic of interest in the research (Hair et al., 2003).

3.4 Research Instrument

An online questionnaire survey is adopted.

There are many benefits relating to using an online survey. It can attract large numbers of respondents in a short amount of time at lowest cost, non-response bias, quickly and easily to collect and analyses data (Hair et al., 2003; Hawkins and Motherbaugh, 2010). In this research, the questionnaire has been assigned space on a server of web survey software packages and service as Google Docs. The respondents are contacted by using email invitations in order to participate in this survey and asked them to go to the website by clicking on the web address. However, the online survey might not represent the whole population since it is limited to the respondents who have internet access. Furthermore, it is difficult to force the respondents to answer all the questions or complete the survey before the website is closed.

3.4.1 Questionnaire Design

In this research, the questions used in the questionnaire are closed-end questions. With closed questions the respondent is given the alternative of choosing an answer from a list provided with a question given the benefits of a statistical interpretation that is much easier to code, compare and statistically analysis (Hair et al., 2003). The influential factors on purchasing consideration is examined through how they could affect consumer behaviour through the perception, attitude and other factors that could influence the purchasing.

The questionnaire is divided into three sections. The first section is designed in order to know the respondents' behaviour (activities). This section will ask the question that classified the respondents according to how they spend their time based on activity (Kotler and Armstrong, 2004). The second section asks about behavioural intention to purchase frozen RTE meals which identified by the respondents' attitude and perception toward frozen RTE meal. The respondents will be asked to rate their level of agreement by using five-point scale of agreement. The last section is about the personal information of respondents. The questionnaire was translated into Thai language for better understanding.

3.5 Sample Design and Sample size

This research will use the non-probability sampling technique, based on the personal judgment of the researcher, rather than selecting a sample at random (Hair et al., 2003). The target population in this research is working people in Bangkok. The assumption is people who work in Bangkok tend to have

similar lifestyles since they are living in a fast-paced society. The sample size in this research is based on the prior studies of Nataya Pansen (2007), which is 200 respondents.

The web link contains the questionnaires that is translated into Thai language and sent via email lists to individuals such as employees who are working in Bangkok. The email lists were retrieved primarily from the researcher's connections with the locals as the researcher is living in Bangkok, and then from asking the respondents to distribute the survey to their networks of friends, colleagues and families in order to increase the number of respondents. Some of the questionnaires were posted at social network websites such as Facebook etc. The questionnaires for which respondents did not answer all the questions are eliminated from the survey. Thus, the survey is interpreted of the reliable and valid questionnaires.

3.6 Variables and Measures

There are three independent variables, which are perception, attitude and lifestyle. Perception and attitude variables can be measured by rating five-point scale to measure agreement from several statements (statement number 1 to 20 in Part 3) which we adapted from Thanaporn Ruenrerng (2009), Somphol Vantamay (2007); Aikman, Min and Graham (2006), Nevin (2003) and Sijtsema (2003).

As to lifestyle variables, the respondents will be considered as health-concerned or non health-concerned by measuring the level of performance in the activities of consumption healthy food (vegetables and fruits), which is adapted from Thanaporn Ruenrerng (2009), Aikman, Min and Graham (2006).

Purchasing intention is the dependent variable. In order to measure purchasing intention, the statement as "In the future, I intend to purchase frozen RTE meals." was measured on a five-point scale of agreement (Maxham and Netemeyer, 2002).

Demographic variables are used as control variables, since previous studies found that there is a difference in consumption and purchasing behaviour across demographic variables such as gender, marital status (Thanaporn Ruenrerng, 2009) and personal monthly income (Lakkhana Laohawirotpot, 2010).

3.7 Validity and Reliability

The quality of collected data could be measured by reliability and validity. Validity is the degree to which a test measures what it is supposed to measure (NSSE, 2011), while reliability refers to stability and consistency of measurement (Forza, 2002).

There are several types of validity, however construct validity is applied in this research to measure the set of aspects of the theoretical construct. It is also reflects the extent to the hypothetical concepts that cannot be observed directly (Forza, 2002). In this research, factor analysis is used to assess the construct validity of a test and scale accuracies, which is a technique to reduce a set of observable variables. (See table 4.6 and appendix c)

The internal consistency method will be applied to measure the reliability in this research. The Cronbach coefficient alpha is the most popular test for internal consistency. The alpha coefficient ranges in value from 0 to 1, the value of Cronbach coefficient alpha of 0.60 is acceptable, while a value of 0.80 and higher indicates a high level of reliability. (The values of Cronbach coefficient alpha for this research are shown in the table 4.6 and appendix c).

4. Findings and Analysis

The questionnaires were posted on an online survey website, Google Docs, to conduct a survey from working people in Bangkok. The research was conducted between June and July 2011. Although 245 questionnaires were distributed, only 210 questionnaires were fully completed, which accounts for a 85.71% response rate, and 35 were invalid.

4.1 Research Finding

4.1.1 Demographic Information

The demographic characteristics of the respondents include gender, age, marital status, education, occupation and personal income.

Table 4.1: Demographic Characteristics of Respondents (n=210)

Characteristics		Frequency	Percentage
Gender	Male	75	35.7
	Female	135	65.3
Age	21 – 30 years old	140	66.7
	31 – 40 years old	63	30.0
	41 – 50 years old	7	3.3
Marital Status	Single	184	87.6
	Married	26	12.4
Education	Bachelor's Degree	149	71
	Master's Degree or higher	61	29
Occupation	Private Officer	151	71.9
	Government Officer	13	6.2
	Self-employed	46	21.9
Personal Income	5,000 – 15,000 baht	43	20.5
	15,001 – 25,000 baht	59	28.1
	25,001 – 35,000 baht	49	23.3
	35,001 – 45,000 baht	26	12.4
	More than 45,000 baht	33	15.7

According to the table 4.1, it can be seen that most respondents are female with 65.3%, while 35.7 % of respondents are male. The majority of the respondents' age ranges from 21-30 years (66.7%), followed by the age range of 31-40 years old with 30% and only 3.3 % of the respondents are 41-50 years old. Regarding marital status, most of the respondents are single (87.6%), and 12.4 % are married. For the education, it shows that 71% of the respondents have a Bachelor's degree and the rest of the respondents holds a Master's degree or higher level of education with 29 %. In relation to

occupation, a majority of the respondents are working in the private sector with 71.9%, followed by those being self-employed and government officer with 21.9% and 6.2% respectively.

The highest percentage of personal income level is found in the 15,001-25,000 baht group, with 28.1%, whereas the respondents with income between 35,001-45,000 baht per month are the lowest group with 12.4%. There are respondents who have a personal income between 5,000-15,000 baht (20.5%), 25,001-35,000 baht (23.3%) and more than 45,000 baht (15.7%).

4.1.2 Respondents' Behaviour

According to the table 4.2, the majority of respondents have consumed frozen ready to eat meals with 98.6%. Only 1.4% of total respondents have never consumed frozen ready meals.

