

Health-conscious working people and 7-11 ready meal



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An Independent Study Submitted in Partial Fulfillment of the
Requirements
for the Degree of Master of Arts in Business and Managerial Economics
Field of Study of Business and Managerial Economics
FACULTY OF ECONOMICS
Chulalongkorn University
Academic Year 2019
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การตระหนักถึงสุขภาพของกลุ่มคนวัยทำงานและอาหารพร้อมรับประทานใน 7-11



สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
สาขาวิชาเศรษฐศาสตร์ธุรกิจและการจัดการ สาขาวิชาเศรษฐศาสตร์ธุรกิจและการจัดการ

คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2562

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Independent Study Title Health-conscious working people and 7-11 ready meal
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Field of Study Business and Managerial Economics
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Accepted by the FACULTY OF ECONOMICS, Chulalongkorn University in
Partial Fulfillment of the Requirement for the Master of Arts

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เขมิกา ศรีเจริญวงษ์ : การตระหนักถึงสุขภาพของกลุ่มคนวัยทำงานและอาหารพร้อมรับประทานใน 7-11. (Health-conscious working people and 7-11 ready meal) อ.ที่ปรึกษาหลัก : ศศ. ดร. รติคนัย หุ่นสวัสดิ์

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สาขาวิชา
ปีการศึกษา

เศรษฐศาสตร์ธุรกิจและการจัดการ
2562

ลายมือชื่อ นิสิต
ลายมือชื่อ อ.ที่ปรึกษาหลัก

6284011329 : MAJOR BUSINESS AND MANAGERIAL ECONOMICS

KEYWORD Health consciousness, Ready meal, Working people, 7-Eleven

D:

Kemika Sricharoenwong : Health-conscious working people and 7-11 ready meal. Advisor: Asst. Prof. RATIDANAI HOONSAWAT

Thailand's urbanization and westernization, especially in Bangkok metropolitan has led into an alteration in dietary practices which relies more on convenience. Ready meal boxes from convenience store such as 7-eleven has increasingly gained popularity. Still, a disproportionate nutrition of Ready meal boxes seems to be contradictory with an increasing trend on health such as healthy food. This research paper explores whether health consciousness in terms of diet has an effect on working people's decision to purchase 7-eleven ready meal boxes or not. Quantitative approach was employed where the data was obtained through online survey from 18 to 25 June, 2020. The observations of 239 was used in ordinary least square method. The results show that health consciousness in terms of diet does not greatly affect decision to purchase 7-eleven ready meal boxes for working people in Bangkok metropolitan. Instead, sales promotion using the discount pricing is likely to affect decision to purchase 7-eleven ready meal boxes. Accordingly, discount pricing strategy should be designed to attract working people consumers.



Field of Study:	Business and Managerial Economics	Student's Signature
Academic Year:	2019	Advisor's Signature

ACKNOWLEDGEMENTS

First of all, I would like to express my gratitude to my supervisor, Assistant Professor Ratidanai Hoonsawat, Ph.D., for the utmost support contributed to my research paper. This research paper would not be able to be completed without his patience and advice.

Furthermore, I am thankful for the organizations for the accessibility to the source of knowledge as well as the respondents who voluntarily provided information for this study. Without them, I would not be able to conduct this research paper. Lastly, I would like to express my appreciation to my family and friends for being supportive and motivative in conducting this research paper.

Kemika Sricharoenwong

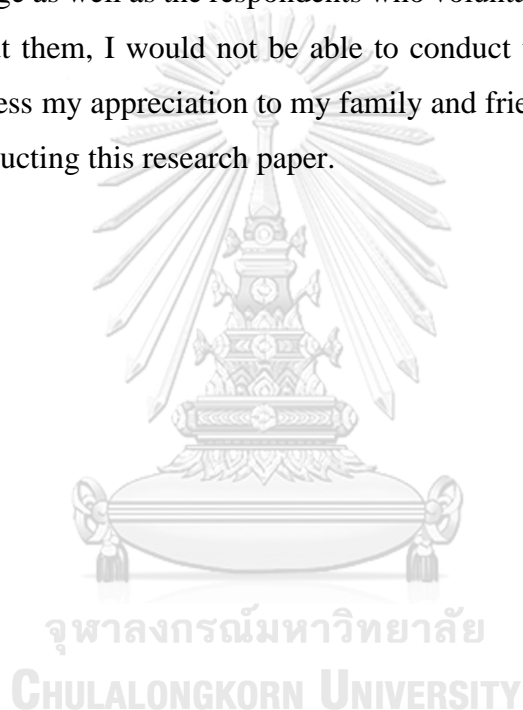


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Chapter 1: Introduction

According to Kosulwat (2002), Asia and Pacific region has experienced socio-economic changes with an increased urbanization and westernization resulting in an alteration in dietary practices and lifestyles. These changes also occur in Thailand. Thailand that used to have traditional food practices based on legumes, vegetables, and aquatic animals has adopted westernized food practices focusing mainly on animal meats with higher proportions of fat and less vegetables. Still, it seems that it is not only the dietary habits, these changes simultaneously take place with a change in lifestyles. Thai people's lifestyles move into a fast-paced city life bringing eating habits that rely on more convenience foods including ready-to-eat meals. Both westernized dietary practices and lifestyles lead to an increase in consumption of ready meals from convenience stores in Thailand (Kosulwat, 2002). Kasikorn Research Center (2020) shows an increasing tendency of growth in ready meal with expectation of the market value in 2020 at 20,200-20,500 million Baht where the market expands by 3.0-5.0 percent(YoY). This growth is higher than domestic food and beverage market with an expectation of 2.4-4.4 percent(YoY) expansion at 2.46-2.51 trillion Baht.

Nonetheless, one of the trends that occurs globally is health and wellbeing (Singh, 2012). In Thailand, health trend is adopted in an aspect of food. Healthy food has gained popularity among working people (SCB, n.d.). In other developed countries such as in United Kingdom, health issues concerning ready meals are raised because of disproportionate nutrients (Celnik, Gillespie, & Lean, 2012). Despite this global health trend and possible negative health effects from consuming ready meal, it might not be able to conclude that this health trend has or has no impact on working people's decision to purchase ready meal from 7-eleven in Bangkok.

