

FACTORS POSITIVELY AFFECTING PURCHASE INTENTION OF HACCP  
CERTIFIED PRODUCTS OF CONSUMERS IN CHENGDU CITY OF CHINA



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This independent Study Manuscript Presented to

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CERTIFICATION PRODUCTS OF CONSUMERS IN CHENGDU CITY OF  
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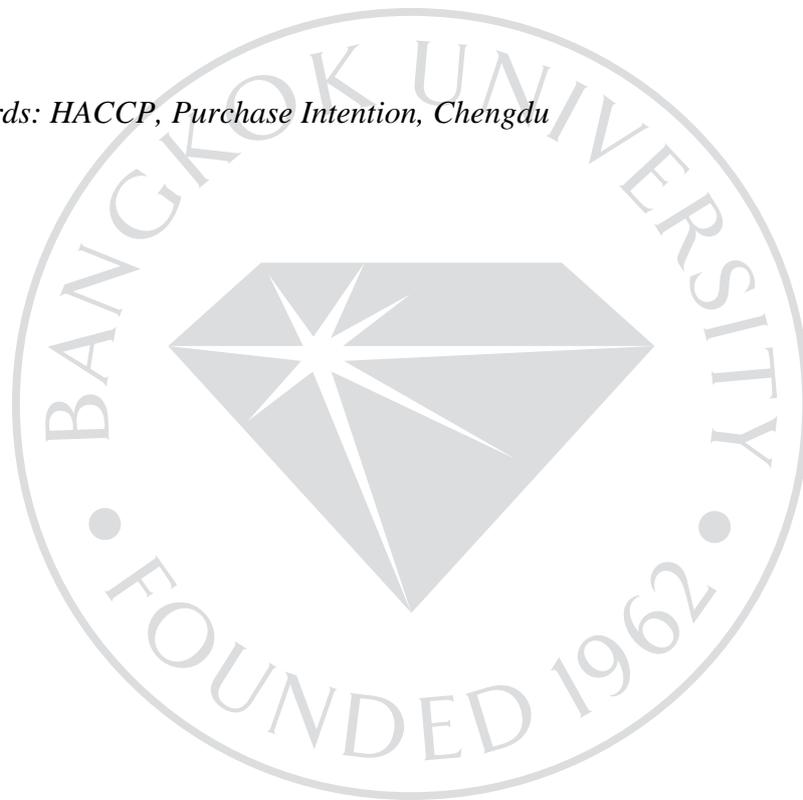
Advisor: Penjira Kanthawongs, Ph.D.

**ABSTRACT**

The purpose of this paper was to examine the independent factors positively impacting purchase intention of HACCP certified food products of people in Chengdu in China. Those independent factors were food safety in China, food attributes, food risk attitude, attitude towards HACCP, health consciousness, availability, knowledge on HACCP, and perceived price towards purchase intention of HACCP certified food products of people in Chengdu. Total samples of 325 people collected with survey questionnaire in Wuhou District, Jinniu District, and Jingjiang District in Chengdu. The researcher found that majority of sample respondents who answered the questionnaire were females, between 18-23 years old, singles, with bachelor education background, with salary under 3,000 RMB per month, working as private companies' employees. They purchased food every day, they always purchased staple food products and they believed advice from their families when purchasing food products and spend 50-100 RMB each time they purchased food. The data sets

utilized descriptive statistics and multiple regression analysis. The researcher found that availability ( $\beta=0.386$ ), attitude towards HACCP ( $\beta=0.322$ ) and health consciousness ( $\beta=0.187$ ) accounted for 64.4% of positive impact towards purchase intention of HACCP certified food products of people in Chengdu with statistical significant at .01.

*Keywords: HACCP, Purchase Intention, Chengdu*



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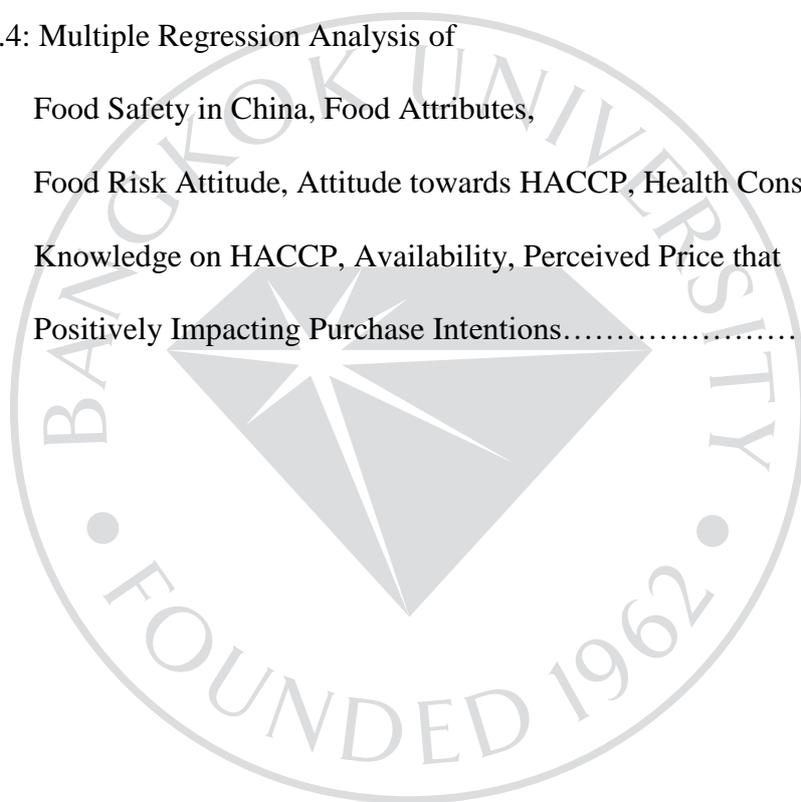
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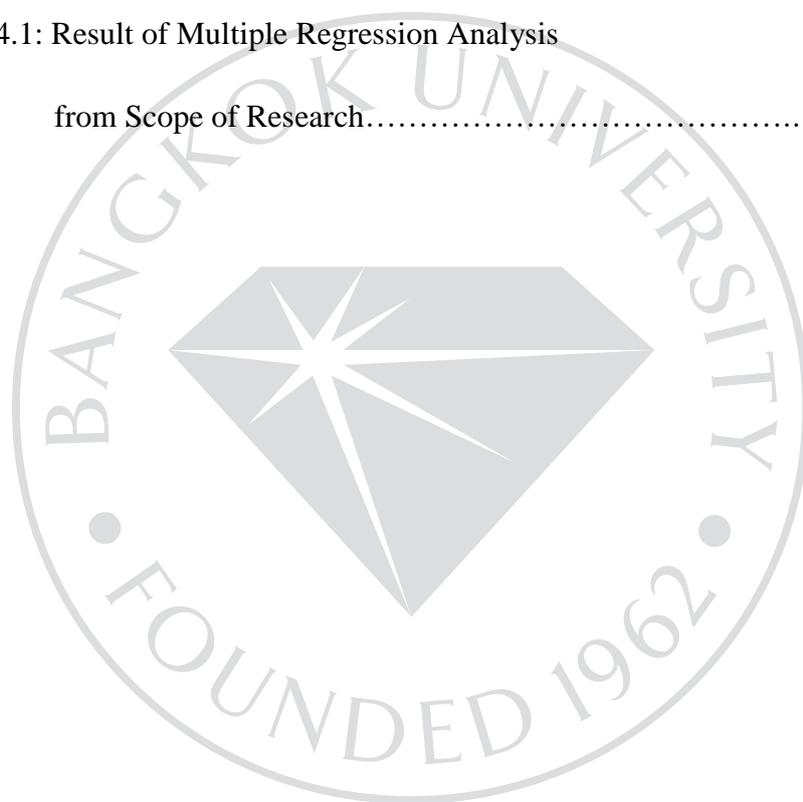
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## CHAPTER 1

### INTRODUCTION

#### 1.1 Rationale and Problem Statement

Chinese people have witnessed a prominent increase of their income during last 40 years, and there have been great changes in people's purchasing behaviors. The expectations of food products have become from food's tastes and appearances to food safety and health, there is also an obvious increase in frequency of eating out, and the consumption of various food products. Chinese consumers now have stronger purchasing power than before, and they are prefer to choose higher quality and safer food products (Liu & Niyongira, 2017). There would be a great potential market for selling high quality and safer food products in China.

On the other hand, food safety incidents have also pushed consumers to become more skeptical when buying food products (Liu & Niyongira, 2017). These food safety incidents originate from many factors including: over use of pesticide; cutting corners; improper way of packaging and etc. Chinese government has taken various steps to solve those problems, such as strengthening enforcement of law, but those actions did not work very effectively, there were still many food safety incidents happened in China. HACCP system was introduced by Chinese government to enhance the safety of food products and to close the gap between Chinese and international food safety standards.

Hazard analysis and critical control points (HACCP) is a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished foods to be unsafe. The HACCP system, which is science based and systematic, identifies specific hazards and measures for their control to ensure the safety of food. HACCP is a tool to assess hazards and establish control systems that focus on prevention rather than relying mainly on end-product testing. The HACCP system can be used at many sorts of food product, such as: condiment, beverage, rice, protein powder, milk, snack, etc. (Wikipedia, 2018).

But nowadays, only a few food enterprises, which was about 25.6%, have already implemented HACCP system on their companies, and they did this mainly for expanding foreign market (Jin, Zhou, & Ye, 2008). For food enterprises which are focusing on domestic market in China, it would be a good way to exceed competitors by implementing HACCP system on their production lines.

Chengdu, as a sub-provincial city and the most developed city in Southwest China, also is the 5th-most populous city in China, people there have strong motivation to try new things (David, Jianzhong, & Lei, 2008), and they take very much care about their health. The table below shows that Chengdu is the best performing city in China, 2017, both 1-year job growth and 1-year wage growth have significantly increased, which means people have more disposable personal income.

Therefore, I thought people living in Chengdu would prefer and afford HACCP certified food products.

Table 1.1: 2017 Best Performing 1st & 2nd- Tier Cities Rankings in China

Rank	City	Tier	Total Population (10,000 persons) (2016)	Job Growth (2015-2016)		Wage Growth (2015-2016)	
				Rank	Value	Rank	Value
1	Chengdu	2	1228.05	1	96.53%	2	24.02%
2	Chongqing	1	3371.84	4	3.41%	18	9.98%
3	Guiyang	2	391.79	13	0.15%	26	6.97%
4	Shenzhen	2	354.99	11	0.32%	14	11.40%
5	Nanjing	2	653.4	34	-7.35%	3	20.57%
6	Shanghai	1	1442.97	22	-1.04%	15	11.26%

Source: Best Performing Cities China. (2017). *2017 1st & 2nd- Tier Cities Rankings*.

Retrieved from <http://best-cities-china.org/2017-rankings-english.html>

## SWOT Analysis

HACCP system was mainly implemented in food and pharmaceutical industries, especially, Japan is famous for high quality products, therefore, author would like to compare three Japanese companies which have already implemented HACCP system to show the benefits they got from implementing HACCP system.