Table 4.2: The frequency and percentage of the respondents regards their experience on frozen ready meals consumption

Have you ever consumed frozen ready to eat meals?	Frequency	Percentage
Yes	207	98.6
No	3	1.4
Total	210	100.00

Table 4.3: The frequency and percentage of the respondents regards to the reason to consume frozen ready meals

Reasons to consume	Frequency	Percentage
Convenience in preparation	197	95.2
Convenient to buy	143	69.1
Delicious	27	13.0
Inconvenient for cooking	118	57.0
Cheap	3	1.4
Long-term storage	119	57.5
Nutritional value	1	0.5
Food hygiene	6	2.9
Others	7	3.4

From the table 4.3 with the 207 respondents who have consumed frozen ready to eat meals, the majority of respondents consumed frozen RTE meals because the convenience in preparation to consume (95.2%) and convenient to buy (69.1%). More than half of the respondents give the reasons that the frozen RTE meals can be stored for long periods of time (57.5%) and they are inconvenient for cooking (57%). The taste of the food product is another reason that the respondents consume frozen ready meals (13%) whereas 3.4% of respondents indicated for others reason that they want to try. Some respondents have consumed frozen meals because of food hygiene (2.9%) and cheap (1.4%). However, only 0.5% of respondents consume frozen RTE meals because it contains the nutritional value. Therefore, it can be concluded that convenience in preparation to consume and convenient to buy are the main reasons for purchasing frozen ready to eat meals.

Table 4.4: The frequency and percentage of the respondents regards the reason not to consume frozen ready meals

Reasons not to consume	Frequency	Percentage
Expensive	1	33.3
Prefer fresh prepared foods	3	100.0
Prefer to cook myself	2	66.7
Fresh prepared foods are widely available	1	33.3
Microwaved food is not safe	2	66.7

Regarding table 4.4, there are only 3 respondents who have never consumed frozen RTE meals. Table 4.9 shows that the respondents prefer fresh food (100%). That respondents prefer to cook themselves is another reason for not consuming frozen ready meals (66.7%), with the same percentage of respondents thinking that microwaved food is not safe. Other reasons why they never consumed frozen ready meals are the expensive price (33.3%) and fresh prepared foods are widely available in Bangkok (33.3%).

4.1.3 The Factors that Influence the Purchasing Decision

In the questionnaire, Likert scales are applied with a five-point scale for questions relating to activities with a level as “Never”, “Rarely”, “Sometimes”, “Often” and “Always”, and for 21 questions relating to agreement with “Strongly Disagree”, “Disagree”, “Neutral”, “Agree” and “Strongly Agree”. In order to measure the level of agreement, a mean score is applied by using a range which can be calculated as follows:

$$\begin{aligned} \text{Range of mean score} &= (\text{Highest score} - \text{Lowest score}) / \\ &\quad \text{Highest score} \\ &= (5 - 1) / 5 = 0.8 \end{aligned}$$

The range of mean score from the above formula is shown in the following table:

Table 4.5: The criteria of determining the level of activities and agreement

Mean Score	Agreement level
1.00-1.80	Strongly disagree
1.81-2.60	Disagree
2.61-3.40	Neutral
3.41-4.20	Agree
4.21-5.00	Strongly agree

Table 4.6: Summary of Means, Factor Score, Alpha and Standard Deviation for Respondents
Intention to Purchase Frozen RTE meals

Items	Mean	Factor Score	Cronbach's Alpha	Standard Deviation
Lifestyle:				
Eating healthy foods (vegetables, fruits)	3.80	n/a	n/a	0.89
Attitude:	3.57		0.82	0.71
Frozen RTE suits for working people.	4.32	0.41		0.78
Frozen RTE has a positive image.	3.46	0.77		0.85
Frozen RTE is good for health.	3.05	0.90		1.09
Frozen RTE is high quality foods.	3.33	0.90		0.97
Frozen ready meal is safer than street food.	3.68	0.75		0.94
Perception :				
Product	3.61		0.92	0.68
Frozen RTE is delicious.	3.60	0.80		0.87
Frozen RTE has variety menus.	3.70	0.66		0.74
Frozen RTE has a proper size.	3.27	0.76		0.94
Frozen RTE provides enough nutrients per meal.	3.27	0.86		0.94
Frozen RTE use high quality ingredients.	3.44	0.88		0.90
Frozen RTE meal is safe to consume.	3.71	0.87		0.84
Packaging materials of frozen food are safe for using (Freezing or heating).	3.82	0.81		0.85
Frozen RTE provides necessary information on labels (Expiry date, ingredients, and instructions).	4.04	0.72		0.71
Price	3.10		0.84	0.83
Frozen RTE has reasonable price compared to quality.	3.40	0.72		0.99
Frozen RTE has cheaper price than cooking from scratch.	2.91	0.89		1.04
Frozen RTE has cheaper price than purchasing prepared meals.	2.85	0.91		1.00
Frozen RTE has cheaper price than eating out.	3.24	0.76		1.02
Place				
Frozen RTE is convenient to buy. (Anywhere/ Anytime)	4.29	n/a	n/a	0.69
Promotion	3.33		0.83	0.85
The advertisement of frozen RTE is attractive.	3.37	0.93		0.88
Sales promotion of frozen RTE is attractive.	3.28	0.93		0.96
Intention:				
In the future, I intend to purchase frozen RTE meals.	3.50	n/a	n/a	0.85

Table 4.6 shows that the respondents often consume healthy food such as vegetables and fruits, with the mean score of 3.80. In term of respondents' attitude, the respondents strongly agree that frozen ready meals are suitable for working people (4.32). It can be said that respondents have a positive attitude toward frozen RTE meals and agree that it is safer than street food (3.68). However, they feel neutral that frozen RTE meals have a high quality (3.33) and are healthy (3.05). The overall results of the respondents' attitude toward frozen ready to eat meals are in the "agree level" with the mean score of 3.57.

Regarding the product perception, the respondents agree that frozen RTE products provides necessary information on the labels (4.04). They also agree that packaging materials of frozen RTE are safe for using (3.82) and it is safe to consume frozen ready meals (3.71). In other words, the respondents are confident about food safety of frozen RTE food. Moreover, the respondents agree that frozen RTE food has variety, is delicious and using high quality ingredients, rating 3.70, 3.60 and 3.44 respectively. However, they feel neutral that frozen RTE food has a proper size and is providing enough nutrients per meal with the same mean score of 3.27. Mean scores of perception towards the product are grouped in the “agree” category, accounting for 3.61. From the table, the respondents feel neutral on the statement of “Frozen RTE has reasonable price compared to quality” (3.40). Similarly, they feel neutral that frozen ready food is cheaper than eating out (3.24), cooking from scratch (2.91) and purchasing prepared meals (2.85). The overall perception of the frozen ready meals’ price is in the “neutral” category with a mean score of 3.10. The mean score of perception toward place (distribution) accounts for 4.29, which means that the respondents strongly agree with the statement that frozen ready meals are convenient to buy. The grouped mean score of perception toward promotion is 3.33, which is at a “neutral level”. The respondents feel neutral on the advertisement and sales promotion of frozen RTE, accounting for 3.37 and 3.28 respectively.

Referring to table 4.6, the respondents’ intention in purchasing frozen RTE meals in the future is used as the indicator of their decision. From the research result, the mean score is 3.50 that is in the “agree level”, which means that they intend to purchase frozen RTE meals in the future. Next, the factors that affect respondents’ decision will be determined in the research analysis part, which could be helpful for the frozen food industry to increase their customer intention in the future.

