

**HEALTHY TRENDS AND CONSUMER BEHAVIORS ON
CONSUMPTION OF NUT RELATED PRODUCTS IN BANGKOK**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
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Thematic paper
entitled
**HEALTHY TRENDS AND CONSUMER BEHAVIORS ON
CONSUMPTION OF NUT RELATED PRODUCTS IN BANGKOK**

was submitted to the College of Management, Mahidol University
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HEALTHY TRENDS AND CONSUMER BEHAVIORS ON CONSUMPTION OF NUT RELATED PRODUCTS IN BANGKOK

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ABSTRACT

The purpose of this thematic paper is to investigate consumer behaviors and attitudes toward healthy and consumption of related products in Bangkok. This study tries to find the answers toward research questions in three main fields. There are consumer behaviors, current market analysis about healthy trends and information for new product development. the body of literature concerned with the behavior, new product development and new product adoption. The research was conducted by collecting 200 samples who live in Bangkok and consume nuts from online and offline questionnaire.

The results of this study show that marketing mix 4Ps are still able to affect and influence consumers buying decision toward nuts related products. For current nut market there is a demand of healthy nuts. For Information of new product development, the most interested new product is healthy nuts. There is also additional result being found in this study, knowing nut benefits and no associations and relations to consumer behaviors. The results will provide the ideas and practical recommendations, which will be able to be implemented in nut industries in order to improve, develop and generate sales growth, making competitive to other players in the market.

KEY WORDS: Consumer Behaviors/ New Product Development/ New Product Adoption

60 pages

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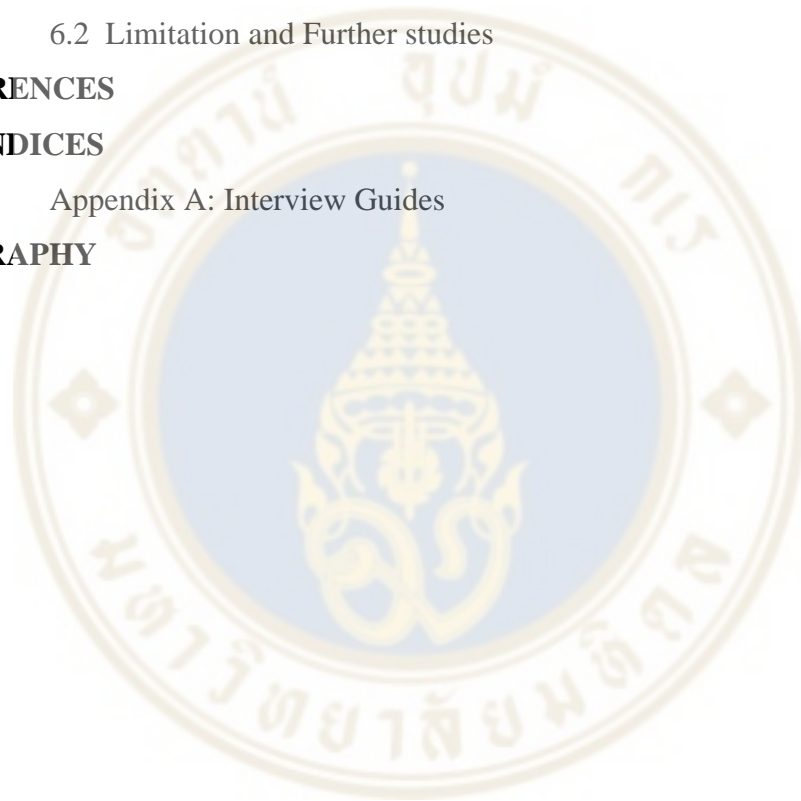
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CHAPTER I

INTRODUCTION

1.1 Introduction and problem statement

Nuts market in Thailand is around 3,362 million baht in 2015 and 4060 million baht in 2016 (“Marketeer Magazine 2015 and 2016”) The nuts market in Thailand face a constant amount of growth. As the world growing healthy trend there is a lot of opportunities to expand the nuts market even more from the on-going healthy trend and get new customers. There are stills no research conducting on how people in Bangkok aware of heathy nuts diet. This research will be conducted to survey the unknown behaviors of consumers who living in Bangkok whether they are aware of healthy diet or not? I am working in nuts industry, so I have motivations toward findings this information to increase sale and revenue for my company. I hope these findings will be beneficial to marketers who seek to understand consumer behaviors in Bangkok about nuts.

Have you ever wonder how consumers consume or buy nut products? Many people consume nuts differently. We aim to see the patterns from the behavior of majorities in terms of nut types, frequency of consumption, and their consumption environment.

Buying is a consumer behavior. This study wants to know what really make them buy nut products. When you want to buy something, what would you considered and giving the important to. May be the product itself, packaging, quality, taste, trust brands, price, certified logos, promotion, place etc. These are factors related to consumer behavior directly and related with marketing mix 4Ps framework. The result of this research will show how these factors are get along or against the marketing 4Ps framework.

After knowing their behaviors, we need to make a use of these information to develop our product and marketing plans. So, we also try to extract information about new development. My research will be based on these research questions below.