Table 1.2: Meiji, Takeda, Otsuka SWOT Analysis

	<b>Meiji</b>	<b>Takeda</b>	<b>Otsuka</b>
Strength	1. Known as high quality, a stable supplier. 2. Japan's leading company in the agricultural chemicals and veterinary drugs area.	1. Profitable position as the largest drug maker in Japan and global presence in nearly 25 countries. 2. Over 36,000 employees. 3. In a good position of endocrinology market.	1. Offers wide range of solutions in the treatment of cancer ranging from anti metabolites to many new strategies.

(Continued)

Table 1.2 (Continued): Meiji, Takeda, Otsuka SWOT Analysis

	<b>Meiji</b>	<b>Takeda</b>	<b>Otsuka</b>
Weakness	1. High fixed costs in Confectionery business.	1. Product recalls & discontinued projects have earlier affected brand's image.	1. Dependence on single drug Abilify which accounts for the 50% of the sales.
Opportunity	1. Developing businesses in emerging countries. 2. Embarking upon forward-looking strategic investment and endeavor to improve profitability.	1. It can enhance its positioning in monoclonal antibody development. 2. It can enter India's increasing generic market.	1. Growing in medical devices segment through Otsuka medical devices. 2. Increasing sales channels in Asian markets.
Threat	1. Impacts from the increasing economic uncertainty in Japan.	1. Japanese health care reforms encouraging generic prescribing.	1. Increasing stringency of healthcare regulations.

Source: *Meiji Holdings SWOT Analysis*. (n.d). Retrieved from <https://www.mbaskool.com/brandguide/food-and-beverages/5534-meiji-holdings.html>

*Takeda Pharmaceutical SWOT Analysis*. (n.d). Retrieved from <https://www.mbaskool.com/brandguide/pharmaceuticals-and-healthcare/2726-takeda-pharmaceutical.html>

*Otsuka SWOT Analysis*. (n.d). Retrieved from <https://www.mbaskool.com/brandguide/pharmaceuticals-and-healthcare/3081-otsuka.html>

With rising incomes, people are paying more attention about body health, and are willing to pay for high quality food products. (Singh & Verma, 2017) found that highly educated consumers and consumers with high income prefer to buy high quality foods more than the less educated consumers. Moreover, (Biao, Liyuan, Hao, Yanhua, & Mingli, 2015) suggested availability of food products in specialty stores or local supermarkets was essential for consumers, since if this supermarket does not have a wide selection of food products, many consumers will end up buying other ones. Furthermore, (Jin et al., 2008) indicated that the doubtful attitude of the Chinese food industry regarding the effectiveness of the HACCP system hampers its implementation.

## **1.2 Objectives of Study**

The objective of this research is to study factors positively affecting purchase intention of HACCP certified products of consumers in Chengdu City in China. These positive factors were food safety in China, food attributes, food risk attitude, attitude towards HACCP, health consciousness, knowledge on HACCP, availability of HACCP products, perceived price towards purchase intention of HACCP certified food products.

## **1.3 Contribution of Study**

1.3.1 The results of this research will encourage Chinese food enterprises to implement HACCP system in their company, which will enhance the quality of food products.

1.3.2 This research is to provide the information on the factors affecting consumer purchase intention.

1.3.3 This research expanded the information on how food safety in China, food attributes, food risk attitude, attitude towards HACCP, health consciousness, knowledge on HACCP, availability of HACCP products, and perceived price affected consumer purchase intention. This would be beneficial for the future researchers.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Related Theories and Previous Studies

2.1.1 Food safety in China is a hot topic, since Chinese society has become from food shortages to food plenty, the expectations of food products also has become from food's tastes and appearance to food safety and health, recently, these expectations have caused the development of highly regulated risk-based systems designed to support production of safe and health food products, but because of many factors involved, the responsibility for food safety in China is not clear, it dragged heavily on this development (Liu & Niyongira, 2017). Chinese authority is attempting to create a new regulatory system for this problem. Also, researches showed that confusion of consumer on who is responsible for food safety in China due to the government's function is not clear. Researchers found that, Chinese consumers had different ideas about who is being responsible for food safety in China, most of them (71.1%) thought that State Food and Drug Administration is being responsible of food safety in China, 53.6% of them gave the Ministry of Agriculture of China, followed by State Administration for Industry and Commerce of China (41.7%) (Liu & Niyongira, 2017).

2.1.2 Food attributes, as perceived by consumers, are critical factors when purchasing food products and are considered to be a major determinant for the success

of many product marketing strategies (Cristina Calvo & Jean-Pierre, 2016).

Consumers' preferences on different food product attributes is a well-researched area, and empirical analysis show that consumers use a variety of evaluation parameters while selecting the appropriate products to satisfy their consumption needs (Norshamliza & Peter, 2015). The researches on consumer behavior argues that the consumer perceives a product as a bundle of attributes like convenience, variety and choice, product price, non-seasonal availability, packaging, cleanliness and freshness. The buying decision or choices between the products largely depend on a combination of these attributes (Pinya & Mark, 2004).

2.1.3 For food risk attitude, in general, consumers in urban areas of China showed extremely worries and even scared about food safety problems as well as food risks (Liu, Pieniak, & Verbeke, 2014). However, the risk perception of rural consumers in China showed some difference from urban consumers. Besides pessimistic perception bias, some literature reported that rural consumers showed optimistic perception bias at the same time on food safety issues, there was even a saying or viewpoint especially popular in rural China, which was "No illness comes from sordid foods" (Wu, Zhong, Shan, & Qin, 2013). People with optimistic perception bias tend to believe that they are less at risk from a hazard than other people (Susan, Denise, & Lynn, 1999).

2.1.4 Attitude towards HACCP certified products is related to food safety attitudes and it differed according to the educational level of the consumer (Canan,

Asli, & Ayşe Özfer, 2010). The consumers pay more attention on food safety with higher educational level, and as the educational level increased, the consumers are more likely to purchase HACCP certified products, which proves the importance of education. In some developing countries, nutrition lessons in formal education are inadequate, because of this, many people lack basic knowledge on food safety and nutrition. Also, food safety education should be provided at every stage of formal and informal education in developing countries, it can be provided by means of seminars, courses and conferences, as well as using the printed and visual media and should be repeated at regular intervals to let people know the importance of food safety and take more care about their health, it will also help people accept HACCP certified products more easily (Canan et al., 2010).

2.1.5 Health benefit is one of the prime reasons to the consumers when purchasing food products. Health consciousness has a significant influence on consumer attitudes (Austin Rong-Da, 2014). Also, health variables have a positive effect on consumer attitude towards food products (Norshamliza & Peter, 2015), and health factors are the most important variables affecting consumers' willingness to purchase food products (Aikaterini, 2002). Some researchers mentioned that health awareness is a most essential factor in influencing consumers' purchase intentions, and also clarified that consumer purchase intentions were weak where health related awareness was low (Hee Yeon & Jae-Eun, 2011).

2.1.6 Knowledge is an important factor that can affect consumer behavior,

since consumers have a need to know what they purchase to satisfy their needs and wants, therefore, Consumer purchase intention would be different if consumers have different level of knowledge (Sapp, 1991). Purchase intention of HACCP certified food products also cannot be separated from knowledge of consumers about the HACCP system and food safety (Arvanitoyannis, Krystallis, & Krystallis, 2004). Thus, awareness and knowledge about HACCP system are essential in the consumer purchase decisions. The recent studies showed that the level of consumers' awareness and knowledge about HACCP system is an important factor to influence on purchase intention of HACCP certified food products. There is a little consumer awareness about HACCP certified food products around developing countries, but this awareness is high especially in American and Europe where people know more about HACCP system compared to rest of world (Suren & Tsovinar, 2016).

2.1.7 Limited availability of food products had a negative influence on consumer attitude and purchase behavior (Prashant & Bhimrao, 2015). Some studies showed that limited availability and difficulties in accessing are major barriers to purchasing food products (Susanne & Carolyn, 2005). On the other hand, easy availability of food products positively affected the purchase behavior (Anssi & Sanna, 2005). Consumers generally don't like to spend much time on searching for food products; they prefer products that are easily available (Prashant & Bhimrao, 2015). The easier access to the food products is important to increase consumption (Caldwell, Miller Kobayashi, DuBow, & Wytinck, 2009).

2.1.8 Perceived price is important in this marketing, since HACCP certified food products are generally more expensive than conventional products/foods especially in developing countries. A higher price has an effect on consumers in buying behavior (Barber, 2012). Higher price lead to negative impact on the likelihood of consumers purchasing the HACCP certified food products, and high price results in consumers switching to other products (Clare, Mehdi, & Peter, 2006). Consumers which have higher income level showed a more positive attitude towards HACCP certified food products and they show a willingness to pay the higher price (Jin et al., 2008). Low price sensitivity of consumers was found to positively affect food purchase behavior (Joris, Koen, Wim, Jeroen, & Guido Van, 2011). In contrast, some studies revealed the role of price in the purchase of HACCP certified products; results show that price has a significant effect on the intention to buy HACCP certified products (Hooker & Caswell, 2000).

2.1.9 The development of consumer behavior was supported by the Theory of Reasoned Actions (TRA) by (Fishbein & Ajzen, 1977). This theory explores motivational influences on behavior that is under the purview of an individual on his own will to provide a framework of consumer behavior. The TRA provides a relatively simple basis for prediction of attitude and prediction about behavior (Ajzen, 1991).

According to TRA, the performance of behavior is a combined function of intentions and perceived behavioral control. Evidence concerning the relationship

between intentions and actions has been collected with respect to many different types of behaviors (Sheppard, Hartwick, & Warshaw, 1988). It is observed that when behaviors pose no serious problems of control, they can be estimated from intentions with considerable accuracy (Ajzen, 1991). According to (Ajzen, 1991), intentions or willingness are significant predictors of actual buying behavior. Then, intention to purchase HACCP certified food products is a prerequisite in order to results in the actual purchase.

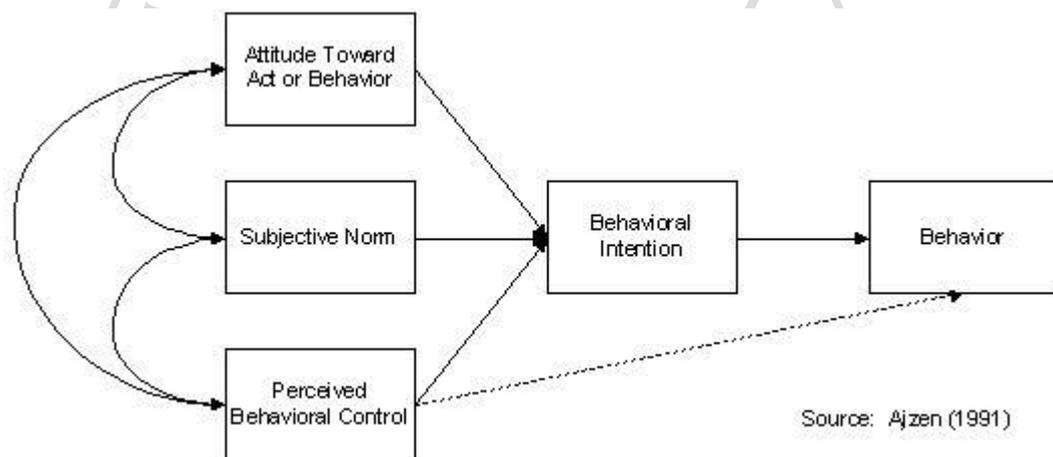


Figure 2.1: Theory of Planned Behavior

Source: Ajzen, A. (1991). The theory of planned behavior.

*Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Pungchoo, Kanthawongs, & Chitcharoen (2014) study on the effect of label product, communications of organic distinctiveness, global socioeconomic conditions, resource availability of organicity, assessment of statements about organic farming,

healthy and environmentally friendly, and buying motivation on purchase intention of organic product at shop A using survey method. Hypotheses testing analyzed by Multiple Regression Analysis. The result shows that most of the participants were female, ages between 21-30, bachelor's degree, company employees, and income range of 10,001-20,000 baht. After analysis at 0.05 levels of significance by Multiple Regression, Buying Motivation has beta equal to 0.258, Assessment of Statement about Organic Farming has beta equal to 0.242, Communications of Organic Distinctiveness has beta equal to 0.211, and Healthy and Environmentally Friendly has beta equal to 0.158 have effect on purchase intention of the organic product shop "A" in Pathumthani Province. Hence, organic product shop should consider the following factors and use in future marketing strategy.

Saengrattanachaiyakul, Kanthawongs, & Kanthawongs (2014) studied on the influence of convenience, social conscience, behavioral loyalty, product-based satisfaction, transaction-based satisfaction, and unconstrained eating toward purchase intention of consumers in Bangkok. The data in this research were collected by using survey method with 300 sample sizes. Hypotheses testing analyzed by Multiple Regression Analysis. The result shows that most of the participants were female, ages between 25-35, bachelor's degree, business owner, income below 30,000 baht, single, live in a detached house, consume fast food 1 time a week, favorite fast food menu were fried chicken, and consume fast food at the store. After analysis at 0.01 level of significance by Multiple Regression, only product-base satisfaction, convenience, and

behavioral loyalty have significance effect on purchase intention of fast food in Bangkok. The result from this research will benefit fast food brand and store.

## 2.2 Hypothesis

2.2.1 There is positive relationship between food safety in China and purchase intention.

2.2.2 There is positive relationship between food attributes and purchase intention.

2.2.3 There is positive relationship between food risk attitude and purchase intention.

2.2.4 There is positive relationship between attitude towards HACCP system and purchase intention.

2.2.5 There is positive relationship between health consciousness and purchase intention.

2.2.6 There is positive relationship between availability and purchase intention.

2.2.7 There is positive relationship between knowledge on HACCP and purchase intention.

2.2.8 There is positive relationship between perceived price and purchase intention.

2.2.9 food safety in China, food attributes, food risk attitude, attitude towards HACCP, health consciousness, knowledge on HACCP, availability, and perceived price have positive influence on purchase intention of people living in Chengdu City in China.

### 2.3 Conceptual Framework

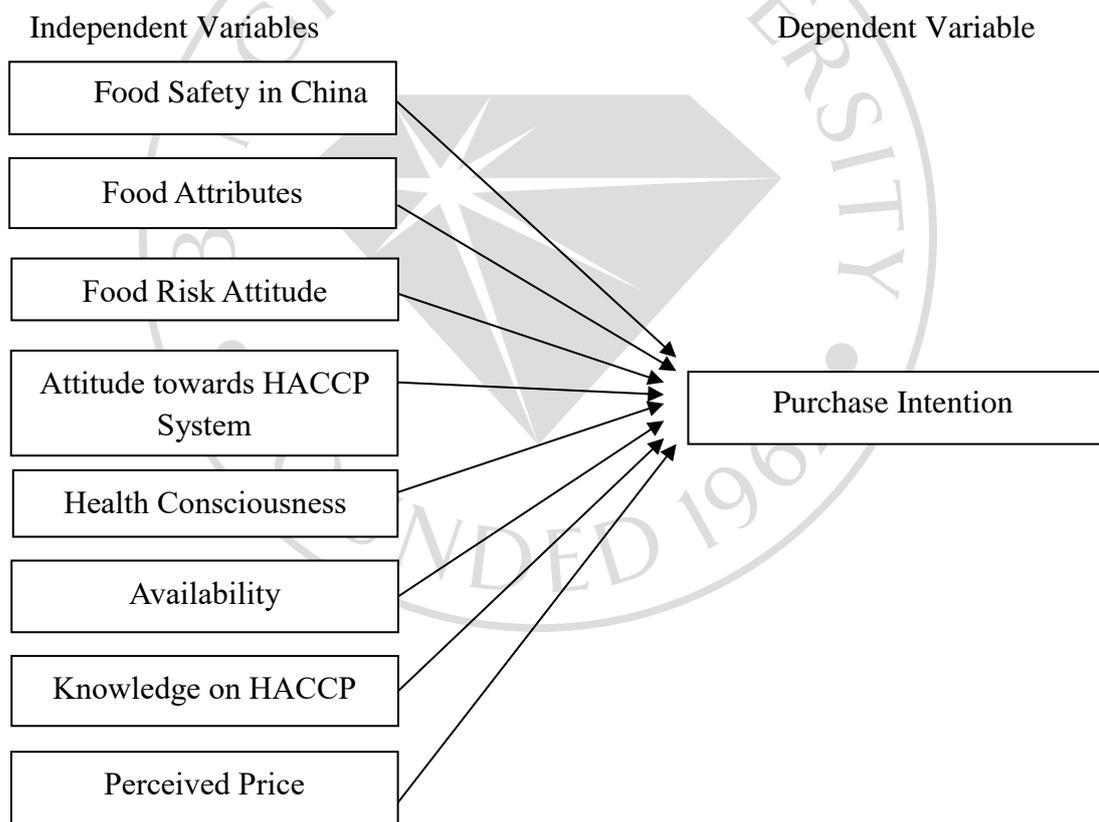


Figure 2.2: Theoretical Framework for Purchase Intention

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

This research objective is to explore the factors positively affecting consumer purchase intention of HACCP certified products in Chengdu city in China. The methodology of this research is based on quantitative approaches. This research use survey method and collect data by questionnaire.

#### **3.2 Population and Sample Selection**

Populations in this research were recruited by asking people who living in Chengdu City in China. The researcher conducted survey questionnaires to students and staffs from one university and to office workers from two office buildings in Wuhou District, Jinniu District and Jingjiang District in Chengdu, since there is much evidence showing that these three districts are the most developed ones in Chengdu City. Besides, young people are much more willing to try new things.

The sample size was calculated from 40 pilot questionnaires by using G\*power version 3.1.9.2, created by (Cohen, 1977) and approved by several researchers (Erdfelder, Faul, & Buchner, 1996), with the Power ( $1-\beta$ ) of 0.95, Alpha ( $\alpha$ ) of 0.05, Number of Test Predictor of 8, Effect Size of 0.0956503 (Calculated by Partial  $R^2$  of 0.0873). As a result of G\*power calculation, the minimum number of the

total sample size was 246 (Cohen, 1977). Consequently, total 325 sets of the questionnaire would be collected from participants.

### **3.3 Research Instrument**

3.3.1 Exploring published articles and journals from [www.emeraldinsight.com](http://www.emeraldinsight.com) and [www.sciencedirect.com](http://www.sciencedirect.com) which related to the customer purchase intention, customer purchase decision, customer satisfaction, together with guidance from an advisor.

3.3.2 Creating questionnaire form which selected from articles and journals to get approval from an advisor.

3.3.3 Pass completed questionnaire form to 2 experts in the food industry, Mr. Zhang Hanlin, Chengdu AoKun Food Trading Co., LTD, Manager, and Mrs. Li Jing, JiaXin Food Co., LTD, Quality Assurance Director gave the advices to be more precise. After that, finalizing questionnaire referred to comments from the experts including an advisor's guidance.

3.3.4 Launching 40 pilots testing of questionnaires. Next step was to conduct the reliability test of each variable in individual factor by using Cronbach's Alpha Coefficient. Value of Cronbach's Alpha was between  $0 \leq \alpha \leq 1$ , higher value means higher reliability and closely related of a section.

3.3.5 Analysis of the reliability test was executed for 40 pilots testing of questionnaires in order to ensure the grouping of question and the consistency of each factor were aligned with theories of study.

From instruments mentioned above, the questionnaire form that created from related principles could be divided into three parts with total fifty questions.

**Part 1:** 6 Consist of 11 questions which were close-ended response questions about demographic and general information, such as Gender, Age, Child, Education, Salary, and Occupation. Another 5 questions were about respondent's buying behavioral e.g. Your type(s) of food products frequent consumed? What kinds of food that you mostly consume? Who has most influence on your food products purchase intention?

**Part 2:** Closed-ended response questions about "Factors Positively Affecting Purchase Intention of HACCP Certified Products of Consumers in Chengdu City in China". The purpose was to gain the attitude toward questions of each variable consist of:

Food Safety in China	4 Questions
Food Attributes	4 Questions
Food Risk Attitude	4 Questions
Attitude of HACCP	4 Questions
Health Consciousness	4 Questions
Knowledge on HACCP	5 Questions

Availability	4 Questions
Perceived Price	4 Questions
Purchase Intention	4 Questions

This part was evaluated from interval scale by using a five-point scales ranking from 1 (lowest agreeable level) to 5 (Highest agreeable level).

**Part 3** Open-ended response question for participants to recommend other factors that might affect purchase intention to HACCP certified products.

### 3.4 Testing Research Instrument

The researcher examined the validity and appropriateness of each question with 3 experts using an Index of item-Objective Congruence: IOC. After revised questionnaires align with experts recommend, the 40 pilots testing of questionnaires were collected. The Cronbach's Alpha Coefficient of each factor was computed, result value was between 0.668-0.950 which exceed 0.65 regarding the suggested level.

There is one question deleted from Food Safety in China (FSC), one question deleted from Food Attributes (FA), two questions deleted from Knowledge on HACCP (KOH) and one question deleted from Perceived Price (PP) in order to increase the Cronbach's Alpha Coefficient result to reach 0.65 suggested levels (Nunnally, 1978).