In summary, the results can be grouped into three groups: a neutral-level group, an agree-level group and a strongly agree-level group. First, most respondents feel neutral on the perception toward price and promotion of frozen ready meals. Secondly, the overall mean scores of product perception, respondents’ attitudes and intention are in the “agree-level”. In other words, the respondents have a positive attitude towards frozen RTE meals especially as it suits working lifestyle, they perceived that frozen ready meals use high quality ingredients and packaging materials. Therefore they consider frozen RTE meals as a safe food. Lastly, the mean score of the perceiving place variable is in the “strongly agree level” and it can be said that the respondents believe frozen ready meals are widely available in many stores in Bangkok. Thus it is convenient to buy frozen RTE anywhere and anytime.

4.2 Research Analysis

Correlation analysis is applied to test the interaction between variables while regression analysis is used to test the hypotheses H1, H2 and H3. The hypotheses H1, H2 and H3 are formulated to determine the relationship between variables and consumer intention in purchasing frozen ready meals.

Table 4.7: Correlation analysis

	Purchasing Intention	Gender	Status	Income	Lifestyle	Attitude	Perception: Product	Perception: Price	Perception: Place	Perception: Promotion
Purchasing Intention	1.00									
Gender	-0.03	1.00								
Status	0.10	-0.02	1.00							
Income	0.03	-0.06	0.19***	1.00						
Lifestyle	-0.20***	0.14	0.02	0.03	1.00					
Attitude	0.38***	-0.03	0.11	-0.15**	-0.11	1.00				
Perception:										
Product	0.42***	-0.01	0.11	-0.16**	-0.07	0.80***	1.00			
Price	0.33***	-0.04	0.06	-0.01	-0.11	0.63***	0.66***	1.00		
Place	0.07	-0.03	0.05	-0.12*	0.03	0.25***	0.27***	0.22***	1.00	
Promotion	0.12*	0.12*	0.08	-0.14**	0.04	0.36***	0.22***	0.32***	0.16**	1.00

*Correlation is significant at the 0.10 level (2-tailed)

**Correlation is significant at the 0.05 level (2-tailed)

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

Table 4.7 presents Pearson correlation coefficients (r) and their significance (Sig.2 tailed or P-Value). According to the table, there are high correlations between the main research variables, attitude and within perception: product, price, place and promotion. Therefore we cannot combine these variables to study the intention in purchasing frozen ready meals.

Table 4.8: Regression analysis

Items	Model 1	Model 2	Model 3			
			3.a	3.b	3.c	3.d
Lifestyle	-0.198***	-0.158**	-0.167***	-0.165**	-0.200***	-0.203***
Attitude		0.302***				
Perception:						
Product			0.337***			
Price				0.263***		
Place					0.092	
Promotion						0.126**
Control Variables:						
Gender	0.007	-0.000	-0.011	0.018	0.011	-0.017
Status	0.293	0.176	0.167	0.243	0.278	0.312*
Income: 15,001-25,000	0.006	-	-	0.031	0.023	0.015
Income: 25,001-35,000	0.253	-	-	0.275	0.271	0.273
Income: 35,001-45,000	-0.007	-	-	0.041	0.030	-0.009
Income: >45,000	0.002	-	-	0.012	0.026	0.062
R-squared	0.068	0.178	0.207	0.160	0.074	0.089
Adj R-squared	0.036	0.162	0.192	0.126	0.037	0.053
F	2.12**	11.09***	13.38***	4.77***	2.00**	2.45**
N	210	210	210	210	210	210

*Significant at the 0.10 level (2-tailed)

**Significant at the 0.05 level (2-tailed)

***Significant at the 0.01 level (2-tailed)

Hypothesis 1: There is a relationship between consumer lifestyle and the intention to purchase frozen RTE meals.

Table 4.8 shows that lifestyle is significant at the 99% level and the hypothesis is accepted. It means that there is a close relationship between consumer lifestyle and the purchasing intention of frozen RTE meals. Lifestyle has a negative association with the intention to purchase frozen ready meals with a coefficient of -0.198. It can be concluded that the respondents are not likely to purchase frozen ready meals if they are highly concerned about health, or if they often consume healthy food.

Hypothesis 2: There is a positive relation between consumer attitudes and intention to purchase frozen RTE meals.

According to table 4.8, there is a highly significant relationship between attitudes and intention to purchase frozen ready meals at the 99% level. Therefore, the hypothesis is accepted, and shows a positive relationship. It means that if the respondents have positive attitudes toward frozen ready meals, the purchase intention will be higher. Hence, there is a negative relationship between lifestyle and purchase intention. This model is highly significant at the 99% level, thus purchase intention of frozen ready meals can be explained by the explanatory variables with 17.8 %. Additional explanatory variables as attitudes can increase the adjusted r-square to 16.2% in the second model.

As table 4.7 shows that there are high correlations between the variables these will be separated in each model (Table 4.8).

Hypothesis 3_a: There is a relationship between consumer perception of product and intention to purchase frozen RTE meals.

From Table 4.8, the hypothesis is accepted at a highly significant confidence level of 99%, which means that there is a relationship between product perception and intention to purchase frozen RTE meals. Moreover, perception toward the product has a positive relationship on the intention to purchase frozen ready meals. It can be concluded that purchase intention of frozen RTE meals can be predicted by the explanatory variables with 20.7% and the adjusted r-square will increase up to 19.2% in model 3a.

Hypothesis 3_b: There is a relationship between consumer perception of price and the intention to purchase frozen RTE meals.

Table 4.8 shows a significant relationship between price perception and the purchase intention of frozen RTE meals at 99% confidence level. Consequently, the hypothesis is accepted. The relationship is positive, which means that the intention to purchase frozen ready meals will be higher if the respondents perceive that frozen RTE meals have a reasonable price. The model 3b is highly significant and the explanatory variables can predict the respondents' intention to purchase frozen RTE meals by 16%. With additional explanatory variables, the adjusted r-square increases from 3.6% in the first model to 12.6% in this model.

Hypothesis 3_c: There is a relationship between the consumer perception of place and intention to purchase frozen RTE meals.

According to the table 4.8, the relationship between perception of place and intention to purchase frozen ready meals is not significant and the hypothesis is rejected.

Hypothesis 3_d: There is a relationship between consumer perception of promotion and intention to purchase frozen RTE meals.

Table 4.8 shows such relationship at a 95% significance level, such that the hypothesis is accepted. The relationship is positive, i.e. if the respondents perceive that advertising or sales promotion is attractive, the intention in purchasing frozen RTE meals will be increased. It can be seen in the table that 8.9 % of the purchase intention can be explained by the explanatory variables. Using model 3d, the adjusted r-square increased slightly to 5.3%.

In addition, there is no significant relationship between the controlled variables (Gender, Marital Status and Personal Monthly Income) and purchase intention. However, there is high correlation between the controlled variable Personal Monthly Income and the independent variables (Attitude and Product Perception). Therefore, personal monthly income will not be included in the regression model 2 and model 3a.

To summarize, consumer perception of product, price, promotion and attitude show a positive relationship with the intention to purchase frozen ready meals. If the mean scores of consumer perceptions or attitude are higher, it will lead to higher consumer purchasing intentions in the future. In contrast, lifestyle of working people who are concern for health or often consume healthy food has a negative relationship with their purchasing intention. If the mean scores of lifestyle for health-concerned are increased, the consumer purchasing intention of frozen ready meals will lower. Based upon this finding, recommendations about increasing consumer purchase intentions toward frozen ready meals will be made in section 5 which could help the companies to increase their sales.