The purpose of this research paper is to explore an effect of health consciousness on decision to purchase ready meal from 7-eleven. Benefits expected from the study are the better understandings of consumers' behavior. These better understandings are contributed to a development of the marketing strategy for CPF public company limited and CPRAM company limited to meet different characteristics of consumers specifically working people in Bangkok metropolitan, Thailand. Quantitative approach was employed and the data was collected through online survey. Lastly, the hypothesis

is that health consciousness in terms of diet is expected to have a negative effect on decision to purchase 7-eleven ready meal for working people in Bangkok metropolitan.

The study covers the following contents. The first chapter which is this chapter is introduction. The second chapter is literature review. The third chapter is theoretical framework. The fourth chapter is conceptual framework. The fifth chapter is data collection and data analysis and the last chapter is conclusion and suggestion. Literature review will be the next session.



Chapter 2: Literature Review

Since it seemed to be no direct research that focused on the connection between health consciousness in terms of diet and 7-eleven ready meal, each aspect of the research topic shall be reviewed separately. Also, in each area of the topic, definition shall be clarified before reviewed.

In terms of health consciousness, its definition covered to the extent of how individuals engage in their health activities (Becker, 1977). These health activities covered the extent where an individual take any actions a person believe to be healthy so that a possibility of an occurrence of any disease could be prevented or any disease that is in asymptomatic stage could be detected and diagnosed (Kasl & Cobb, 1966). Health consciousness as related to health activities had a board term that can range from a diet to lifestyle where both of them consisted of nutrition, fitness, environment, and a number of factors (Kraft & Goodell, 1993). In order to make a clear understanding, only health consciousness in terms of choice of diet was the focus in this study.

Concept of health consciousness had developed from health belief model based on psychological theory which came from a health belief that some health action may prevent an occurrence of any disease (Maiman & Becker, 1974; Rosenstock 1974). According to Gould (1988) whose center of the paper was based on attitude of healthcare, health behavior, and health consciousness as a predictor of a behavior, one of the outcomes suggested that a health-conscious individual believe a good diet can prevent diseases. However, the concept of health consciousness was based on the prevention of diseases and health consciousness in term of diet was vaguely mentioned and it was abstract.

Kraft and Goodell (1993) provided a more concrete concept of health consciousness in their paper, identifying health-conscious consumers. Their measure of health consciousness was based primarily on wellness which concerned from nutrition to physical fitness. The idea of wellness lied on the concept that was more than a sole maintenance of health. This concept of health consciousness in their paper was measured with wellness scale dimension of 4 factors: health surrounding, physical strength, individual health obligation, and nutrition management. However, only two factors which were health surrounding and nutrition management are relevant to health consciousness in terms of diet. They were measured by surveying the following

statement: I am concerned if there are chemicals in my food and the quality of my drinking water, I try to avoid foods containing nitrites or preservatives, I usually read health-related news, I am interested in information relevant to my health, I am concerned about my health all the time, my daily meals are nutritionally balanced, and I try to avoid food with high levels of cholesterol in my diet.

Working people was defined as working population who are at the age of 15 to 59 (National Statistical Office, 2004). With this definition, the National Statistical Office reported the average number in each quarter of 2019 of the population who were in the total labor force in Bangkok to be 5,324,234.2075 \approx 5,324,234 (“Labor Branch”, 2019).

Decision to purchase was defined as the process of thoughts which brings consumers from recognizing their needs to identifying and choosing their choices of buying (Wharton University of Pennsylvania, n.d.). Noethless, this study focused on purchase decision of ready meal only.

Consumers’ purchasing decision came from buyers’ decision process. Fundamental buyers’ decision process consisted of 5 stages: need recognition, information search, evaluation of alternative, purchase decision, and post purchase decision (Cant et al., 2009). As illustrated in figure 1 from the left to the right, consumers or buyers started from the first stage by recognizing their needs or problems. Then, they searched for information to the solution regarding the needs and evaluated alternative choices to those needs. After that, they decided to purchase. And lastly, they basically evaluated their satisfaction after the purchase using their prior expectation.

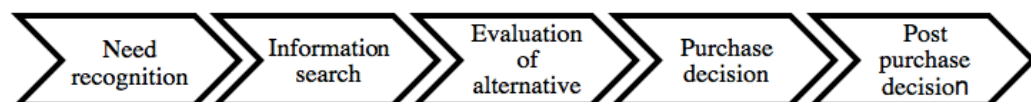


Figure 1 : Buyers decision process

In reference to Oxford Advanced Learner’s Dictionary, ready meal was defined as a prepared meal that was required a little preparation such as heating before it was consumed (Deuter et al., 2015). Ready meal can be divided into 2 types in accordance with the process of technologies: chilled and frozen (Thai frozen foods association,

n.d.). Chilled food was needed to be kept at the temperature between 4-7 Celsius for no more than 7 days. Frozen food was required to be maintained at the temperature below -18 Celsius and its shelf life can be extended up to 18 months. In this study, both types of meal were the focus. Yet, in 7-eleven, there were numerous products which met this definition such as prepared sandwich, hamburger, sausage, dimsum, rice with additional meat, and noodles (Seven Eleven, 2020). This study focused on the products whether rice or noodles which was frozen or chilled and were served in a form of boxes or bowls with cover only.

For 7-eleven ready meal served in a form of box, the products are produced by CPF and CPRAM under the brands, Ezygo and Ezy Choice which are exclusive distributed through 7-eleven only. Chilled and frozen ready meal served in a form of box in 7-eleven are distinguished by the color of the package and types of the freezer. The chilled ones are packed in red or black boxes with sealed transparent plastic cover and kept in an open freezer. The frozen ones are packed in white boxes and kept in a closed freezer since it needs a lower temperature.