Table 3.1: Cronbach's Alpha Coefficient of 40 Pilots Testing of Questionnaires

Questionnaire	n = 40	n = 325
<b>Variable Factor</b>		
Food Safety in China (FSC)	.784	.764
Food Attributes (FA)	.675	.661
Food Risk Attitude (FRA)	.957	.787
Attitude of HACCP (ATT)	.892	.905
Health Consciousness (HC)	.835	.835
Knowledge on HACCP (KOH)	.977	.756
Availability (AVA)	.738	.779
Perceived Price (PP)	.981	.815
<b>Independent Factor</b>		
Purchase Intention (PI)	.925	.886

The researcher used factor analysis technique to investigate construct validity as well as analyzed factor loading value of each factor. However, factor loading value result should exceed 0.3 to ensure the reliable component of questions.

Factor analysis was conducted based on these factors: Food Safety in China (FSC), Food Attributes (FA), Food Risk Attitude (FRA), Attitude of HACCP (ATT), Health Consciousness (HC), Knowledge on HACCP (KOH), Availability (AVA), Perceived Price (PP) and Purchase Intention (PI) at n = 325.

Table 3.2: Factor Analysis of Factors Positively Affecting Purchase Intention of HACCP Certified Products of Consumers in Chengdu City in China at n=325

FSC1	0.777								
FSC2	0.740								
FSC4	0.837								
FA1		0.604							
FA2		0.777							
FA4		0.797							
FRA1			0.590						
FRA2			0.846						
FRA3			0.753						
FRA4			0.819						
ATT1				0.781					
ATT2				0.753					
ATT3				0.776					
ATT4				0.827					
HC1					0.395				
HC2					0.749				

(Continued)



### 3.5 Statistics for Data Analysis

The questionnaires data were analyzed using statistical analysis software named SPSS version 23 by using Statistical Significant level of .01.

Descriptive statistics analysis such as demographic, general information and respondent's exercise behavior were measured by using Frequency and Percentage; whereas the scale ranking as individual factor, health behaviors, social support, social influence, satisfaction, accessibility, outcome quality, perceived quality of preferred fitness studio and future intentions were measured by using Mean ( $\bar{x}$ ) and Standard Deviation (S.D). Furthermore, Pearson's Correlation Coefficient and Multiple Regression analysis were used for Inferential statistical analysis to evaluate independent variable.

## CHAPTER 4

### RESEARCH RESULTS

The purpose of this research is to explore factors positively affecting purchase intention of HACCP certified products of consumers in Chengdu city in China. The data was collected from 325 respondents by the survey questionnaire, and then the data analysis completed by SPSS version 23. The Cronbach's Alpha Coefficient of each factor was computed which had the result value between 0.654-0.993 as table 3.1, meaning that all alpha coefficient passed the suggested level (Nunnally, 1978) and had proven to be reliable.

#### 4.1 Summary of Demographic Data

The 325 respondents consisted of 68% females and 32% males, with the age between 18-23 years old which calculated as 45.9%. 65.8% of them do not have child, and the majority of the population had bachelor degree accounted for 59.4%. Most of the respondents or about 36.9% were working in private companies, with the largest group of income range was 3,000 RMB & below with ratio 49.2%. 88.9% of them usually consume conventional food products, 59.1% of them purchase food products every day, most of them, which is 70.2% consume staple food mostly. 48% of respondents believe their own decision when purchase food products and 66.7% of them spend 50-100RMB each time purchase food.

## 4.2 Results of Research Variables

The analysis of the correlation between independent variable and the dependent variable using Pearson's Correlation Coefficient of Food Safety in China, Food Attributes, Food Risk Attitude, Attitude towards HACCP, Health Consciousness, Knowledge on HACCP, Availability, Perceived Price that positively impacting Purchase Intention to HACCP certified products.

Table 4.1: Analysis of Correlation between Independent Variables and The Dependent Variable Using Pearson's Correlation Coefficient (Descriptive Statistic)

	Mean	S.D.	N
Food Safety in China	4.2779	0.59750	325
Food Attributes	3.6851	0.59807	325
Food Risk Attitude	2.2400	0.78229	325
Attitude towards HACCP	3.6585	0.72800	325
Health Consciousness	3.7462	0.63842	325
Knowledge on HACCP	3.5723	0.65746	325
Availability	3.6669	0.52780	325
Perceived Price	3.6554	0.77083	325
Purchase Intention	3.8254	0.60164	325

Table 4.2: Analysis of Correlation Between Independent Variables and The Dependent Variable Using Pearson's Correlation Coefficient of Food Safety in China, Food Attributes, Food Risk Attitude, Attitude towards HACCP, Health Consciousness, Knowledge on HACCP, Availability, and Perceived Price that Positively Affect Purchase Intention of People Living in Chengdu

Variable	FSC	FA	FRA	ATT	HC	KOH	AVA	PP	PI
Food Safety in China (FSC)	1								
Food Attributes (FA)	.277**	1							
Food Risk Attitude (FRA)	-.213**	-.253**	1						
Attitude towards HACCP (ATT)	.279**	.354**	-.180**	1					
Health Consciousness (HC)	.208**	.385**	-.367**	.765**	1				
Knowledge on HACCP (KOH)	-.050	.228**	-.119*	.563**	.650**	1			
Availability (AVA)	-.002	.206**	-.090	.583**	.665**	.682**	1		
Perceived Price (PP)	.112*	-.092	.272**	-.110*	-.104	-.211**	-.143**	1	
Purchase Intention (PI)	.226**	.352**	-.166**	.710**	.703**	.532**	.681**	-.045	1

**\*\*Correlation is significant at the .01 level.**

**\*Correlation is significant at the .05 level.**

According to table 4.2, Hypothesis can explain as the following

Hypothesis 1, Food Safety in China factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Food Safety in China has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.226) at .01 significant level.

Hypothesis 2, Food Attributes factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Food Attributes has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.352) at .01 significant level.

Hypothesis 3, Food Risk Attitude factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Food Risk Attitude has no positive relationship toward Purchase Intention (Pearson's Correlation = -0.166) at .01 significant level.

Hypothesis 4, Attitude toward HACCP factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Attitude toward HACCP has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.710) at .01 significant level.

Hypothesis 5, Health Consciousness factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Health Consciousness has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.703) at .01 significant level.

Hypothesis 6, Knowledge on HACCP factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Knowledge on

HACCP has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.532) at .01 significant level.

Hypothesis 7, Availability factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Availability has a positive relationship toward Purchase Intention (Pearson's Correlation = 0.681) at .01 significant level.

Hypothesis 8, Perceived Price factor has a positive relationship toward Purchase Intention or not. The result from the analysis show that Perceived Price does not have a positive relationship toward Purchase Intention (Pearson's Correlation = -0.045).

#### 4.3 Results of Hypothesis Testing

Table 4.3: Analysis of Variance Using ANOVA of Food Attributes, Food Risk Attitude, Attitude toward HACCP, Health Consciousness, Knowledge on HACCP, Availability, and Perceived Price that Positively Affect Purchase Intention of People Living in Chengdu

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	75.552	8	9.444	71.522	.000 <sup>b</sup>
Residual	41.726	316	0.132		
Total	117.278	324			

From table 4.3, ANOVA analysis confirmed that independent variables consist of Food Safety in China, Food Attributes, Food Risk Attitude, Attitude toward HACCP, Health Consciousness, Knowledge on HACCP, Availability have influence on dependent variable, Purchase Intention due to Sig. of the equation equal 0.000 at .01 significant level.

Table 4.4: Multiple Regression Analysis of Food Safety in China, Food Attributes, Food Risk Attitude, Attitude toward HACCP, Health Consciousness, Knowledge on HACCP, Availability, and Perceived Price that Positively Affect Purchase Intention of People Living in Chengdu

<b>Dependent Variable: Purchase Intention, R = 0.803, R<sup>2</sup> = 0.644, Constant(a) = -0.085</b>						
<b><u>Independent Variables</u></b>	<b><u>β</u></b>	<b><u>Std Error</u></b>	<b><u>t</u></b>	<b><u>Sig</u></b>	<b><u>Tolerance</u></b>	<b><u>VIF</u></b>
<b>(Constant)</b>		<b>0.262</b>	<b>-0.325</b>	<b>0.746</b>		
Food Safety in China (FSC)	<b>0.069</b>	<b>0.038</b>	<b>1.814</b>	<b>0.071</b>	<b>0.774</b>	<b>1.292</b>
Food Attributes (FA)	<b>0.084</b>	<b>0.038</b>	<b>2.219</b>	<b>0.027</b>	<b>0.793</b>	<b>1.261</b>

(Continued)

Table 4.4 (Continued): Multiple Regression Analysis of Food Safety in China, Food Attributes, Food Risk Attitude, Attitude toward HACCP, Health Consciousness, Knowledge on HACCP, Availability, and Perceived Price that Positively Affect Purchase Intention of People Living in Chengdu

Food Risk Attitude (FRA)	<b>0.012</b>	<b>0.031</b>	<b>0.300</b>	<b>0.764</b>	<b>0.698</b>	<b>1.433</b>
Attitude toward HACCP (ATT)	<b>0.322**</b>	<b>0.046</b>	<b>5.769</b>	<b>0.000</b>	<b>0.362</b>	<b>2.766</b>
Health Consciousness (HC)	<b>0.187**</b>	<b>0.063</b>	<b>2.801</b>	<b>0.005</b>	<b>0.253</b>	<b>3.952</b>
Knowledge on HACCP (KOH)	<b>-0.036</b>	<b>0.047</b>	<b>-0.709</b>	<b>0.479</b>	<b>0.430</b>	<b>2.323</b>
Availability (AVA)	<b>0.386**</b>	<b>0.058</b>	<b>7.520</b>	<b>0.000</b>	<b>0.428</b>	<b>2.339</b>
Perceived Price (PP)	<b>0.054</b>	<b>0.029</b>	<b>1.477</b>	<b>0.141</b>	<b>0.841</b>	<b>1.189</b>

\*\*Significant at the .01 level

From table 4.4, Hypothesis can be explained from Multiple Regression Analysis. Independent variable can predict purchase intention and Attitude toward HACCP (Sig. = 0.000), Health Consciousness (Sig. = 0.005) and Availability (Sig. = 0.000) can predict purchase intention significantly. On the other hand, Food Safety in

China (Sig. = 0.071), Food Attributes (Sig. = 0.027), Food Risk Attitude (Sig = 0.764), Knowledge on HACCP (Sig. = 0.479), and Perceived Price (Sig =0.141) cannot predict purchase intention significantly.

The most predictive independent variable is Availability ( $\beta = 0.386$ ) followed by Attitude towards HACCP ( $\beta = 0.322$ ). These following variables can explain influence on purchase intention of people living in Chengdu at 64.4%. Another 35.6% are influence from others variable that are not use in this research. The standard error is  $\pm 0.262$  using the following equation.

$$Y (\text{Purchase Intention}) = -0.085 + 0.386 (\text{Availability}) + 0.322 (\text{Attitude towards HACCP}) + 0.187 (\text{Health Consciousness})$$

From this equation

If Availability increase by 1 point and other factors remain the same. Purchase Intention will increase by 0.386 point.

If Attitude towards HACCP increase by 1 point and other factors remain the same. Purchase Intention will increase by 0.322 point.