4.3 Discussion

The research shows that lifestyle has a negative relationship with the purchase intention of frozen RTE meals. The consumers who are health-concerned will have less intention to purchase frozen ready to eat meals, in other word these working people do not view the frozen RTE meals as a healthy product. Thus, analyzing lifestyle with the characteristic of health-concern can help to better understand working people's behaviour in purchasing products and consumption (Assael, 1992; Hawkins and Mothersbaugh, 2010)

The results in this study support Nataya Pansen (2007) that safety of the product significantly affects the consumer decision in purchasing frozen RTE foods. Since, a lot of media warned against the dangers of new diseases coming from food, making people aware of the food safety issue. Moreover, this research found that not only safety of food itself that people are concerned about, but also the

information on labels and packaging material which is related to the safety of using this product, also influence the consumer intention in purchasing frozen RTE meals.

On the price perception, the research result supports the study of Lakkhana Laohawirotphot (2010) that price perception can influence the purchase intention of frozen ready meals. However, the study found that the respondents feel neutral with a reasonable price of frozen ready meals. Therefore, increasing price perception regarding its reasonableness will increase the intention to purchase frozen RTE products.

Nano Search (2007) showed that convenience of buying can affect the decision of purchasing frozen RTE meals, which is inconsistent with this study. The result shows that respondents strongly agree that it is convenient to purchase frozen ready meals but it does not influence the consumer's intention to purchase. The reason is that there are many restaurants available in Bangkok and it is easy to buy food on the street side, which is available at almost every street corner in Bangkok. Hence there are convenience stores such as 7-Eleven or AM/PM which are open 24 hours a day and 7 days a week. Sometime it might be easier for the consumers to buy food from these shops, such that the distribution channel is not affecting the consumer's intention to purchase frozen meals.

The consumer intention to buy frozen RTE meals also can be influenced by advertising and sales promotion, which supports Lakkhana Laohawirotphot (2010) and Uva (2000). The results show that the respondents' perception toward promotion of frozen RTE meals is neutral, with a positive relationship: improving attractive sales promotion or advertising of frozen ready to eat products will lead to an increased intention to purchase frozen ready meals. McCarthy (1981), however, has reminded that the impact of sales promotion is usually short-lived.

Referring to Schiffman and Kanuk (1994), product quality can affect through intrinsic and extrinsic cues. In this study the majority of the respondents have experience with frozen meals. The results show that respondents perceive the quality of frozen ready meals through both intrinsic and extrinsic cues, such as food safety, taste and ingredient (intrinsic) and the convenience of buying (extrinsic). Consequently, it can be said that this research result supports Somphol Vantamay (2007). In addition, the research results show that attitude can influence consumer purchase intention of frozen ready to eat meals, which is consistent with Belch and Belch (2001) who stated that attitudes summarize consumer's evaluation and represent positive or negative feelings and action tendencies. Hence, measuring consumer attitude can provide better a explanation of consumer behaviour (Schiffman and Kanuk, 1994).

Lastly, many previous studies reported that demographic characteristics have impact on food consumption, such gender, age, marital status, education level, occupation and monthly income (Kotler, 2000; Amornsri Tanpipat, 2001; Nataya Pansen 2007). However, this research argues that the demographic characteristics (gender, marital status and personal monthly income) have no impact on intention to purchase frozen ready to eat meals.

5. Conclusions and recommendations

In this research, descriptive survey research was conducted by using an online survey method. The convenience sampling method was used to create the sample. The total number of respondents is 210 people. The research focused on basic demographic characteristics such as gender, age, marital status, education level, occupation and personal income (per month). The respondents were all between 21 – 50 years old, with a majority between 21 – 30 years old and single. Most respondents are office workers with a Bachelor's degree and have a personal income between 15,001 – 25,000 baht per month.²

The majority of the respondents work outside their home as office worker and live in a fast-paced society. Since they have to work hard and spend more than 2-3 hours in traffic on weekdays, they have less time for cooking and preparing food. Consequently, they may consume frozen ready to eat meals. The main reasons for consuming frozen ready meals are the convenience to prepare and to buy these. Another reason is that frozen ready to eat meals can be kept for long periods of time. However, the respondents who have never consumed frozen RTE meals indicated that they prefer fresh food.

There are many factors that influence the purchase intention on frozen ready to eat meals. Thus, the hypotheses were formulated about the consumer attitudes and perceptions of product, price, place and promotion, consumer lifestyles and consumer intention.

As to perception, the respondents have a positive perception toward frozen ready to eat products as they think that necessary information is provided on labels and that frozen ready meals use high quality ingredients and packaging materials. They therefore perceive that it is safe to consumer frozen RTE meals. Moreover, they think that frozen RTE meals are available in great variety and are delicious. The respondents have a moderate perception of price of frozen ready meals. Since it influences the consumer purchase intention improving the price perception with an appropriate price or a cheaper one than the alternatives will increase the intention to purchase frozen RTE products. Regarding the perception toward place or the distribution channel of frozen RTE meals, the respondents strongly agree that it is convenient to buy frozen RTE products as it is widely distributed. However, perceiving that frozen RTE meals are convenient to buy does not make respondents more likely to purchase the products. As to promotion, the respondents perceived advertisements and sales promotions of frozen RTE meals as neutral. The study shows that consumer perception toward promotion impacts the consumer intention to purchase the products, such that the respondents' intentions could be improved by attractive advertisements or sales promotions.

In term of the consumer attitude, the respondents think that frozen ready meals are suitable for working people. Moreover, they believe that frozen RTE meals have a positive image and that they are safer than street food. On the other hand, the respondents were neutral about considering frozen RTE as high quality food or healthy. There is a positive association between consumer attitude and

purchase intention of frozen RTE meals, such that a positive attitude will increase the intention to purchase the products.

It also appears that the respondents intend to purchase frozen ready to eat products in the future. However, in order to increase their intentions in the future, the factors which have a positive relationship with the consumption decision should be considered, including consumer attitude, product perception, price perception and perception on promotion of frozen RTE products. Nevertheless, this research shows that perception on the distribution channel has no impact on the behavioural intention of the consumer although they have a high perception of this factor. The research presents a negative relationship between consumer lifestyle and purchasing intention of frozen RTE meals, which means that the intention to purchase frozen RTE meals will be lower if the consumers are health-concerned.

This research study is an attempt to help the marketers, researchers and frozen food companies to understand working people's perceptions, attitudes and their effects.

According to attitudes toward frozen RTE meals, even though frozen RTE meals suit working people and have a positive image in the consumers' minds, the product image as being healthy food needs to be improved. By developing ingredients or menus of frozen RTE meals and by building the image of frozen ready meals as healthy, sales will increase, as it was found that the health-concerned consumer is not likely to purchase frozen RTE meals. Thus the frozen food companies should develop strategies to build image for the product in order to increase consumption by this group.

In terms of perception, the marketers have to ensure that the consumer perceptions match the actual quality or communicate the correct quality information of the product continuously and be aware of the factors that affect the quality of product.

As to perception of the product, the frozen food companies have to improve the perception toward frozen RTE meals, by providing enough nutrients in the products and by adapting the size of frozen RTE meal to that of a proper meal. Price perception could be improved by focusing on the value of money and by developing the product quality compared to the alternatives (cooking from scratch, purchasing prepared meals or eating out).