Despite the convenience of ready meal, there were a number of researches conducted in an argument of ready meal and health issues. Celnik et al. (2012) had conducted their paper in the United Kingdom in order to explore and discuss on the issues of having lack of time, ready meal consumption, ill health, and obesity. The quantitative approach was employed with descriptive statistics applied to the primary data collected from 5 major UK supermarkets consisting of Asda, Tesco, Sainsbury, Morrisons, and cooperative group using observation. Energy contents (kcal) and guideline daily amount (GDA) were observed from four well-known types of ready meals which are lasagna, cottage pie, macaroni cheese and tikka masala. The results showed an unmatched proportion between kcal and guideline daily GDA of ready meal. Some types of ready meal contained almost 100% GDA meaning that if a consumer consume only a meal of ready meal, the nutrients which the consumer needed in a day had already reached. It might not seem to be harmful or even seem to be beneficial. The problem was that excess intake of some types of nutrients such as salt, saturated fat, and sugar could be hazardous and might contribute to health problem such as obesity.

This was consistent with the work of Alkerwi et al. (2015) in Luxembourg which presented that consumption of ready meal led to a tendency not to achieve

nutritional recommendations as well as an increase in obesity. However, it was extended to abdominal obesity especially for adults. This paper employed both qualitative and quantitative to a sample of 1,352. Primary data was collected using both interviewing and food frequency questionnaire. Statistical tools to measure included Chi-square, ANOVA, Binary logistic regression, and Multivariable logistic regression models. The results were divided between low and high consumers. Low consumers tended to intake ready meal less than 70 grams per day while high consumers were likely to intake ready meal more than or equal to 70 grams per day with the maximum of 572 grams per day. Also, the results pointed that high consumers tended to be male if compared to low consumers.

Although the results from the both papers above indicated that ready meal tended to have a negative effect on diet and subsequently health, these results came from the United Kingdom and Luxembourg. The choices of ready meal as related to ingredients, kcal, and GDA would be different from those of 7-eleven ready meal served in a form of box in Thailand.

Accordingly, energy content and GDA were observed from 7-eleven ready meal served in a form of box in Bangkok metropolitan. Ready meal served in a form of box products that were observed consisting of 3 chilled ready meal boxes and 5 frozen ready meal boxes illustrated in table 1 and table 2.

Chilled ready meal served in a form of box				
Product (Menus)	Nutritional value			
	Kcal	Sugar (g.)	Fat (g.)	Sodium (mg.)
White sauce spaghetti	320	2	17	360
Stir-fried basil chicken spaghetti	460	10	15	1,230
Fried macaroni with chicken	410	5	16	880
Average	339.67	5.67	16	823.33

Table 1: Nutritional value for chilled ready meal served in a form of box

Frozen ready meal served in a form of box				
Product (Menus)	Nutritional value			
	Kcal	Sugar (g.)	Fat (g.)	Sodium (mg.)
Stir-fried chicken with chili paste and bamboo shoot	300	4	6	610
Fish maw soup with rice vermicelli	240	2	1.5	1,230
Fried sliced chicken with garlic with rice	300	3	5	510
Spaghetti with chili pork basil leaf	300	8	11	1,190
Stir-fried pork and basil with rice	380	3	11	500
Average	304	4	6.9	808

Table 2: Nutritional value for frozen ready meal served in a form of box

In reference to food and drug administration (2003), daily reference intake (DRI) that an individual should gain in a day was divided into 6 groups of according to age and sex: infants, adolescents, adults, pregnant women, and breastfeeding women. Since this study focused on working people at the age of 15 to 60 meaning that adolescents at the at of 15 and above were also accounted as well as adults between the age of 19 and 60. However, the amount was showed on a daily basis as illustrated in table 3. So, the data was transformed in form of per meal by dividing 3 assuming a person consumed 3 meals a day.

Groups according to age and gender	Kcal	Sodium (mg.)	Kcal	Sodium (mg.)
	Per day	Per day	Per meal	Per meal
Adolescents				
male				
(13-15 years old)	2,100	500-1,500	700	166.67-500
(16-19 years old)	2,300	525-1,600	766.67	175-533.33
female				
(13-15 years old)	1,800	400-1,250	600	133.33-416.67
(16-19 years old)	1,850	425-1,275	616.67	141.67-425
Adults				
male				
(19-30 years old)	2,100	500-1,475	700	166.67-491.67
(31-70 years old)	2,100	475-1,475	700	158.33-491.67
female				
(19-70 years old)	1,750	400-1,200	583.33	133.33-400
(31-70 years old)	1,750	400-1,200	583.33	133.33-400

Table 3: Daily reference intake table for Thai people

If an average energy content and quantity of sodium for the ready meal served in a form of box observed from 7-eleven were compared with the amount a person needed per meal, the average amount of sodium for chilled and frozen observed as 823.33 and 808 mg. respectively already exceeded the maximum a person needed per meal no matter what age or gender. In contrast, the average kcal for chilled and frozen observed as 339.67 and 304 kcal respectively did not reach the minimum level a person needed for that meal no matter what age or gender. This prove was consistent with the findings in 2012 from Celnik in United Kingdom that showed an unmatched proportion of kcal and GDA.

Moving from ready meal boxes and health-related concern, some researches relevant to ready meal and decision to purchase had been conducted in Thailand. Rather than focusing on both chilled and frozen ready meal served in a form of box, Poonsopin (2012) conducted the paper focusing on factors affecting Ezygo frozen food in

Bangkok. Quantitative method using descriptive statistic including percentage, frequency, mean, standard deviation and inferential statistic including t-test and ANOVA was employed. The outcome showed that demographic factors were statistically insignificant to purchasing decision behavior for Ezygo frozen food. Despite no significant effect on the frequency to buy, age had an effect on the quantity to buy. On the contrary, lifestyles and brand equity were related to purchasing decision behavior to buy Ezygo frozen food and this behavior affected the tendency to buy.

Similar research paper was also conducted by Chatthipmongkol and Jangphanish (2016). However, instead of focusing on factors influencing purchasing decision of ready meal, they focused on the relationship between consumers' decision making process for Thai frozen food, especially Surapon brand and marketing mix of 4P's. They explored and analyzed five levels of consumers' decision making process and the marketing mix. Quantitative approach was used with statistical method consisting of percentage, frequency distribution, means, standard deviation, and Chi-square test. The results indicated a statistically insignificant association between overall aspects of consumers' decision making process of the frozen food and marketing mix of 4P's. But there were some significant connections in certain aspect of each level of decision making process with 4P's such as price and promotion affecting purchasing decision.