If Health Consciousness increase by 1 point and other factors remain the same. Purchase Intention will increase by 0.187 point.

Data from table 4.4 used to test following hypothesis.

Hypothesis 9, by using Multiple Regression Analysis. The result show that Attitude towards HACCP, Health Consciousness and Availability have positive influence on Purchase Intention at statistical significant level of .01. While Food Safety in China, Food Attribute, Food Risk Attitude, Knowledge on HACCP and Perceived Price have no positive influence on Behavioral Intention at .01 statistical significant.

In statistics, Multicollinearity is a circumstance of a very high relationship among the independent variables (Statistics Solutions, 2017). High multicollinearity indicated the high degree of correlation between independent variables which might be caused the deviation from the true value. Likewise, multicollinearity should not occur as it could lead to incorrect interpreting of multiple regression results.

Multicollinearity can be examined by Variance Inflation Factor (VIF) value or Tolerance value. Variance Inflation Factor (VIF) value should not exceed 4 and Tolerance value should exceed 0.2 (Miles & Shevlin, 2001).

The result from table 4.4 showed that Tolerance value of each independent variables exceeded 0.2 with the less Tolerance was 0.253. Furthermore, Variance Inflation Factor (VIF) value of each independent variables values not over than 4 with the highest value was 3.952. All in all, there had no Multicollinearity among the independent variables.

#### **4.4 Summary of Hypothesis Testing**

Result of Multiple Regression Analysis found that Attitude towards HACCP, Health Consciousness and Availability have positive relationship or positive influence toward purchase intention of people living in Chengdu city in China. While Food Safety in China, Food Attribute, Food Risk Attitude, Knowledge on HACCP and Perceived Price have no positive relationship or positive influence toward purchase intention of people living in Chengdu city in China as Figure 4.1 below:

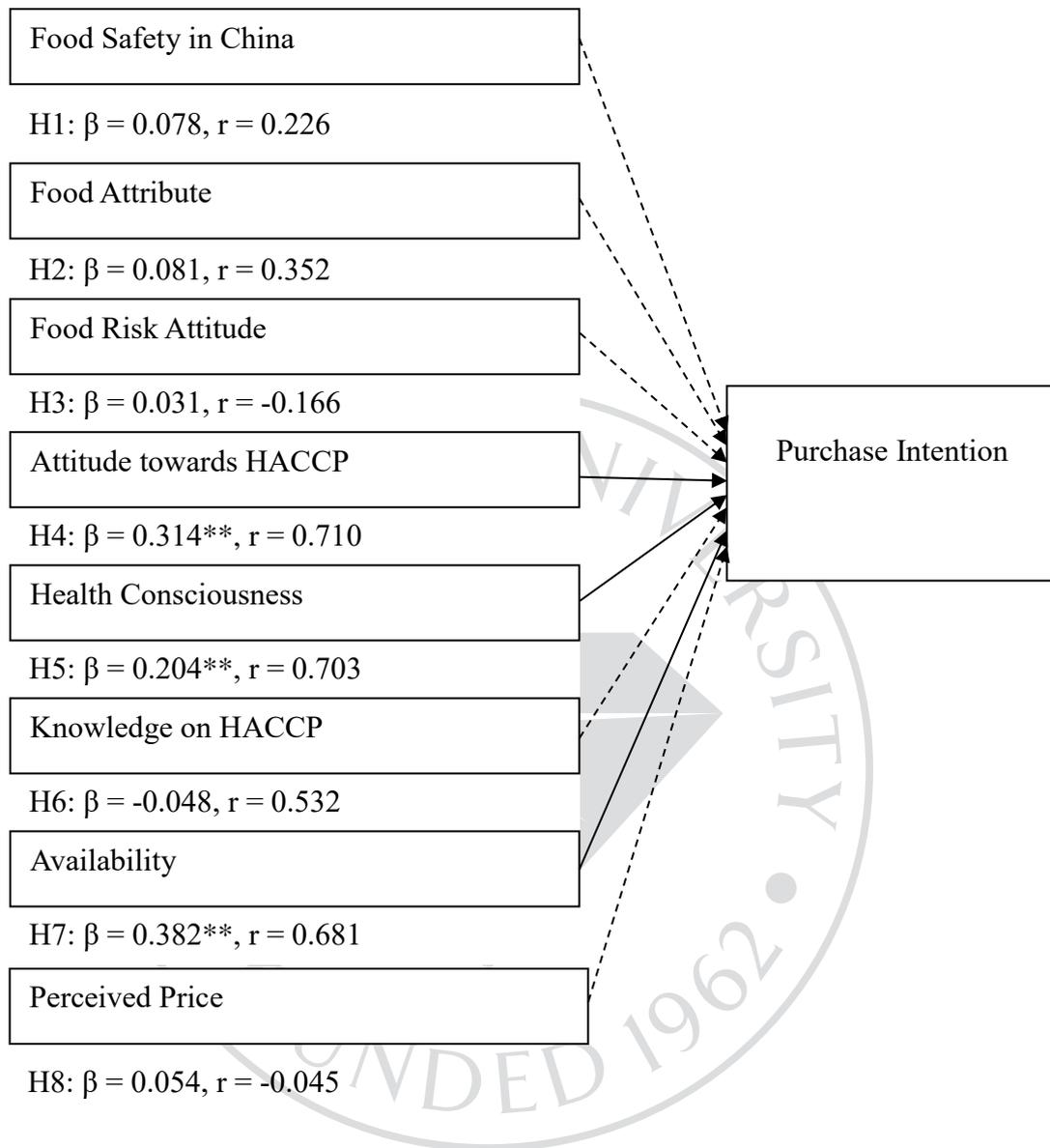
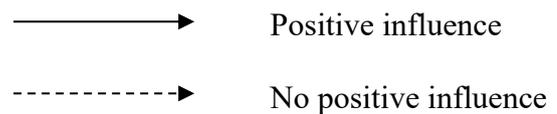


Figure 4.1: Result of Multiple Regression Analysis from Scope of Research

\*\*Significant at the .01 level



## CHAPTER 5

### DISCUSSION

The purpose of this study is to describe the positive impact factors of food safety in China, food attribute, food risk attitude, Attitude towards HACCP, health consciousness, knowledge on HACCP, availability, and perceived price toward consumer purchase intention of people living in Chengdu. A quantitative research method was used for this research through questionnaires surveys to collecting data. Populations in this research are people who living in Chengdu City in China. The sample size of this research is 325. The data analysis completed by SPSS version 23, the results could be concluded as the following.

#### 5.1 Research Findings and Conclusion

The majorities of respondents were female, ages between 18-23 years old, single, bachelor education background, has salary under 3,000 RMB per month, private employee, always purchase conventional food products and purchase food every day, always purchase staple food products, believe advice from their families when purchasing food products and spend 50-100 RMB each time they purchase food.

Regarding the analysis results based on hypothesis could be summarized that there was three accepted hypothesis as follow: Availability ( $\beta = 0.386$ ), Attitude toward HACCP ( $\beta = 0.322$ ), and Health Consciousness ( $\beta = 0.187$ ). Therefore, the result could be concluded that Attitude towards HACCP, Health Consciousness and Availability had positive influence purchase intention of people living in Chengdu

city in China at statistically significant level of .01. In addition, these three factors were explained the positively impacting on purchase intention of people living in Chengdu city in China at 64.4% whereas other 35.6% were influenced by other variables which were not in used in this research. Furthermore, the result of Variance Inflation Factor (VIF) value was not exceed 4 that means there had no Multicollinearity among the independent variables. The standard error is  $\pm 0.262$  using the following equation:

$$Y (\text{Purchase Intention}) = -0.085 + 0.386 (\text{Availability}) + 0.322 (\text{Attitude towards HACCP}) + 0.187 (\text{Health Consciousness})$$

## 5.2 Discussion

The research is to examine the factors positively impacting purchase intention to HACCP certified products of customers in Chengdu; which comprised of food safety in China, food attribute, food risk attitude, attitude towards HACCP, health consciousness, knowledge on HACCP, availability, and perceived price. Based on the sample size recommendations by Cohen (1977), 325 respondents were recruited to complete the survey with questionnaire method. Then analyzed the data by SPSS program and found the interesting points as the following.

Hypothesis 1, Food Safety in China factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that Food Safety in China has no positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. If the consumers don't know who is in charge of managing, controlling and inspecting food safety in China, this will lead to less trust and confidence in food safety regulation and enforcement (Liu & Niyongira,

2017). However, if consumer believe some kinds of food products are safer and better, they would prefer to purchase those products (Liu, Pieniak, & Verbeke, 2013). Therefore, there is no relationship between who is in charge of food safety in China and consumer's purchase intention.

Hypothesis 2, food attribute factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that food attribute has no positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. Consumers use a variety of evaluation parameters while selecting the appropriate products to satisfy their consumption needs (Norshamliza & Peter, 2015). However, for HACCP food products, consumer focus on the safety of food products more than other conventional food products, and consumers who are willing to purchase HACCP food products are treasure their health more than other people, hence, if they believe HACCP products are safer, they would purchase that even if it may be not as delicious or good looking as conventional food products.

Hypothesis 3, food risk attitude factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that food risk attitude has no positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. As other researcher instigated, some people with optimistic perception bias tend to believe that they are less at risk from a hazard than other people (Wu et al., 2013).

Hypothesis 4, attitude towards HACCP factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that attitude towards HACCP has a positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. Researcher also indicated that

consumers pay more attention on food safety with higher educational level, and as the educational level increased, the consumers are more likely to purchase HACCP certified products (Canan et al., 2010). Since most respondents of this independent study have bachelor degree, which is 59.4%, they are well-educated people, thus, their attitude towards HACCP have an important influence on their purchase intentions.

Hypothesis 5, health consciousness factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that health consciousness has a positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. We all know that health consciousness has a significant influence on consumer attitudes (Austin Rong-Da, 2014), and health factors are the most important variables affecting consumers' willingness to purchase food products (Aikaterini, 2002). Finally, researcher also mentioned that health awareness is a most essential factor in influencing consumers' purchase intentions, and also clarified that consumer purchase intentions were weak where health related awareness was low (Hee Yeon & Jae-Eun, 2011).

Hypothesis 6, knowledge on HACCP factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that knowledge on HACCP has no positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. There is a little consumer awareness about HACCP certified food products around developing countries, but this awareness is high especially in American and Europe where people know more about HACCP system compared to rest of the world (Suren & Tsovinar, 2016). Since there are only a few food enterprises in China have already implemented HACCP system on their companies, it was the first time of many respondents to hear about HACCP

system, however, as mentioned above, people are willing to purchase safer food products, if they trust it is safer and has good quality even if they do not know too much about that.