Suitable promotion strategies should be adopted with attractive advertisement in order to communicate the information of the products, build awareness and a healthy product image for frozen RTE meals, rather than focusing on attractive sales promotions alone. In addition, this research found that perceiving convenience of buying frozen ready meal in the consumer's mind is not the factor that influences the consumer to buy the product, due to the fact that it is easy to buy food everywhere in Bangkok at 24 hours convenience store and street food vendors. Thus, it is better to focus on the factors that can lead to increase sales.

² Approximately 42 baht equals 1 Euro.

REFERENCES

- ACNielsen Thailand (2007). *Thai consumer – The world's biggest fans of ready-to-eat Meals*. [Online] [Accessed by 20th February, 2011] Available from: <http://th.nielsen.com/news/20070209.shtml>
- Aikman, S.N., Min, K.E., and Graham, D. (2006). *Food attitudes, eating behaviour, and the information underlying food attitudes*. *Appetite*, 47 (1), 111–114.
- Amornsri Tanpipat (2001). *Consumer Behaviour: The factors influencing food consumption behaviour of working people in Bangkok metropolitan area*. *Journal of King Mongkut's Agricultural* 19: 23-36.
- Assael, H. (1992). *Consumer Behaviour and Marketing Action*, 4th ed. Boston: PWS-Kent Publishing.
- Belch, G.E. and Belch, M.A. (2001). *Advertising and promotion: an integrated marketing communications perspective*, 5th ed. Boston: McGraw-Hill/Irwin.
- Business and Financial markets (2010). *Social and Demographic* [Online] [Accessed 15th March, 2011]. Available from <http://www.history-society.com/social-and-demographic.html>
- Food Industry Thailand (2009). *Ready to Eat...Ready to Create*. [Online] [Accessed by 20th February, 2011]. Available from: http://www.foodindustrythailand.com/v17/index.php?option=com_content&view=article&id=1330:future-food-product&catid=34:branding-and-marketing&Itemid=138
- Forza, C. (2002). *Survey research in operations management: a process-based perspective*. *International Journal of Operations and Production Management*. Vol.22, No.2, pp.152-194.
- Hair, Joseph F.Jr., Bush, R.P., Ortinau, D.J. (2003). *Marketing Research Within a Changing Information Environment*, 2nd ed. McGraw-Hill/Irwin, New York.
- Hansen T. (2005). *Understanding consumer perception of food quality: the cases of shrimps and cheese*. *British Food Journal*, Vol. 107 Iss: 7, pp.500 - 525
- Hawkins, D.I. and Mothersbaugh, D.L. (2010). *Consumer Behaviour*, 11th ed. McGraw-Hill/Irwin, New York.
- Kotler, P. (2000). *Marketing Management. The Millennium edition*. Upper Saddle River, New Jersey: Prentice hall.
- Kotler, P. and Armstrong, G. (1989). *Principle of Marketing*, 4th ed. Englewood Cliffs, NJ: Prentice Hall.
- Kotler, P. and Armstrong, G. (2004). *Principle of Marketing: activebook version 2.0*. Upper Saddle River, New Jersey: Pearson Education.
- Lakkhana Laohawirotphot (2010). *Behaviour of Working Women in Mueang Chiang Mai District in Purchasing Ready-to-Eat Frozen Meals*. Master of Business Administration in Marketing, Chiang Mai University.
- Li, Y. (2005). *Quality changes in chicken nuggets fried in oils with different degrees of hydrogenation*. M.Sc., McGill University, Montreal, QC.
- Louis W. Stern and Adel I. EL-Ansary (1996). *Marketing Channels*, 5th ed. Upper Saddle River, NJ: Prentice Hall.
- Matichon Online (2011). *CP ALL: New factory for house brand production*. [Online] [Accessed by 28th April, 2011] Available from: http://www.matichon.co.th/news_detail.php?newsid=1294970042&grpId=&catid=05&subcatid=0503
- Maxham III, J.G. and Netemeyer, R.G. (2002). *Modeling customer perceptions of complaint handling over time: the effects of perceived justice on satisfaction and intent*. *Journal of Retailing* 78: 239-252.
- McCarthy, E. J. (1981). *Basic marketing: a managerial approach*, 7th ed. Homewood, Ill: Irwin.
- Nano Search (2007). *Frozen foods market in Thailand*.
- Nataya Pansen (2007). *Marketing mix factors affecting the purchase of frozen ready-to-eat meals from modern retailers in Bangkok metropolitan*. Master of Business Administration in Marketing, Chiang Mai University.
- Nevin, C. (2003). *Consumers' Perceptions of Frozen and Chilled Seafood*. *Seafish*. Edinburgh, UK The Sea Fish Industry Authority.
- NSSE (2011). *NSSE's Commitment to Data Quality* [Online] [Accessed by 14th July, 2011] Available from: http://nsse.iub.edu/_/?cid=154
- Nunnally, J.C. (1978). *Psychometric Theory*, 2nd ed. McGraw-Hill, New York, NY.
- Positioning Magazine (2009). *Prantalay: Healthy frozen ready to eat meals* [Online] [Accessed by 15th March, 2011] Available from: <http://www.positioningmag.com/magazine/printnews.aspx?id=76594>
- Rao A.R. and Monroe K.B. (1989). *The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review*. *Journal of Marketing Research*, vol.16, (August), 351-357.
- Schiffman, L.G. & Kanuk, L.L. (1994). *Consumer Behaviour*, 5th ed. Englewood Cliffs, NJ: Prentice Hall.
- Sijtsema, S. (2003). *Your health!? - Transforming health perception into food product characteristics in consumer-oriented product design*. Ph.D. thesis, Wageningen University, the Netherlands.
- Somphol Vantamay (2007). *Understanding of Perceived Product Quality: Reviews and Recommendations*.
- Thanaporn Ruenrerng (2009). *Factors Influencing Consumer Consumption Behaviour of Frozen Meal Products in Bangkok Area*. M.B.A. Marketing, Srinakharinwirot University.
- Uva, W.F. (2000). *Develop a Successful Promotion Program*. Department of Applied Economics and Management Cornell University.

APPENDICES

Appendix A: **Questionnaire in English Version**



Dear Respondents:

The purpose of this questionnaire is to study consumer perceptions and attitudes toward frozen ready meal of working people in Bangkok. This questionnaire is created by master student of the University of Antwerp for completing the dissertation. The results will be beneficial to the study. All of your answers will be kept confidential. Please answer all questions in the following parts.

PART 1: Respondent's Behaviour

Please choose the answer that best describes you.

1. Have you ever consumed frozen ready to eat meals?
☐ Yes (Go to question 2) ☐ No (Go to question 3)

2. The reason that you **consume** frozen ready to eat meals (**Select 3 choices**)
☐ Convenience in preparation ☐ Convenient to buy ☐ Delicious
☐ Inconvenient for cooking ☐ Cheap ☐ Long-term storage
☐ Nutritional value ☐ Food hygiene ☐ Others_____

3. The reason that you **do not consume** frozen ready to eat meals (**Select 3 choices**)
☐ No confidence in food safety ☐ Not delicious ☐ Expensive
☐ Prefer fresh prepared foods ☐ Prefer to cook myself ☐ Lack of nutrients
☐ Prefer eating out ☐ Fresh prepared foods are widely available
☐ Microwaved food is not safe ☐ Others_____

4. How often do you eat healthy foods (vegetables, fruits)?
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

PART 2: Consumer attitude and perception toward frozen RTE meals

For each of the following statement, please choose the degree of agreement that corresponds with your opinion.