However, the researches from Poonsopin (2012) and Chatthipmongkol and Jangphanish (2016) tended to focus on frozen food and purchasing decision which were affected from many factors whereas this study was centered on health consciousness and 7-eleven ready meal served in a form of box both chilled and frozen, not specific to frozen food.

Although health consciousness in terms of diet and 7-eleven ready meal served in a form of box seemingly had not been conducted, similar research had been done by Hoque et al. (2018). Instead of focusing on health and ready meal, they centered their work on the effect of health consciousness on perceived knowledge and belief to buy a liquid milk (LM) in Bangladesh. Quantitative approach was used for a sample of 712 households collected randomly in Dhaka and Chittagong through questionnaire. Descriptive statistics, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation model (SEM) are used with Chi-square test. The model

displayed in figure 2 was adapted from the theory of planned behavior (Ajzen, 1991). Several results were reported. Some showed that health consciousness had a positive effect on perceived knowledge and perceived knowledge affected purchase intent but health consciousness could not directly affect the intention to purchase.

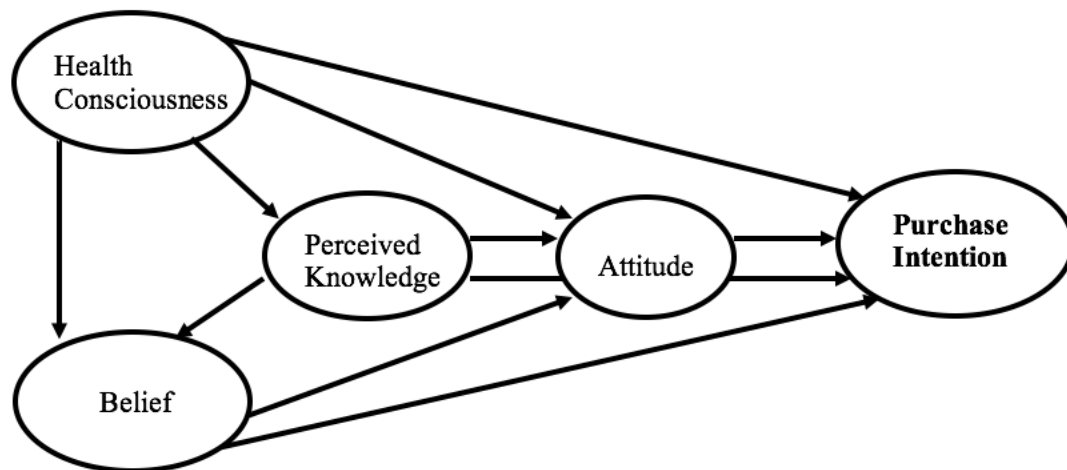


Figure 2: Health consciousness and liquid milk

Still, health consciousness that was measured in this paper was based on two questions of self-reported health consciousness by choosing from whether the respondents think they were aware of their health and their family health or not. This seemed to be insufficient to measure if the respondents are health or non-health conscious.

Chapter 3: Theoretical Model

Theory of planned behavior shown in figure 3 is used as theoretical framework for this study. The framework was from Ajzen (1991) based on the concept that intention to act in a certain behavior can be predicted by 3 variables: attitude for that behavior, individual norm, and controlling of behavior by individual perceived achievement. As mentioned respectively, the first one was an attitude towards the behavior which means the level where one agrees or disagrees to that mentioned behavior. The second one was a norm which refers to a force from the society to act or not to act that behavior. The third one is controlling of behavior by individual perceived achievement which refers to how much one perceives a likelihood of that behavior to achieve the goal. These three variables have a positive relationship with an intention to act on that certain behavior. Intention in this context refers to an aspect of trying to act and does not necessarily mean an actual action. That intention in turn has a positive relationship with the behavior.

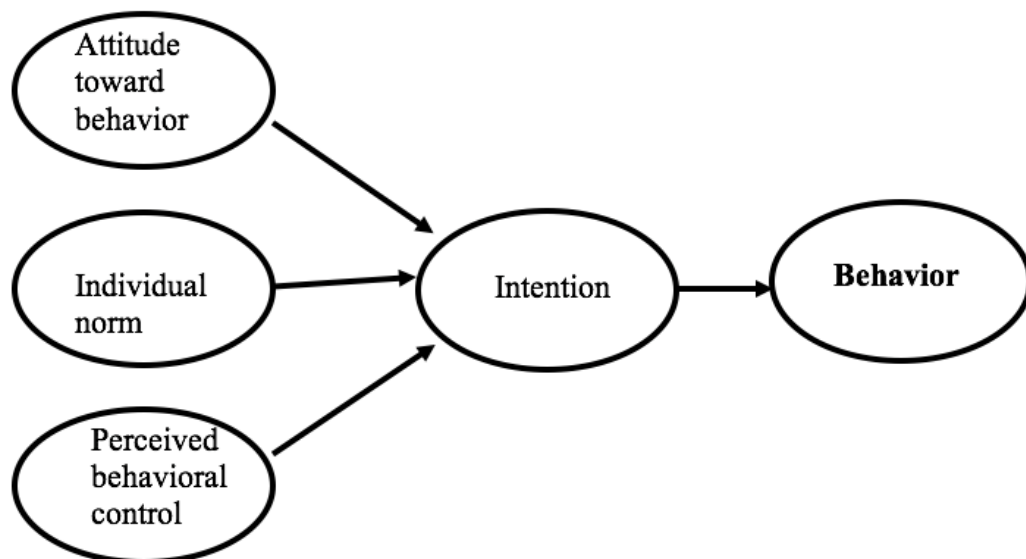


Figure 3: Theoretical model

Chapter 4: Empirical Model

The conceptual framework for this study illustrated in figure 4 adapted from the theoretical framework mentioned above showed a relationship from health consciousness in terms of diet to intention and decision to purchase ready meal where intention to purchase ready meal was also related to promotion of ready meal and convenience to access 7-eleven. Although theoretically the measurement of the factor went from the intention to purchase to the decision to purchase, since this study measures decision to purchase, not intention to purchase, the measurement was measured directly from demographic factors, health consciousness in terms of diet, promotion of ready meal, and convenience to access 7-eleven to decision to purchase without going through intention to purchase.