Hypothesis 7, Availability factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that Availability has a positive relationship toward Purchase Intention at .01 significant levels which accepted hypothesis. The previous study reported that limited availability of food products had a negative influence on consumer attitude and purchase behavior (Prashant & Bhimrao, 2015). Also, limited availability and difficulties in accessing are major barriers to purchasing food products (Susanne & Carolyn, 2005). Many respondents of this study also mentioned that through they want to purchase HACCP food products, if it would take much time to get HACCP food, they probably will choose other food products instead of HACCP foods.

Hypothesis 8, Perceived Price factor has a positive relationship toward Purchase Intention or not. The results from Pearson correlation analysis show that Perceived Price has no positive relationship toward Purchase Intention which accepted hypothesis. A higher price has an effect on consumers in buying behavior (Barber, 2012). Nevertheless, in China, due to the serious food safety issues happened every year, people are taking much more care of food quality and safety, they are willing to pay a little bite more money to get better food products.

Hypothesis 9, the result from Multiple Regression Analysis showed that there were three factors impacting purchase intention toward HACCP food products of consumers in Chengdu City in China, which were attitude towards HACCP, health consciousness and availability at statistically significant level of .01. As some

researchers suggested, food safety education should be provided at every stage of formal and informal education in developing countries, to let people know the importance of food safety and take more care about their health (Canan et al., 2010), it will also help people accept HACCP certified products more easily. On the other hand, consumers generally don't like to spend much time on searching for food products; they prefer products that are easily available (Prashant & Bhimrao, 2015). The easier access to the food products is important to increase consumption (Caldwell et al., 2009). In conclusion, attitude towards HACCP, health consciousness together with availability could enhance the purchase intentions of HACCP food products of people living in Chengdu.

### **5.3 Recommendation for Managerial Implication**

The results of this research may help food industry in the matter of investment decisions for implementing HACCP system. As discussed above, the most positive influence on purchase intention was availability, attitude towards HACCP, and health consciousness.

5.3.1 A barrier to consumption of HACCP foods is availability itself. In some areas, one of the main problems of HACCP products demand is the lack of access to markets and the market information. Limited availability of a product had a negative influence on consumer attitude and purchase behavior. Therefore, food enterprises which already implemented HACCP system should expand sales channels to let people get HACCP products easier.

5.3.2 Marketers or food industry companies should consider whether implement HACCP system on their product lines, and food enterprises which already

implemented HACCP system should propagandize the benefits of HACCP system by advertising, founding public classes and etc. to let more people know about what HACCP is, and to let people believe that this system is helpful for ensuring food quality, since the results from this research have shown that if people have positive attitude about HACCP system, they would prefer purchasing HACCP certified food products more likely than others.

5.3.3 Health consciousness refers to consumers' understanding of health status changes and the degree of emphasis on health requirements. If consumers take much care about their body health and believe that HACCP food has higher quality levels than conventional food, they will purchase more in the future, therefore, food enterprises should sponsor some educational foundation to educate people take more care of their health, then they might become the potential consumers of HACCP food products.

#### **5.4 Recommendation for Further Research**

Respondents of this research are mostly 18-23 years old, in future's study, researchers should ask more people from different age groups to answer questions, that will make sample more representative. In this research, attitude towards HACCP, health consciousness and availability, can predict consumer purchase intention. Some respondents mention about social influence in the comment of the questionnaire. According to this, social influence might have influence on consumer purchase intention and should be added in the future research. Future research can also include data collection in other big cities like Shanghai or Nanjing to compare the results.

Also, the data can be collected, compared, and analyzed between the Chinese and the foreign consumers in China.



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มหาวิทยาลัยกรุงเทพ  
BANGKOK UNIVERSITY

NO.....

## Questionnaire

on

Factors Positively Affecting Purchase Intention of HACCP Certified Products of  
Consumers in Chengdu City in China

**Instruction:** Objective of this survey is to collected data for use in Master of Business Administration research, Bangkok University. The result of this research will be benefit to food industry. In this regard, cooperation from the respondents are needed. I, Bai Tianyuhong, Master's Degree of Business Administration student from Bangkok University is thankfuly for your cooperation.

Instruction: Please answer the following question and put ✓ in  that matches you most.

### 1. Gender

1) Male

2) Female

### 2. Age

1) From 18 to 23 years

2) 24–29 years old

3) 30-39 years old

4) 40-49 years old

5) 50 years old and over

**3. Family with children**

- 1) Single  2) 1 Child  
 3) 2-3 Children  4) 4 or more

**4. Level of education**

- 1) Middle School or Below  2) High School  
 3) Junior College  4) University  
 5) Postgraduate  6) Other

**5. Monthly income**

- 1) Less than and equal to 3,000 RMB  2) 3,001–4,000 RMB  
 3) 4,001–5,000 RMB  4) 5,001–6,000 RMB  
 5) 6,001–7,000 RMB  6) 7,001– 8,000 RMB  
 7) More than 8,000 RMB

**6. Professional Status**

- 1) State enterprise employee  2) Private employee  
 3) Self-Employed  4) Searching for job  
 5) Housewives  6) Retired  
 7) Students  
 8) Others, Please Specify .....

**7. Your type of food products frequently consumed**

- 1) Conventional products  2) Organic food  
 3) HACCP certified products

- 4) Green Food certification products
- 5) Others, Please Specify .....

**8. Your frequency of food purchases**

- 1) Daily
- 2) Several times per week
- 3) Several times per month
- 4) Only on special occasions
- 5) Others, Please Specify .....

**9. What kind of food that you mostly consume?**

- 1) Staple Food
- 2) Beverage
- 3) Dairy products
- 4) Snacks
- 5) Condiment
- 6) Others, Please Specify .....

**10. Who has most influence on your food products purchase intention?**

- 1) Yourself
- 2) Families
- 3) Experts
- 4) Friends
- 5) Others, Please Specify .....

**11. How much do you spend each time you purchase food?**

- 1) Less 50 RMB
- 2) 50-100 RMB

3) 101-150 RMB

4) 151-200 RMB

5) More than 200 RMB



Please mark every question with only one ✓ in the box that most corresponds to your comments.

		Agreeable Level				
		Highest	High	Moderate	Low	Lowest
		(5)	(4)	(3)	(2)	(1)
Food safety in China						
1	I think Ministry of Agriculture of China is responsible for food safety and hygiene in China.					
2	I think China Food and Drug Administration is responsible for food safety and hygiene in China.					
3	I think State Administration for Industry and Commerce of China is responsible for food safety and hygiene in China.					
4	I think food producer companies should be more responsible for food safety and hygiene in China.					
Food attributes						
1	I think freshness and cleanliness of food products are the most important things.					

		Agreeable Level				
		Highest (5)	High (4)	Moderate (3)	Low (2)	Lowest (1)
2	I prefer purchasing food products with good packages.					
3	Product price is the first thing I would consider when purchasing.					
4	I prefer food products that are convenient to cook.					
Food risk attitude						
1	Although I often hear about food safety and hygiene issues, it does not affect my food purchasing behavior.					
2	I never worry about pesticide residues when eating food products.					
3	I can tolerate the unacceptable health risk when eating food products containing chemical substances.					
4	I never worry about preservatives in my food.					
Attitude						

		Agreeable Level				
		Highest (5)	High (4)	Moderate (3)	Low (2)	Lowest (1)
1	I might believe that the consumption of HACCP certified products should be a wise action.					
2	I think HACCP certified products might be useful to meet the hygiene and safety needs of food.					
3	I think HACCP certified products might have higher quality than conventional ones.					
4	I think HACCP system might be effective for controlling food quality.					
Health consciousness.						
1	I am concerned about the hygiene and safety of the food that I consume daily.					
2	I will purchase food products with HACCP certified because I want to eat as healthy as possible.					
3	I think HACCP certified products might be good for my health.					

		Agreeable Level				
		Highest (5)	High (4)	Moderate (3)	Low (2)	Lowest (1)
4	Health benefits are the most important factors motivating me to possibly purchase HACCP certified products.					
Knowledge of HACCP						
1	I might know the product is certificated by HACCP system or not by looking at HACCP label.					
2	I might know that HACCP focusing on prevention of food hazard than end-product testing.					
3	I know that HACCP certified products are safer to eat.					
4	I might know that HACCP is a system to prevent biological, chemical, and physical hazards in food production processes.					
Availability						
1	HACCP certified products might be easily found in supermarkets such as Carrefour or Walmart.					

		Agreeable Level				
		Highest (5)	High (4)	Moderate (3)	Low (2)	Lowest (1)
2	I might be able to buy HACCP certified products online.					
3	I think HACCP certified products should be available on the local markets.					
4	I think that HACCP certified products should be promoted more in supermarkets.					
Perceived price						
1	I think HACCP certified products might be expensive.					
2	I think the price of HACCP certified products might be worthwhile with my payments.					
3	I think the high price of HACCP certified products might be barriers when purchasing.					
4	Perception of price is important for me when purchasing food products.					
Purchase intention						

		Agreeable Level				
		Highest (5)	High (4)	Moderate (3)	Low (2)	Lowest (1)
1	I intend to consume HACCP certified products in the future.					
2	I am interested in buying more HACCP certified products for family's health.					
3	I always intend to look for HACCP certified products although they will be sold far away from where I live.					
4	I will recommend friends who have elders or children in the family to purchase HACCP products.					

**Please recommend for other factors that might positively affect the purchase intention towards HACCP certified products.**

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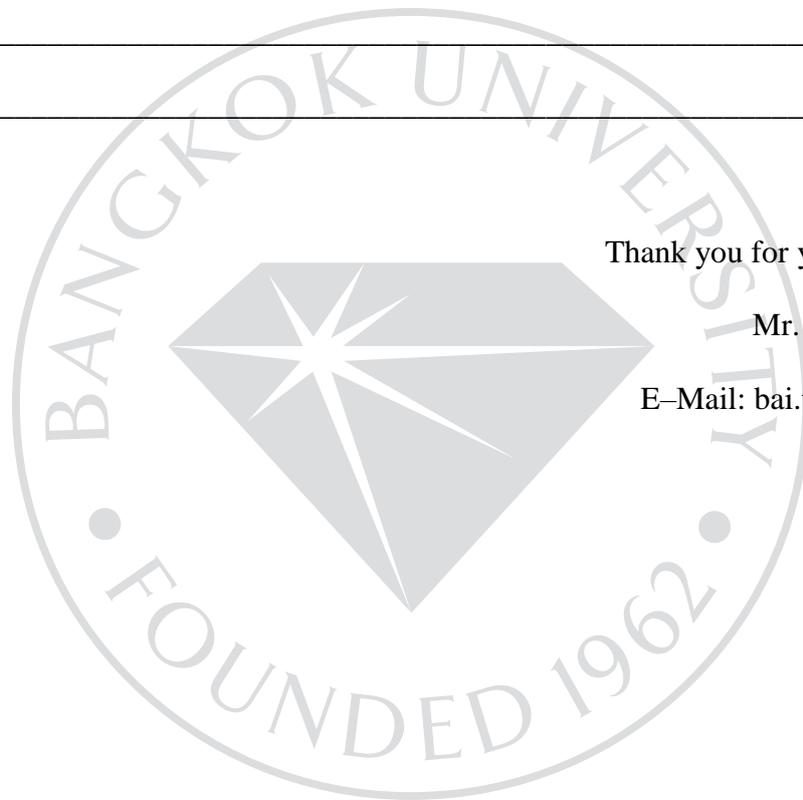
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Thank you for your cooperation

Mr. Bai Tianyuhong

E-Mail: bai.tian@bumail.net





มหาวิทยาลัยกรุงเทพ  
BANGKOK UNIVERSITY

NO.....