Statements	Level of Agreement				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Frozen RTE is delicious.					
2. Frozen RTE has variety menus.					
3. Frozen RTE has a proper size.					
4. Frozen RTE provides enough nutrients per meal.					
5. Frozen RTE use high quality ingredients.					
6. Frozen RTE meal is safe to consume.					
7. Packaging materials of frozen food are safe for using. (Freezing or heating)					
8. Frozen RTE provides necessary information on labels (Expiry date, ingredients, instructions)					
9. Frozen RTE has reasonable price compared to quality.					
10. Frozen RTE has cheaper price than cooking from scratch.					
11. Frozen RTE has cheaper price than purchasing prepared meals.					
12. Frozen RTE has cheaper price than eating out.					
13. Frozen RTE is convenient to buy. (Anywhere/ Anytime)					
14. The advertisement of frozen RTE is attractive.					
15. Sales promotion of frozen RTE is attractive.					
16. Frozen RTE suits for working people.					
17. Frozen RTE has a positive image.					

18. Frozen RTE is good for health.					
19. Frozen RTE is high quality foods.					
20. Frozen ready meal is safer than street food.					
21. In the future, I intend to purchase frozen RTE meals.					

PART 3: Respondent's Personal Information

Please choose the answer that best describes you.

1. Gender ☐ Male ☐ Female

2. Age
☐ 20 or Under ☐ 21-30 ☐ 31-40
☐ 41-50 ☐ Above 50

3. Marital Status
☐ Married ☐ Single

4. Education Level
☐ Lower than Bachelor's Degree
☐ Bachelor's Degree
☐ Master's Degree or higher

5. Occupation
☐ Student ☐ Private Officer ☐ Government Officer
☐ Self-employed ☐ Unemployed ☐ Others _____

6. Personal income (per month)
☐ Less than 5,000 Baht ☐ 5,000-15,000 Baht ☐ 15,001-25,000 Baht
☐ 25,001-35,000 Baht ☐ 35,001-45,000 Baht ☐ More than 45,000 Baht

*****Thank you for your co-operation*****

Appendix B: **Questionnaire in Thai Version**



วัตถุประสงค์:

แบบสอบถามชุดนี้

จัดทำเพื่อการศึกษาทัศนคติและการรับรู้ของผู้บริโภคที่มีต่อผลิตภัณฑ์อาหารแช่แข็งสำเร็จรูปพร้อมรับประทาน ของผู้บริโภคในกรุงเทพมหานคร ซึ่งจัดทำขึ้นโดยนักศึกษาระดับปริญญาโท คณะบริหารธุรกิจการตลาด The university of Antwerp เพื่อเป็นส่วนประกอบในการศึกษาตามหลักสูตรบริหารธุรกิจมหาบัณฑิต ข้อมูลการตอบแบบสอบถามของท่านจะถือเป็นความลับ และจะถูกนำไปใช้เพื่อการศึกษาเท่านั้น กรุณาตอบคำถามให้ครบทุกข้อ คำตอบที่ได้จากท่านจะเป็นประโยชน์อย่างยิ่งต่อการศึกษา

ส่วนที่ 1: ข้อมูลเกี่ยวกับพฤติกรรมและรูปแบบการดำเนินชีวิตของผู้บริโภค

คำชี้แจง โปรดทำเครื่องหมาย “X” ลงในคำตอบที่บรรยายได้ตรงกับตัวท่านมากที่สุด

1. ท่านเคยรับประทานอาหารแช่แข็งพร้อมรับประทานหรือไม่

() เคย (ไปคำถามที่ 2) () ไม่เคย (ไปคำถามที่ 3)

2. เพราะเหตุใดท่านจึง**รับประทาน**อาหารแช่แข็งพร้อมรับประทาน (กรุณาเลือก 3 ข้อ)

() สะดวกพร้อมรับประทาน () สะดวกในการหาซื้อ () รสชาติอร่อย
() ไม่สะดวกในการทำอาหารเอง () ราคาถูก () สามารถเก็บไว้รับประทานได้นาน
() มีคุณค่าทางโภชนาการ () สะอาดถูกหลักอนามัย () อื่นๆ (โปรดระบุ) _____

3. เพราะเหตุใดท่านจึง**ไม่รับประทาน**อาหารแช่แข็งพร้อมรับประทาน (กรุณาเลือก 3 ข้อ)

() ไม่แน่ใจในความสะอาดถูกหลักอนามัย () รสชาติไม่อร่อย () ราคาแพง
() ชอบอาหารที่ปรุงสุกใหม่มากกว่า () ชอบทำอาหารทานเอง () ไม่มีคุณค่าทางโภชนาการ
() ชอบทานอาหารนอกบ้าน () อาหารปรุงสุกใหม่หาซื้อได้ง่าย
() ไม่มั่นใจในความปลอดภัยที่ต้องใช้ไมโครเวฟอุ่นร้อน () อื่นๆ (โปรดระบุ) _____

4. ปกติท่านรับประทานอาหารที่มีประโยชน์ต่อสุขภาพ (เช่น ผัก และ ผลไม้) บ่อยเพียงใด

() ไม่เคย () นานๆ ครั้ง () บางครั้ง () บ่อยครั้ง () เป็นประจำ

ส่วนที่ 2: ข้อมูลเกี่ยวกับปัจจัยที่มีผลต่อการเลือกซื้ออาหารแช่แข็งพร้อมรับประทาน

คำชี้แจง โปรดทำเครื่องหมาย “X” ลงในช่อง ตามระดับความสำคัญที่ท่านมีต่อปัจจัยต่างๆ ดังต่อไปนี้

ท่านให้ความสำคัญกับปัจจัยต่อไปนี้มากน้อยแค่ไหนเมื่อท่านซื้ออาหารแช่แข็งพร้อมรับประทาน

ปัจจัยต่างๆ	ระดับความสำคัญ				
	ไม่สำคัญ	ค่อนข้างไม่สำคัญ	ปานกลาง	ค่อนข้างสำคัญ	สำคัญมาก
1. รสชาติ					
2. เมนูหลากหลาย					
3. ปริมาณของอาหาร					
4. คุณค่าทางโภชนาการ					
5. คุณภาพส่วนประกอบวัตถุดิบ					
6. เครื่องหมาย อย. รับรองความสะอาดถูกหลักอนามัย					
7. ความปลอดภัยของบรรจุภัณฑ์ (เมื่อแช่แข็ง, อุ่นร้อน)					
8. รายละเอียดบนฉลาก (วันหมดอายุ, ส่วนผสม, คำแนะนำ)					
9. ตราสินค้า (ยี่ห้อ)					
10. ราคาเหมาะสม					
11. ถูกกว่าปรุงอาหารเอง					
12. ถูกกว่าซื้อแบบปรุงสำเร็จจากร้านค้า					
13. ถูกกว่าทานที่ร้านอาหาร					
14. สะดวกหาซื้อง่าย (มีจำหน่ายทั่วไป, หาซื้อได้ตลอดเวลา)					
15. การสื่อสารโฆษณารายละเอียดของผลิตภัณฑ์					
16. การจัดการส่งเสริมการขาย					

ส่วนที่ 3: ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

1. เพศ ☐ ชาย ☐ หญิง
2. อายุ

☐ 20 ปี หรือ ต่ำกว่า	☐ 21-30 ปี	☐ 31-40 ปี
☐ 41-50 ปี	☐ มากกว่า 50 ปีขึ้นไป	
3. สถานภาพ