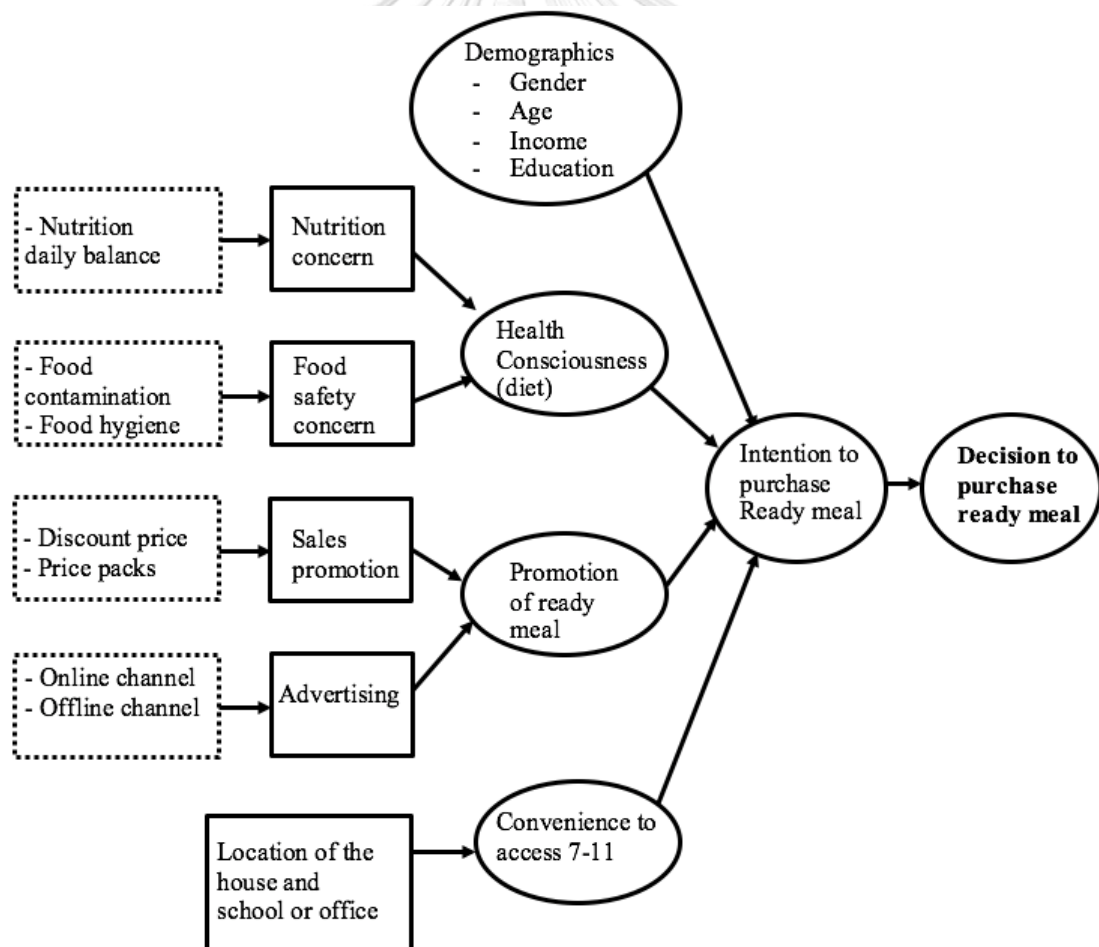


Figure 4: Conceptual Framework for this study

Each four major factor shall be explored from consumer's perspective starting from demographic factors, health consciousness in terms of diet, promotion of ready meal served in a form of box, and convenience to access 7-eleven. Firstly, demographic factors include gender, age, income, and education. Gender was expected to have different effects on the decision to purchase 7-eleven ready meal boxes. Being male was expected to have a positive effect on decision to purchase 7-eleven ready meal served in a form of box than being female. Higher age was expected to have a negative effect on decision to purchase 7-eleven ready meal served in a form of box. Higher mean income level and mean higher educational level were also expected to a negative effect on decision to purchase 7-eleven ready meal served in a form of box.

Secondly, an individual's concern over nutrition daily balance was one of an individual's concerns over nutrition whereas an individual's concerns over food contamination and food hygiene were two of the issues for an individual's concerns over food safety. It was expected that an individual's concern over nutrition and food safety had positive relationship with health consciousness in terms of diet but this health consciousness in terms of diet was expected to have a negative relationship with decision to purchase 7-eleven ready meal boxes. However, in reference with the theory the relationship from the attitude to an intention needed to be positive. But the relationship from health consciousness in terms of diet to decision to purchase 7-eleven ready meal served in a form of box was expected to be positive. Therefore, non-health consciousness was assumed here in order that non-health consciousness in terms of diet had a positive relationship on decision to purchase 7-eleven ready meal served in a form of box.

Thirdly, discount price and price packs were parts of the sales promotion while online and offline advertising channels were channels that consumers can be informed about promotion and advertisement. Both sales promotion and advertising can attract consumers to purchase. Accordingly, it was expected that sales promotion and advertising had positive relationship with promotion of ready meal served in a form of box and this promotion was expected to have a positive relationship with decision to purchase 7-eleven ready meal served in a form of box.

Fourthly, it was expected that location of an individual's house and school or office had a positive relationship with convenience to access 7-eleven and this

convenience was expected to have a positive relationship with decision to purchase 7-eleven ready meal served in a form of box.