### 问卷调查

影响消费者购买 HACCP 认证食品的积极因素研究

以成都市为例

简介: 此问卷调查的目的是为了搜集资料以供曼谷大学工商管理硕士专业学生独立研究之用, 同时, 相信本研究的最终成果亦能对中国食品工业有所启发。感谢您的配合。

提示: 请在最符合您的方框□内打勾

#### 1. 性别

1) 男性

2) 女性

#### 2. 年龄

1) 18-23 岁

2) 24-29 岁

3) 30-39 岁

4) 40-49 岁

5) 50 岁以上

### 3. 家里是否有小孩

- 1) 单身  2) 1 个小孩
- 3) 2-3 个小孩  4) 4 个以上

### 4. 教育水平

- 1) 初中及以下  2) 高中
- 3) 专科  4) 本科
- 5) 研究生  6) 其它

### 5. 月收入

- 1) 3000 元及以下  2) 3,001 - 4,000 元
- 3) 4,001 - 5,000 元  4) 5,001 - 6,000 元
- 5) 6,001 - 7,000 元  6) 7,001 - 8,000 元
- 7) 8000 元以上

### 6. 职业

- 1) 国营企业雇员  2) 私企雇员
- 3) 个体户  4) 待业
- 5) 家庭主妇  6) 已退休
- 7) 学生
- 8) 其它 (请注明) .....

### 7. 您最常购买的食物种类 (可多选)

- 1) 常规食品  2) 有机食品
- 3) HACCP 认证食品

4) 绿色食品认证产品

5) 其它（请注明） .....

8. 您购买食品的频率

1) 每天

2) 每周数次

3) 每月数次

4) 仅必要时

5) 其它（请注明） .....

9. 您最常消费的食品类型是？（可多选）

1) 主食类

2) 饮料

3) 乳制品

4) 零食

5) 调味品

6) 其它

10. 谁对您的食品消费行为影响最大？（可多选）

1) 我自己

2) 家人

3) 专家

4) 朋友

5) 其它（请注明） .....

11. 您每次购买食物的花费大概是多少？

1) 50元以下

2) 50-100元

3) 101-150元

4) 151-200元

5) 其它（请注明） .....

请在最符合您的选项下打勾

		非常同	同意	一般	不同	非常
		意			意	不同意
		(5)	(4)	(3)	(2)	(1)
您认为谁应该对中国的食品安全负责						
1	我认为食品安全应该由农业部监管。					
2	我认为国家食品药品监督管理总局应该对食品安全负责。					
3	我认为食品安全应该由国家工商行政管理总局监管。					
4	我认为食品生产企业对食品安全负有更多的责任。					
食品特征偏好						
1	我认为食物的新鲜度和洁净度是最重要的。					
2	我更喜欢购买包装精美的食物。					
3	食物的价格是我在购物时会首先考虑的。					

		非常同	同意	一般	不同	非常
		意			意	不同意
		(5)	(4)	(3)	(2)	(1)
4	我更喜欢便于烹调的食品。					
食品风险态度						
1	虽然经常耳闻食品安全和卫生问题，但这并不影响我的食品消费行为。					
2	我从不担心农药残留问题。					
3	我可以接受食物上残留的化学物质。					
4	我从不担心食物里是否含有防腐剂。					
对于 HACCP 的态度						
1	我相信购买经过 HACCP 认证的食品是一种明智的行为。					
2	我认为经过 HACCP 认证的食品能更好地满足对食品的安全卫生需求。					

		非常同	同意	一般	不同	非常
		意			意	不同意
		(5)	(4)	(3)	(2)	(1)
3	我认为经过 HACCP 认证的食品质量更好。					
4	我认为 HACCP 系统能帮助提升产品质量。					
健康意识						
1	我很关心每天购入的食物是否安全卫生。					
2	为了饮食健康，我会购买经过 HACCP 认证的食品。					
3	经过 HACCP 认证的食品有益于健康。					
4	健康因素是促使我购买经过 HACCP 认证食品的主要原因。					
对 HACCP 的了解						
1	通过产品标识，我能分辨 HACCP 产品与非 HACCP 产品。					

		非常同	同意	一般	不同	非常
		意			意	不同意
		(5)	(4)	(3)	(2)	(1)
2	我了解 HACCP 系统更侧重于预防食物中的潜在危害，而不是检测成品。					
3	我认为 HACCP 食品吃起来更安全。					
4	我了解 HACCP 系统可以预防食品生产过程中产生有害的生物、化学、物理因素。					
购买 HACCP 食品的便捷性						
1	在像家乐福或沃尔玛一类的超市里，可以轻松找到 HACCP 认证的食品。					
2	可以在网上买到 HACCP 认证的食品。					
3	我认为 HACCP 认证的食品应该普及到传统市场里。					
4	我认为 HACCP 认证的食品应该经常在超市中开展促销活动。					

		非常同	同意	一般	不同	非常
		意			意	不同意
		(5)	(4)	(3)	(2)	(1)
关于价格						
1	我认为 HACCP 认证的食品价格昂贵。					
2	我认为带有 HACCP 认证的食品性价比很高。					
3	高昂的价格是我购买带有 HACCP 标识产品的障碍之一。					
4	在我选购食品时，价格因素很重要。					
购买意向						
1	在将来我会购买带有 HACCP 标识的产品。					
2	为了家人的健康，我打算购买更多的 HACCP 食品。					
3	尽管有卖 HACCP 食品的超市离我住的地方很远，我也愿意去购买。					

		非常同意 (5)	同意 (4)	一般 (3)	不同意 (2)	非常不同意 (1)
4	我会建议家里有老人或小孩的朋友购买 HACCP 食品。					

如您认为有其它因素能影响您购买 HACCP 食品，请填写在下面

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感谢您的配合

白田宇鸿

邮箱: bai.tian@bumail.net



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Rama 4 Road, Khlong Toei  
Bangkok 10110  
Email: [bai.tian@bunmail.net](mailto:bai.tian@bunmail.net)

November 20, 2017

Reference: Acceptance to be the Advisor in reviewing questionnaire items for the research as a part of Independent Study of M.B.A student at Bangkok University

To Dr. Penjira Kanthawongs  
Advisor, Bangkok University

I, Bai Tianyuhong, a Master of Business Administration's student majoring in Business Administration (English Program) at Bangkok University is conducting a research as a part of Independent Study titled, *Factors Positively Affecting Purchase Intention of HACCP Certification Products of Consumers in Chengdu City of China*. Due to your expertise in research, I would like to ask you to review the questionnaire items in terms of wordings and content validities by using Index of Item Objective Congruence: IOC with **+1** as **comprehensible**, **0** as **uncertain**, or **-1** as **incomprehensible** by the target group of this research. I greatly appreciated your kind assistance.

Best Regards,

Signature..

(Dr. Penjira Kanthawongs)

Advisor

Signature..

(Bai Tianyuhong)

Researcher

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Rama 4 Road, Khlong Toei  
Bangkok 10110  
Email: [bai.tian@bumail.net](mailto:bai.tian@bumail.net)

November 20, 2017

Reference: Acceptance to be the Expert in reviewing questionnaire items for the research as a part of Independent Study of M.B.A student at Bangkok University

To 张翰林  
Manager  
Chengdu AoKun Food Trading Co., LTD.

I, Bai Tianyuhong, a Master of Business Administration's student majoring in Business Administration (English Program) at Bangkok University is conducting a research as a part of Independent Study titled, Factors Positively Affecting Purchase Intention of HACCP Certification Products of Consumers in Chengdu City of China. Due to your expertise in your business, I would like to ask you to review the questionnaire items in terms of wordings and content validities by using Index of Item Objective Congruence: IOC with **+1** as **comprehensible**, **0** as **uncertain**, or **-1** as **incomprehensible** by the target group of this research. I greatly appreciated your kind assistance.

Best Regards,

Signature. [REDACTED]

(张翰林)

Expert

Signature. [REDACTED]

(Bai Tianyuhong)

Researcher

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Email: [bai.tian@bumail.net](mailto:bai.tian@bumail.net)

November 20, 2017

Reference: Acceptance to be the Expert in reviewing questionnaire items for the research as a part of Independent Study of M.B.A student at Bangkok University

To 李静  
Quality Assurance Director  
JiaXin Food Co., LTD.

I, Bai Tianyuhong, a Master of Business Administration's student majoring in Business Administration (English Program) at Bangkok University is conducting a research as a part of Independent Study titled, Factors Positively Affecting Purchase Intention of HACCP Certification Products of Consumers in Chengdu City of China. Due to your expertise in your business, I would like to ask you to review the questionnaire items in terms of wordings and content validities by using Index of Item Objective Congruence: IOC with **+1** as **comprehensible**, **0** as **uncertain**, or **-1** as **incomprehensible** by the target group of this research. I greatly appreciated your kind assistance.

Best Regards,

Signature.

(李静)

Expert

Signature.