☐ สมรส	☐ โสด
-------------------------------	------------------------------
4. การศึกษา

☐ ต่ำกว่าปริญญาตรี	☐ ปริญญาตรี	☐ ปริญญาโทหรือสูงกว่า
---	------------------------------------	--
5. อาชีพ

☐ นักเรียน/นักศึกษา	☐ พนักงานเอกชน	☐ ข้าราชการ
☐ ธุรกิจส่วนตัว	☐ ว่างาน	☐ อื่นๆ _____
6. รายได้ ต่อเดือน

☐ ต่ำกว่า 5,000 บาท	☐ 5,000-15,000 บาท	☐ 15,001-25,000 บาท
☐ 25,001-35,000 บาท	☐ 35,001-45,000 บาท	☐ มากกว่า 45,000 บาท

*****ขอขอบคุณทุกท่านสำหรับความร่วมมือในการตอบแบบสอบถามครั้งนี้*****

Appendix C: The results from Stata program

Table C1: Descriptive statistics of independent variables

Variable	Obs	Mean	Std. Dev.	Min	Max
pi	210	3.495238	.8485711	1	5
14	210	3.795238	.8863539	2	5
mean_attit~e	210	3.566667	.7093587	1.8	5
mean_perprod	210	3.606548	.6776521	1.625	5
mean_perpri	210	3.102381	.8327157	1	5
per_pla	210	4.290476	.6892231	1	5
mean_perpro	210	3.32619	.852539	1	5

Table C2: Correlation analysis of variables

. pwcorr pi gender status income l4 attitude per_prod per_pri per_pla per_prom								
> sig star (5)								
	pi	gender	status	income	l4	attitude	per_prod	
pi	1.0000							
gender	-0.0335 0.6289	1.0000						
status	0.1046 0.1309	-0.0216 0.7562	1.0000					
income	0.0263 0.7050	-0.0589 0.3957	0.1898* 0.0058	1.0000				
l4	-0.2017* 0.0033	0.1309 0.0583	0.0216 0.7552	0.0328 0.6364	1.0000			
attitude	0.3835* 0.0000	-0.0287 0.6795	0.1108 0.1094	-0.1530* 0.0266	-0.1057 0.1267	1.0000		
per_prod	0.4157* 0.0000	-0.0082 0.9058	0.1088 0.1160	-0.1645* 0.0171	-0.0699 0.3137	0.8026* 0.0000	1.0000	
per_pri	0.3277* 0.0000	-0.0401 0.5629	0.0576 0.4063	-0.0113 0.8707	-0.1124 0.1044	0.6303* 0.0000	0.6606* 0.0000	
per_pla	0.0719 0.2996	-0.0320 0.6447	0.0515 0.4582	-0.1222 0.0772	0.0273 0.6937	0.2500* 0.0003	0.2736* 0.0001	
per_prom	0.1202 0.0823	0.1186 0.0864	-0.0757 0.2745	-0.1365* 0.0483	0.0439 0.5266	0.3600* 0.0000	0.2219* 0.0012	
	per_pri	per_pla	per_prom					
per_pri	1.0000							
per_pla	0.2221* 0.0012	1.0000						
per_prom	0.3156* 0.0000	0.1606* 0.0199	1.0000					

Table C3.1: Factor analysis – Attitudes

```
. factor att1 att2 att3 att4 att5, pcf
(obs=210)
```

Factor analysis/correlation
 Method: principal-component factors
 Rotation: (unrotated)

Number of obs = 210
 Retained factors = 1
 Number of params = 5

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.95941	2.05140	0.5919	0.5919
Factor2	0.90801	0.26454	0.1816	0.7735
Factor3	0.64347	0.31804	0.1287	0.9022
Factor4	0.32542	0.16174	0.0651	0.9673
Factor5	0.16368	.	0.0327	1.0000

LR test: independent vs. saturated: $\chi^2(10) = 494.85$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
att1	0.4081	0.8334
att2	0.7738	0.4013
att3	0.9046	0.1817
att4	0.9020	0.1864
att5	0.7498	0.4377

Table C3.2.1: Factor analysis - Perception (Product)

```
. factor pprod1 pprod2 pprod3 pprod4 pprod5 pprod6 pprod7 pprod8,pcf
(obs=210)
```

Factor analysis/correlation
 Method: principal-component factors
 Rotation: (unrotated)

Number of obs = 210
 Retained factors = 1
 Number of params = 8

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	5.06350	4.22648	0.6329	0.6329
Factor2	0.83702	0.28875	0.1046	0.7376
Factor3	0.54827	0.12430	0.0685	0.8061
Factor4	0.42397	0.03249	0.0530	0.8591
Factor5	0.39148	0.07766	0.0489	0.9080
Factor6	0.31382	0.05708	0.0392	0.9473
Factor7	0.25675	0.09155	0.0321	0.9794
Factor8	0.16520	.	0.0206	1.0000

LR test: independent vs. saturated: $\chi^2(28) = 1088.67$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
pprod1	0.7898	0.3763
pprod2	0.6589	0.5658
pprod3	0.7625	0.4185
pprod4	0.8584	0.2631
pprod5	0.8763	0.2321
pprod6	0.8659	0.2502
pprod7	0.8090	0.3456
pprod8	0.7177	0.4849

Table C3.2.2: Factor analysis - Perception (Price)

```
. factor ppri1 ppri2 ppri3 ppri4,pcf
(obs=210)
```

```
Factor analysis/correlation
Method: principal-component factors
Rotation: (unrotated)
Number of obs = 210
Retained factors = 1
Number of params = 4
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.71988	2.07340	0.6800	0.6800
Factor2	0.64648	0.21343	0.1616	0.8416
Factor3	0.43305	0.23245	0.1083	0.9499
Factor4	0.20060	.	0.0501	1.0000

LR test: independent vs. saturated: $\chi^2(6) = 390.52$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
ppri1	0.7230	0.4773
ppri2	0.8854	0.2161
ppri3	0.9121	0.1682
ppri4	0.7625	0.4185

Table C3.2.3: Factor analysis - Perception (Promotion)

```
. factor pprom1 pprom2,pcf
(obs=210)
```

```
Factor analysis/correlation
Method: principal-component factors
Rotation: (unrotated)
Number of obs = 210
Retained factors = 1
Number of params = 1
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.71259	1.42518	0.8563	0.8563
Factor2	0.28741	.	0.1437	1.0000

LR test: independent vs. saturated: $\chi^2(1) = 147.79$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
pprom1	0.9254	0.1437
pprom2	0.9254	0.1437

Table C4.1: Cronbach's alpha - Attitudes

```
. alpha att1 att2 att3 att4 att5
Test scale = mean(unstandardized items)
Average interitem covariance: .4127409
Number of items in the scale: 5
Scale reliability coefficient: 0.8202
```

Table C4.2.1: Cronbach's alpha – Perception (Product)

```
. alpha pprod1 pprod2 pprod3 pprod4 pprod5 pprod6 pprod7 pprod8
Test scale = mean(unstandardized items)
Average interitem covariance: .4206995
Number of items in the scale: 8
Scale reliability coefficient: 0.9161
```

Table C4.2.2: Cronbach's alpha – Perception (Price)

```
. alpha ppri1 ppri2 ppri3 ppri4
Test scale = mean(unstandardized items)
Average interitem covariance: .582084
Number of items in the scale: 4
Scale reliability coefficient: 0.8394
```