From a conceptual framework mentioned above, the three major factors for this study can be written in the empirical model as follows. *DecisionPur* is decision to purchase 7-eleven ready meal served in a form of box, *Gen* is gender, *Age* is age, *Inc* is income level, *Edu* is educational level, *NB* is nutritional balance, *FC* is food contamination, *FH* is food hygiene, *DP* is discount price, *PP* is price pack, *OnAD* is online advertising channel, *OffAD* is offline advertising channel, and *CONV* is convenience to access 7-eleven based on location of the house and school or office.

$$\begin{aligned} DecisionPur = & \beta_0 + \beta_1 Gen + \beta_2 Age + \beta_3 Inc + \beta_4 Edu + \beta_5 NB + \beta_6 FC + \beta_7 FH \\ & + \beta_8 DP + \beta_9 PP + \beta_{10} OnAD + \beta_{11} OffAD + \beta_{12} CONV \end{aligned}$$

Nevertheless, since there are dummy variables which are gender and education, the empirical model to be run is written as follows where gender is given as 1 if it is male and 0 if female. For education, *EduBach* refers to having Bachelor degree if the variable is given as 1 and 0 otherwise. *EduBachHigh* refers to having degree higher than Bachelor degree if the variable is given as 1 and 0 otherwise.

$$\begin{aligned} DecisionPur = & \beta_0 + \beta_1 Gen + \beta_2 Age + \beta_3 Inc + \beta_4 EduBach + \beta_5 EduBachHigh \\ & + \beta_6 NB + \beta_7 FC + \beta_8 FH + \beta_9 DP + \beta_{10} PP + \beta_{11} OnAD + \beta_{12} OfAD \\ & + \beta_{13} CONV \end{aligned}$$

Chapter 5: Data Analysis

This study relied on primary data which was collected using online survey. Tool used to collect data was Google Forms. The questionnaire was designed based on close-ended questions. Although it was opened for open-ended suggestions, those suggestions were not used for the regression model.

For the data collection concerning sampling strategy, snowball sampling strategy was employed. For the data collection concerning the target population, this study focused on working people who dwelled in Bangkok metropolitan. The National Statistical Office reported the average number of working people in each quarter of 2019 of the population who were in the total labor force in Bangkok to be 5,324,234.2075 \approx 5,324,234 (“Labor Branch”, 2019). According to Singh & Masuku (2013), the sample size from the formula of Taro Yamane was calculated as $n = \frac{N}{(1+N(e)^2)}$ in which n means the sample size, N means the population size, and e means the level of precision. By calculating the number of working age population of 5,324,234 in Bangkok using precision level at 5 percent, the sample size for this research paper was calculated to be 399.97 \approx 400 (Israel, 1992). However, due to the time limitation for conducting the survey, the data was collected from 18 to 25 June, 2020. The data from only 239 respondents were collected.

This study employed quantitative approach. The data was analyzed using basic statistics and ordinary least squared method. For the basic statistics, number, percentage, mean, standard deviation, min, and max were used to approach each part of the questionnaires as follows. Table 4 shows the number and the percentage of the respondents categorized according to residence. Those who reside in Bangkok were accounted for the major respondents of the survey since they were the target population.

Residence	Number	Percentage
Residing in Bangkok	212	88.7
Not residing in Bangkok	27	11.3
Total	239	100

Table 4: Basic statistics summary for the respondents categorized according to residence

Table 5 shows the number and the percentage of the respondents in part 1 of the questionnaire as general information categorized according to gender, age, income level, educational level, and the information whether the respondents had health problem relevant to diet or not.

Part 1: General information		
Gender	Number	Percentage
Male	107	50.5
Female	105	49.5
Total	212	100
Age	Number	Percentage
Below 15 years old	0	0
15-24	69	32.5
25-34	109	51.4
35-44	22	10.4
45-54	10	4.7
55-60	2	1
Above 60 years old	0	0
Total	212	100
Income level	Number	Percentage
15,000 or lower	40	18.9
15,001-25,000	56	26.4
25,001-35,000	43	20.3
35,001-45,000	28	13.2
45,001 or higher	45	21.2
Total	212	100
Educational level	Number	Percentage
Lower than Bachelor degree	15	7.1
Bachelor degree	135	63.7
Higher than Bachelor degree	62	29.2
Total	212	100

Health problems related to diet	Number	Percentage
Yes	28	86.8
No	184	13.2
Total	212	100

Table 5: Basic statistics summary for general information of the respondents

Table 6 shows part 2 of the questionnaire which is a screening question whether the respondent used to consume 7-eleven ready meal boxes or not.

Part 2: 7-11 ready meal boxes experience		
Experience	Number	Percentage
Yes (do part 3.1)	204	96.2
No (do part 3.2)	8	3.8
Total	212	100

Table 6: Basic statistics summary for the respondents who used to or never consume 7-11 ready meal boxes

Table 7 shows part 3.1 of the questionnaire which is consumer's behavior categorized according to purchasing frequency, frequency for types of 7-eleven ready meal served in a form of box, frequency for type of serving for 7-eleven ready meal served in a form of box, number of box of 7-eleven ready meal served in a form of box purchased for each purchase, and 7-eleven ready meal served in a form of box spending on each purchase.

Part 3.1: Consumer's behavior		
Purchasing frequency	Number	Percentage
Once a month or lower	98	52.9
2-3 times a month	59	28.9
1-3 times a week	23	11.3
4-6 times a week	8	3.9
7 times a week or higher	6	2.9
Total	204	100
Types of ready meal boxes frequency	Number	Percentage
Chilled	35	17.2
Frozen	169	82.8
Types of serving for ready meal boxes frequency	Number	Percentage
One plate dish	190	93.1
Side dish or soup	14	6.9
Total	204	100
Number of ready meal boxes purchased for each purchase	Number	Percentage
1-2 boxes	197	96.6
3-4 boxes	3	1.5
5 boxes or higher	4	2
Total	204	100
Ready meal boxes spending on each purchase	Number	Percentage
20-39 Baht	27	13.2
40-59 Baht	117	57.4
60-99 Baht	44	21.6
100 Baht or higher	16	7.8
Total	204	100

Table 7: Basic statistics summary for the respondents' consuming behavior

Table 8 shows part 3.2 of the questionnaire which is the reason for the respondents who had never consumed 7-eleven ready meal served in a form of box. The data shows that those who had never consumed 7-eleven ready meal served in a form of box due to health belief reason were accounted the most while the rest of the respondents answered other reasons. Nevertheless, some of other reasons given by a respondent was that there were numerous alternatives to 7-eleven ready meal served in a form of box.