(Bai Tianyuhong)

Researcher

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
Food safety in China. (FSC) (Liu & Niyongira, 2017)	FSC1: Agriculture Department.	FSC1: I think Ministry of Agriculture of China is responsible for food safety and hygiene in China.	FSC1: 我认为食品安全应该由农业部监管。			
	FSC2: State Food and Drug Administration.	FSC2: I think China Food and Drug Administration is responsible for food safety and hygiene in China.	FSC2: 我认为国家食品药品监督管理局应该对食品安全负责。			
	FSC3: Department of Commerce.	FSC3: I think State Administration for Industry and Commerce of China is responsible for food safety and hygiene in China.	FSC3: 我认为食品安全应该由国家工商行政管理总局监管。			
	FSC4: Others.	FSC4: I think food producer companies should be more responsible for food safety and hygiene in China.	FSC4: 我认为食品生产企业对食品安全负有更多的责任。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
Food attributes. (FA) (Jabir, Sanjeev, & Janakiraman, 2010)	FA1: Freshness and cleanliness.	FA1: I think freshness and cleanliness of food products are the most important things.	FA1: 我认为食物的新鲜度和洁净度是最重要的。			
	FA2: Packaging.	FA2: I prefer purchasing food products with good packages.	FA2: 我更喜欢购买包装精美的食物。			
	FA3: Product price.	FA3: Product price is the first thing I would consider when purchasing.	FA3: 食物的价格是我在购物时会首先考虑的。			
	FA4: Convenience.	FA4: I prefer food products that are convenient to cook.	FA4: 我更喜欢便于烹调的食品。			
Food risk attitude. (FRA) (Jin, Zhang, & Xu, 2017)	FRA1: Although I often hear about bad news such as excessive pesticide, it does not affect my fruit purchasing behavior.	FRA1: Although I often hear about food safety and hygiene issues, it does not affect my food purchasing behavior.	FRA1: 虽然经常耳闻食品安全和卫生问题, 但这并不影响我的食品消费行为。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	FRA2: I never worry about pesticide residues when eating fruit.	FRA2: I never worry about pesticide residues when eating food products.	FRA2: 我从不担心农药残留问题。			
	FRA3: I cannot tolerate the unacceptable health risk when eating fruit containing chemical substances.	FRA3: I can tolerate the unacceptable health risks when eating food products containing chemical substances.	FRA3: 我可以接受食物上残留的化学物质。			
	FRA4: I never worry about preservatives when eating fruit.	FRA4: I never worry about preservatives in my food.	FRA4: 我从不担心食物里是否含有防腐剂。			
Attitude. (ATT) (Jin et al., 2008; Singh & Verma, 2017)	ATT1: I am convinced the consumption of organic food is a reasonable action.	ATT1: I might believe that the consumption of HACCP certified products should be a wise action.	ATT1: 我相信购买经过 HACCP 认证的食品是一种明智的行为。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	ATT2: I believe organic food is very useful to meet the nutrition needs.	ATT2: I think HACCP certified products might be useful to meet the hygiene and safety needs of food.	ATT2: 我认为经过 HACCP 认证的食品能更好地满足对食品的安全卫生需求。			
	ATT3: Organic food products have higher quality than conventional ones.	ATT3: I think HACCP certified products might have higher quality than conventional ones.	ATT3: 我认为经过 HACCP 认证的食品质量更好。			
	ATT4: HACCP system is effective for controlling food quality.	ATT4: I think HACCP system might be effective for controlling food quality.	ATT4: 我认为 HACCP 系统能帮助提升产品质量。			
Health consciousness. (HC) (Biao et al., 2015; Singh & Verma, 2017)	HC1: I am concerned about the type and amount of nutrition in the food that I consume daily.	HC1: I am concerned about the hygiene and safety of the food that I consume daily.	HC1: 我很关心每天购入的食物是否安全卫生。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	HC2: I am prepared to leave a lot, to eat as healthy as possible.	HC2: I will purchase food products with HACCP certified because I want to eat as healthy as possible.	HC2: 为了饮食健康, 我会购买经过 HACCP 认证的食品。			
	HC3: Organic food is good for the health.	HC3: I think HACCP certified products might be good for my health.	HC3: 经过 HACCP 认证的食品有益于健康。			
	HC4: Health benefits are among the most important factors motivating the purchase of organic food products	HC4: Health benefits are the most important factors motivating me to possibly purchase HACCP certified products.	HC4: 健康因素是促使我购买经过 HACCP 认证食品的主要原因。			
Knowledge of HACCP. (KOH) (Singh & Verma, 2017)	KOH1: I know the food is organic or non-organic.	KOH1: I might know the product is certificated by HACCP system or not by looking at HACCP label.	KOH1: 通过产品标识, 我能分辨 HACCP 产品与非 HACCP 产品。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	KOH2: I know the process of organic products.	KOH2: I might know that HACCP focusing on prevention of food hazard than end-product testing.	KOH2: 我了解 HACCP 系统更侧重于预防食物中的潜在危害，而不是检测成品。			
	KOH3: I know that organic foods are safer to eat.	KOH3: I know that HACCP certified products are safer to eat.	KOH3: 我认为 HACCP 食品吃起来更安全。			
	KOH4: Food knowledge is an important factor that can affect consumer behavior.	KOH4: I might know that HACCP is a system to prevent biological, chemical, and physical hazards in food production processes.	KOH4: 我了解 HACCP 系统可以预防食品生产过程中产生有害的生物、化学、物理因素。			
Availability (AVA) (Singh & Verma, 2017) (Biao et al., 2015)	AVA1: Organic products are easily obtained in the market.	AVA1: HACCP certified products might be easily found in supermarkets such as Carrefour or Walmart.	AVA1: 在像家乐福或沃尔玛一类的超市里，可以轻松找到 HACCP 认证的食品。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	AVA2: I can buy organic product online.	AVA2: I might be able to buy HACCP certified products online.	AVA2: 可以在网上买到 HACCP 认证的食品。			
	AVA3: Organic food products have to be available on a regular basis in the local markets.	AVA3: I think HACCP certified products should be available on the local markets.	AVA3: 我认为 HACCP 认证的食品应该普及到传统市场里。			
	AVA4: Organic food products must be clearly visible.	AVA4: I think that HACCP certified products should be promoted more in supermarkets.	AVA4: 我认为 HACCP 认证的食品应该经常在超市中开展促销活动。			
Perceived price. (PP) (Biao et al., 2015; Singh & Verma, 2017)	PP1: Organic foods are expensive.	PP1: I think HACCP certified products might be expensive.	PP1: 我认为 HACCP 认证的食品价格昂贵。			
	PP2: The price of organic food is in accordance with benefits.	PP2: I think the price of HACCP certified products might be worthwhile with my payments.	PP2: 我认为带有 HACCP 认证的食品性价比很高。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	PP3: High price of organic food could be considered as a barrier related to the organic market development in China.	PP3: I think the high price of HACCP certified products might be barriers when purchasing.	PP3: 高昂的价格是我购买带有 HACCP 标识产品的障碍之一。			
	PP4: Perception of price is important for customers' intent to purchase organic foods.	PP4: Perception of price is important for me when purchasing food products.	PP4: 在我选购食品时，价格因素很重要。			
Purchase intention. (PI) (Liu & Niyongira, 2017; Singh & Verma, 2017)	PI1: I intend to consume organic products in the future.	PI1: I intend to consume HACCP certified products in the future.	PI1: 在将来我会购买带有 HACCP 标识的产品。			
	PI2: I am always interested in buying more organic food for the family's needs.	PI2: I am interested in buying more HACCP certified products for family's health.	PI2: 为了家人的健康，我打算购买更多的 HACCP 食品。			

<u>Factors</u>	<u>Original Eng. v.</u>	<u>Adjusting Eng. v.</u>	<u>Adjusted Chinese v.</u>	<u>IOC</u>	<u>Comments from the expert</u>	<u>Total points</u>
	PI3: I always intend to look for organic foods, although outside the city.	PI3: I always intend to look for HACCP certified products although they will be sold far away from where I live.	PI3: 尽管有卖 HACCP 食品的超市离我住的地方很远, 我也愿意去购买。			
	PI4: Elderly members and children are vulnerable with unsafe food.	PI4: I will recommend friends who have elders or children in the family to purchase HACCP products.	PI4: 我会建议家里有老人或小孩的朋友购买 HACCP 食品。			

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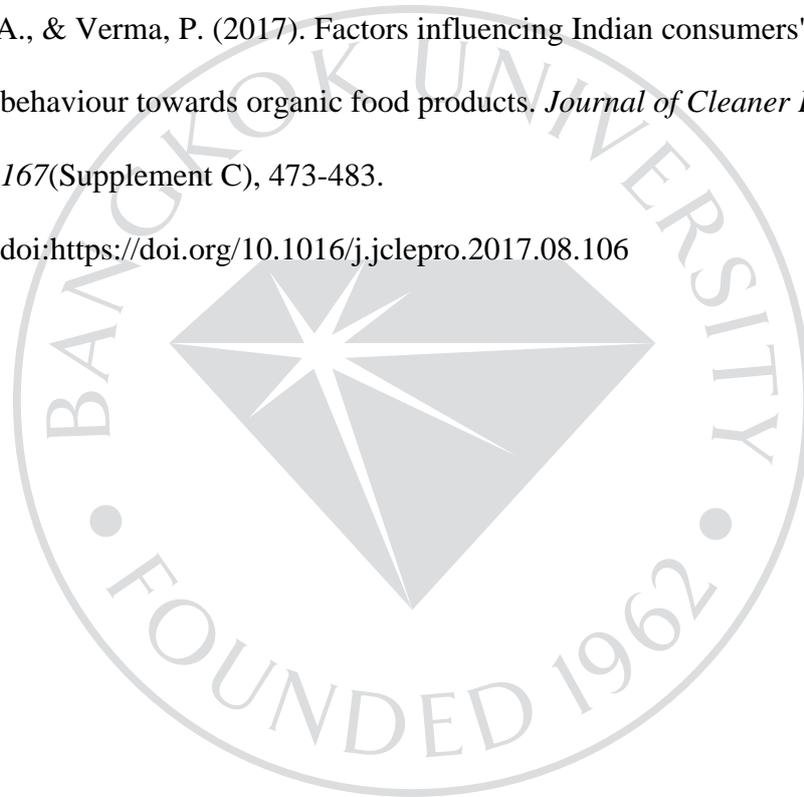
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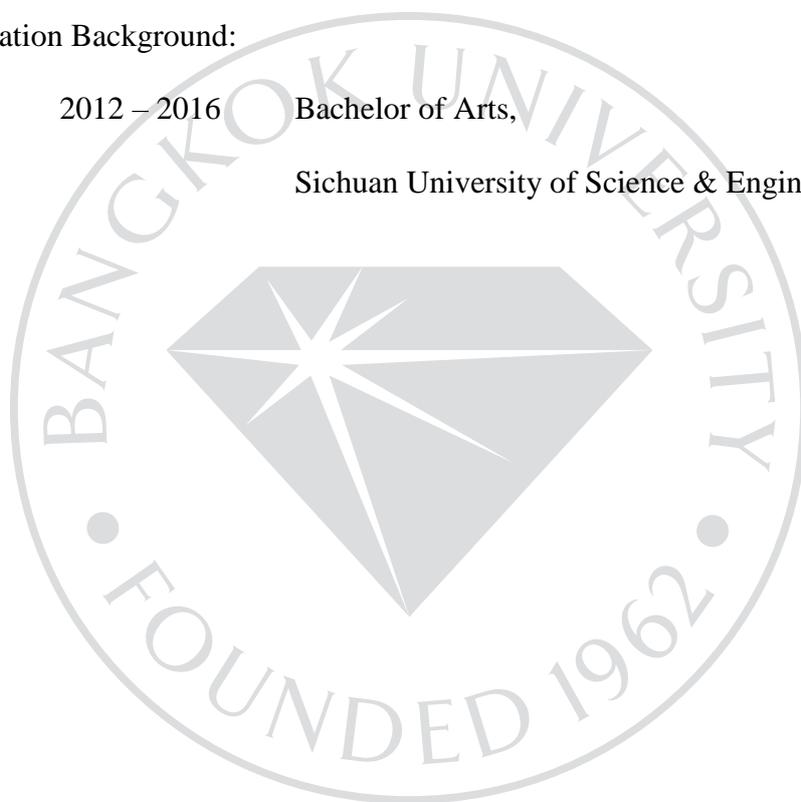
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