Table C4.2.3: Cronbach's alpha – Perception (Promotion)

```
. alpha pprom1 pprom2
Test scale = mean(unstandardized items)
Average interitem covariance: .6032809
Number of items in the scale: 2
Scale reliability coefficient: 0.8300
```

Table C5.1: Regression analysis model of Controlled variables, Lifestyle and Purchase Intention.

```
. xi: reg pi gender status i.income l4
i.income      _Iincome_1-5      (naturally coded; _Iincome_1 omitted)
```

Source	SS	df	MS	Number of obs =	210
Model	10.286049	7	1.46943558	F(7, 202) =	2.12
Residual	140.209189	202	.694104896	Prob > F =	0.0433
				R-squared =	0.0683
				Adj R-squared =	0.0361
Total	150.495238	209	.72007291	Root MSE =	.83313

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	.0067498	.1222722	0.06	0.956	-.2343438	.2478434
status	.2930017	.1781424	1.64	0.102	-.0582554	.6442587
_Iincome_2	.0061456	.1705571	0.04	0.971	-.330155	.3424463
_Iincome_3	.2534417	.1750899	1.45	0.149	-.0917966	.5986799
_Iincome_4	-.007473	.2089035	-0.04	0.971	-.4193843	.4044382
_Iincome_5	.0020383	.1968706	0.01	0.992	-.3861468	.3902233
l4	-.198321	.0671118	-2.96	0.003	-.3306506	-.0659914
_cons	4.14704	.2992363	13.86	0.000	3.557012	4.737067

Table C5.2: Regression analysis model of Controlled variables, Lifestyle, Attitude and Purchase Intention.

```
. xi: reg pi gender status l4 attitude
```

Source	SS	df	MS	Number of obs =	210
Model	26.7821164	4	6.6955291	F(4, 205) =	11.09
Residual	123.713122	205	.603478642	Prob > F =	0.0000
				R-squared =	0.1780
				Adj R-squared =	0.1619
Total	150.495238	209	.72007291	Root MSE =	.77684

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	-.0002888	.1128907	-0.00	0.998	-.2228645	.2222868
status	.1759373	.1639039	1.07	0.284	-.1472161	.4990907
l4	-.1582109	.0615178	-2.57	0.011	-.2794997	-.0369222
attitude	.3024033	.0540796	5.59	0.000	.1957797	.4090269
_cons	4.070726	.2417262	16.84	0.000	3.594137	4.547314

Table C5.3: Regression analysis model of Controlled variables, Lifestyle, Perception of Product and Purchase Intention.

. xi: reg pi gender status l4 per_prod

Source	SS	df	MS	Number of obs = 210		
Model	31.1548411	4	7.78871028	F(4, 205) = 13.38		
Residual	119.340397	205	.582148278	Prob > F = 0.0000		
				R-squared = 0.2070		
				Adj R-squared = 0.1915		
Total	150.495238	209	.72007291	Root MSE = .76299		

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	-.010656	.1108699	-0.10	0.924	-.2292476	.2079355
status	.1673438	.1609311	1.04	0.300	-.1499485	.4846361
l4	-.1671741	.0602371	-2.78	0.006	-.2859379	-.0484104
per_prod	.3370773	.0533463	6.32	0.000	.2318995	.4422551
_cons	4.11978	.2366262	17.41	0.000	3.653247	4.586313

Table C5.4: Regression analysis model of Controlled variables, Lifestyle, Perception of Price and Purchase Intention.

. xi: reg pi gender status i.income l4 per_pri
i.income _Iincome_1-5 (naturally coded; _Iincome_1 omitted)

Source	SS	df	MS	Number of obs = 210		
Model	24.0022793	8	3.00028491	F(8, 201) = 4.77		
Residual	126.492959	201	.629318203	Prob > F = 0.0000		
				R-squared = 0.1595		
				Adj R-squared = 0.1260		
Total	150.495238	209	.72007291	Root MSE = .7933		

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	.0179826	.116451	0.15	0.877	-.2116397	.2476049
status	.2431295	.169961	1.43	0.154	-.0920058	.5782649
_Iincome_2	.031459	.1624929	0.19	0.847	-.2889504	.3518684
_Iincome_3	.2751429	.1667832	1.65	0.101	-.0537263	.6040122
_Iincome_4	.0413104	.1991897	0.21	0.836	-.3514591	.4340798
_Iincome_5	.0124	.1874709	0.07	0.947	-.357262	.382062
l4	-.164731	.0643068	-2.56	0.011	-.2915336	-.0379284
per_pri	.2631268	.0563615	4.67	0.000	.1519911	.3742625
_cons	4.004754	.2865545	13.98	0.000	3.439716	4.569793

Table C5.5: Regression analysis model of Controlled variables, Lifestyle, Perception of Place and Purchase Intention.

```
. xi: reg pi gender status i.income l4 per_pla
i.income _Iincome_1-5 (naturally coded; _Iincome_1 omitted)
```

Source	SS	df	MS	Number of obs = 210		
Model	11.0933704	8	1.3866713	F(8, 201) = 2.00		
Residual	139.401868	201	.69354163	Prob > F = 0.0482		
				R-squared = 0.0737		
				Adj R-squared = 0.0368		
Total	150.495238	209	.72007291	Root MSE = .83279		

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	.0111037	.1222892	0.09	0.928	-.2300306	.252238
status	.2781421	.1786019	1.56	0.121	-.0740317	.6303158
_Iincome_2	.0225365	.1711634	0.13	0.895	-.3149698	.3600428
_Iincome_3	.2708848	.175764	1.54	0.125	-.075693	.6174625
_Iincome_4	.0298461	.2116641	0.14	0.888	-.387521	.4472132
_Iincome_5	.0258164	.198021	0.13	0.896	-.3646486	.4162813
l4	-.2001414	.0671058	-2.98	0.003	-.3324632	-.0678197
per_pla	.0917179	.0850094	1.08	0.282	-.0759068	.2593426
_cons	3.742444	.4796839	7.80	0.000	2.796586	4.688302

Table C5.6: Regression analysis model of Controlled variables, Lifestyle, Perception of Promotion and Purchase Intention.

```
. xi: reg pi gender status i.income l4 per_prom
i.income _Iincome_1-5 (naturally coded; _Iincome_1 omitted)
```

Source	SS	df	MS	Number of obs = 210		
Model	13.3780043	8	1.67225053	F(8, 201) = 2.45		
Residual	137.117234	201	.682175293	Prob > F = 0.0149		
				R-squared = 0.0889		
				Adj R-squared = 0.0526		
Total	150.495238	209	.72007291	Root MSE = .82594		

pi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gender	-.0174188	.1217473	-0.14	0.886	-.2574846	.2226471
status	.3123463	.1768384	1.77	0.079	-.0363502	.6610428
_Iincome_2	.0146379	.1691321	0.09	0.931	-.318863	.3481388
_Iincome_3	.273203	.1738267	1.57	0.118	-.0695548	.6159609
_Iincome_4	-.0088954	.2071016	-0.04	0.966	-.4172659	.3994752
_Iincome_5	.0618695	.1971844	0.31	0.754	-.326946	.450685
l4	-.2032813	.0665734	-3.05	0.003	-.3345532	-.0720094
per_prom	.1259118	.0591423	2.13	0.034	.009293	.2425307
_cons	4.161667	.2967332	14.02	0.000	3.576558	4.746777