Part 3.2: Reasons for non-consumers		
Reasons	Number	Percentage
Quantity	0	0
Price	0	0
Promotion	0	0
Health belief	5	62.5
Other reasons	3	37.5
Total	8	100

Table 8: Basic statistics summary for the respondents' reasons as non-consumers

Table 9 shows part 4 of the questionnaire which is health consciousness in terms of diet categorized into nutritional balance and physical and microbiological contamination and food hygiene.

Part 4: Health consciousness in terms of diet				
Nutritional balance	Mean	S.D.	Min	Max
My daily meals are not nutritionally balanced.	2.975	0.746	1	5
I don't try to avoid high intake of sodium and sugar in my diet.	2.613	1.065	1	5
I don't like healthy cooking method such as boiling and steaming because nutrients can be retained without adding excessive amount of saturated fat.	2.505	1.076	1	5
I don't always check the nutrition information on food products.	2.721	1.218	1	5
Physical/ microbiological contamination and food hygiene	Mean	S.D.	Min	Max
I am not aware that bacteria, viruses, and parasites in my food can cause food poisoning.	1.966	0.912	1	5
I don't always check food expire date or best before date before I buy any food.	1.740	0.897	1	5
Food Hygiene				
I am not concern about my food hygiene and my family's and friends' food hygiene.	1.877	0.876	1	5

Table 9: Basic statistics summary for health consciousness in terms of diet

Table 10 shows part 5 of the questionnaire which is promotion for 7-eleven ready meal served in a form of box and convenience to access 7-eleven. For promotion, it was categorized into sales promotion and advertising where sales promotion consisted of discount price and price pack and advertising consisted of offline channel and online channel.

Part 5: Promotion and convenience				
Promotion: sales promotion	Mean	S.D.	Min	Max
I will buy ready meal boxes at 7-11 when there is a discount.	2.740	1.039	1	5
I will buy ready meal boxes at 7-11 when there is a price pack with other products.	2.745	1.048	1	5
Promotion: advertising				
I will buy ready meal boxes at 7-11 when I see ready meal boxes advertising sign at the checkout counter or in front of 7-11.	2.485	0.885	1	5
I will buy ready meal boxes at 7-11 when I see ready meal boxes advertising via online channels as Facebook, Line, and Instagram.	2.422	0.925	1	5
Convenience to buy	Mean	S.D.	Min	Max
The location of 7-11 that I buy ready meal boxes is convenient to access because it is near my house and my school or my office.	4.034	0.944	1	5

Table 10: Basic statistics summary for promotion for 7-eleven ready meal boxes and convenience to access 7-eleven

Table 11 shows part 6 of the questionnaire which is image of 7-eleven ready meal served in a form of box in the aspect of nutritional balance and food contamination and hygiene.

Part 6: 7-11 Ready meal boxes image in the aspect of nutritional balance, contamination, and hygiene				
7-11 Ready meal boxes image	Mean	S.D.	Min	Max
I think that 7-11 ready meal boxes contain enough and balanced nutrition.	2.632	0.792	1	5
I think that 7-11 ready meal boxes have food hygiene without contamination.	3.289	0.915	1	5

Table 11: Basic statistics summary for 7-eleven ready meal boxes image in the aspect of nutritional balance and food contamination and food hygiene

Table 12 shows part 7 of the questionnaire which is decision to purchase 7-eleven ready meal served in a form of box.

Part 7: Purchasing decision for 7-11 ready meal boxes				
Purchasing decision	Mean	S.D.	Min	Max
I will buy 7-11 ready meal boxes when I buy any meal next time.	2.976	1.098	1	5

Table 12: Basic statistics summary for purchasing decision for 7-eleven ready meal boxes

To summarize all the variables, statistics summary for all the variables used in empirical model for this study shows in table 13.

Variables	Mean	S.D.	Min	Max
Nutritional Balance	2.703	0.790	1	5
Food Contamination	1.853	0.763	1	5
Food Hygiene	1.877	0.877	1	5
Discount Price	2.740	1.039	1	5
Price Pack	2.745	1.048	1	5
Offline Advertising	2.485	0.885	1	5
Online Advertising	2.422	0.925	1	5
Convenience	4.034	0.944	1	5

Table 13: Basic statistics summary for all variables in empirical model for this study

For ordinary least square model, multiple regression is used where three main models are focused. The results from the models are illustrated in table 14.

OLS Regression Model			
Variables	OLS I	OLS II	OLS III
Constant	1.126 (1.641)	2.99*** (6.231)	1.157** (2.198)
Gender1	-0.111 (-0.707)	0.041 (0.255)	-0.099 (-0.653)
Age	0.008 (0.717)	0.014 (1.218)	0.008 (0.801)
Income	-0.000 (-0.516)	-0.000 (-0.44)	-0.000 (-0.423)
Education1	0.05 (0.165)	0.018 (0.057)	0.02 (0.067)
Education2	0.064 (0.192)	0.095 (0.273)	0.025 (0.079)
Nutritional Balance	-0.036 (-0.324)	-0.105 (-0.903)	
Food Contamination	-0.093 (-0.624)	-0.089 (-0.58)	
Food Hygiene	-0.136 (1.001)	0.044 (-0.318)	
Discount Price	0.252** (2.567)		0.246** (2.563)
Price Pack	-0.0218 (-0.219)		-0.0211 (-0.214)
Offline Channel	0.135 (1.066)		0.151 (1.213)
Online Channel	0.157 (1.344)		0.137 (1.213)
Convenience	0.101 (1.143)		0.091 (1.136)
Observation	204	204	204
Adjusted R-squared	0.089	-0.020	0.099
* indicates significant at 10% precision level ** indicates significant at 5% precision level ***indicates significant at 1% precision level			

Table 14: OLS Regression model

The results from each model are described as follows. From the first model, all the variables from the conceptual framework are included. These variables are gender, age, income, education, nutritional balance, food contamination, food hygiene, discount price, price pack, offline advertising, online advertising, and convenience. The p-value (f) for the model is 0.003 which is lower than 0.05. Therefore, it can be inferred that the model is valid. Also, the model has 8.9 percent adjusted r-squared which is higher than that of the second model. There is only one statistically significant variable at 95 percent confidence level and 5 percent precision level which is the discount price.

From the second model, the variables, discount price, price pack, offline advertising, online advertising, and convenience are excluded. The p-value (f) for the model is 0.861 which is higher than 0.05. Therefore, it can be inferred that the model is not valid. Also, the model has -2 percent adjusted r-squared. The lower adjusted r-squared as compared to the first model might indicate that variables in the second model might be able to explain the dependent variable which is decision to purchase 7-eleven ready meal boxes well.

From the third model, the main focused variables, nutritional balance, food contamination, food hygiene are excluded. The p-value for the model is 0.000 which is lower than 0.05. Therefore, it can be inferred that the model is valid. Also, the model has 9.9 percent adjusted r-squared which is higher than that of the first and second model. Like the first model, there is only one statistically significant variable at 95 confidence level and 5 percent precision level which is the discount price.

All the models have been tested for heteroscedasticity and collinearity. For White's test heteroscedasticity, the first model has p-value at 0.56 which is greater than 0.05. Therefore, the null hypothesis is failed to be rejected since heteroscedasticity does not present. the second model has p-value at 0.06 which is greater than 0.05. Therefore, the null hypothesis is failed to be rejected since heteroscedasticity does not present. The third model has p-value at 0.96 which is greater than 0.05. Therefore, the null hypothesis is failed to be rejected since heteroscedasticity does not present. For collinearity, the values for variance inflation factors of the variables from all the three models are not greater than 10. Therefore, collinearity problem cannot be indicated. To conclude, it seems that the problem of heteroscedasticity and collinearity is not present in all the models.

To discuss the results, the three models shall be compared. The first and the second model will be compared first. In the second model, the variables that are discount price, price pack, offline advertising, online advertising, and convenience are excluded to observe whether or not there will be any difference in the focused variables consisting of nutritional balance, food contamination, food hygiene. However, by dropping the mentioned variables, the model becomes invalid and the adjusted r-squared turns negative. The coefficient for the demographic variables and the focused variables also changed. This might indicate the omitted-variable bias since the variables that are excluded seem to be relevant to a dependent variable.

If comparing the first and the third model together, in the third model, the focused variables consisting of nutritional balance, food contamination, food hygiene are excluded. Even if the coefficient for the demographic variables and the variables including discount price, price pack, offline advertising, online advertising, and convenience changed, the coefficient for these variables do not change considerably. This might indicate that the focused variables for this study might not be important if compared to the variable concerning sales promotion which is the discount price in the third model. This shows that as the discount price increases by 1, the decision to purchase 7-eleven ready meal boxes increases by 0.246.

Chapter 6: Conclusion and Policy Implication

Before the results was concluded based on the models, it needed to be added that there were a number of variables that should be included in order to improve the model so that the independent variables would be able to explain dependent variables which was decision to purchase 7-eleven ready meal served in a form of box better. Such variables could be the size of the household and time period of purchase.

Because consumption of 7-eleven ready meal served in a form of box based on the idea of convenience, it can be assumed that consumers who are an individual buyer are likely to buy and consume individually during rush hour on the way to work. As size of the household that the respondents reside in might be possible to indicate whether the respondents reside alone or with family. If the respondents reside alone, they would be more likely to consume 7-eleven ready meal served in a form of box. Also, the time period of purchase would indicate if the time the respondents buy is in the rush hour or not. For example, if the respondents purchase 7-eleven ready meal served in a form of box in the morning between 6 to 9 a.m., it can be assumed that they are in the rush hour on the way to work. Nevertheless, due to the time limitation of the study, these variables had not been collected.

In conclusion, the comparison of the models above showed a statistical significance in the discount price variable and a statistical insignificance of the focused variable concerning health consciousness in terms of diet whether nutritional balance, food contamination, or food hygiene. This was consistent with the basic statistics including age of the respondents and amount of 7-eleven ready meal boxes per each purchase. Since the first and the second highest portion of the respondents age between 25 to 34 and 15 to 24 years old accounted for percent of the respondents respectively and 96.6 percent of the respondents buy only 1 to 2 boxes per each purchase, this might suggest that the majority of the respondents were individual buyers who purchase the meal for an individual consumption. Accordingly, discount price of 7-eleven ready meal served in a form of box would be more likely to attract these group of consumers and this showed the discount price as a significant variable.

Also, it was because the respondents whose age was between 25 to 34 years old were accounted as most of the respondents which were in the period of early adulthood. They might not be as health conscious in terms of diet as adults in the middle adulthood.

This was also suggested by Drewnowski et al. (1994) which showed that adults in older ages between 60 to 75 years old consumed wider variety of diet if compared to adults in the early ages between 20 to 30 years old. The older adults were likely to consume higher vitamin C and less salt, sugar, and saturated fat when compared to the younger adults. This seemed to fit with the result that 7-eleven ready meal served in a form of box did not have varied nutrition and had disproportionate nutrients and the majority consumers for the 7-eleven ready meal served in a form of box from the survey were young adults which were in the age of working people. Consequently, health consciousness in terms of diet for this study can be concluded that it does not significantly affect decision to purchase 7-eleven ready meal served in a form of box if compared to the discount price as a means of sales promotion for 7-eleven ready meal served in a form of box.

Policy implication from the results is that since consumers for 7-eleven ready meal served in a form of box seem to disregard for the health consciousness in terms of diet. Instead, the discount price could affect the decision to purchase 7-eleven ready meal served in a form of box, the company should focus more the sales promotion that is the discount price seeing that the consumers are likely to be an individual buyer. Still, price pack can also be used as the company's strategy for sales promotion if it focuses on an individual buyer. Price pack such as buying a box of ready meal and a bottle or a cup of beverage can be launched in order to meet consumers' characteristics and needs.

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