1.1.1 Research Questions

What is the consumer behavior of Thai consumer?

What are important factors related to consumer behaviors?

What are important factors and information related to new product development?

1.1.2 Objectives

To study the influence of healthy diet and consumers behaviors on nut consumption in Bangkok for new product development.

1.1.3 Potential Output

The result of this research will have great benefits on new product development and marketing strategies for nuts industries. The result will reflect about How Bangkok metropolitans react to healthy diet. are they valued this factor? Is this result against the world trends that most people usually want to eat natural nuts without additives or seasonings?

1.2 Background

1.2.1 Thailand's Nuts Market Overview

Thailand's Nuts market in 2015 is around 3,362 million baht. 2016 market size is around 4,060 baht. There is positive growth in market sizes.

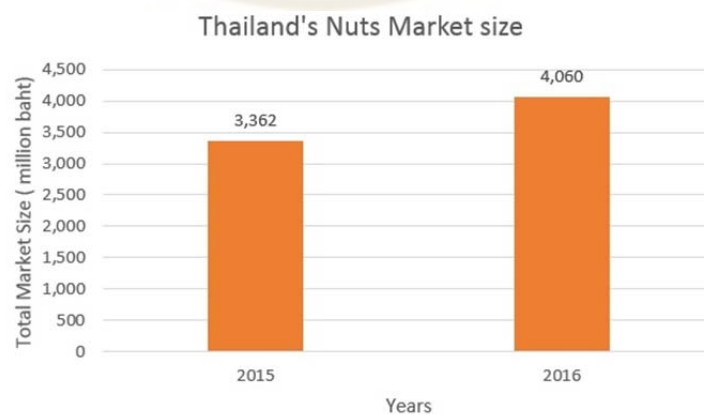


Figure 1.1 Thailand's Nut Market Size

Source: Marketeer 2015 – 2016 (Sunbright data 2016)

There are the top 2 players who share the most market in nuts industry that are Koh-Kae and Tong Garden. The other brands are Double Pagoda, Green Nut, Nut Walker, Marujo and other brands. There are still more room for small brands to gain more market shares.

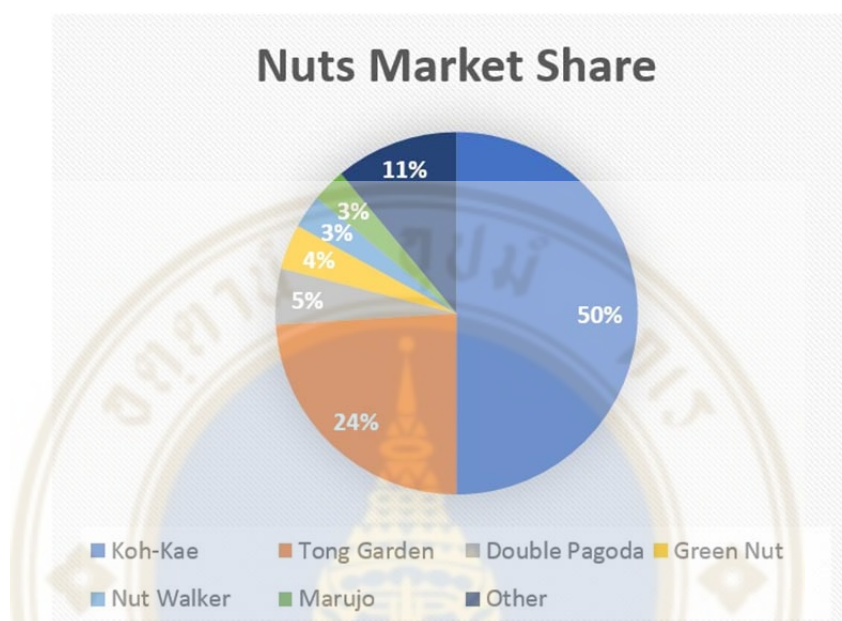


Figure 1.2 Thailand's Nut Market Share

Source: Marketeer 2015 (Koh-Kae data 2015)

1.2.2 Healthy Diet Trend

As the effects of globalization and internet that connected people around the world. People can access to many useful information easily. One of those are healthy diets many people are aware of healthy diets because everyone wants to be looking good, have good health. Good food may lift your body and mind. If your body is healthy your mind may be good also e.g. eating right will strengthen your body preventing from illness and diseases. Healthy diets can refer to free from contaminants or natural food without additives that causing health problems e.g. excess intake of sodium, high sugar and high cholesterol that may lead to heart disease, obesity, cancer etc.

There are many researches about healthy trend conducted showing this trend is still on the growth. From the graph below showing the growing trend of 3 keywords related to healthy diets. Organic or free from chemicals or contaminants foods. Vegetarian are people who consume vegetable and avoiding consume meats. Vegetarian try to

avoid eating meats because of cancers problems. Process of cooking meat usually cause cancer e.g. grill and fry. Gluten-free is for people who are allergic to gluten. Many people perceive Gluten-free labels as healthy product for consumption.

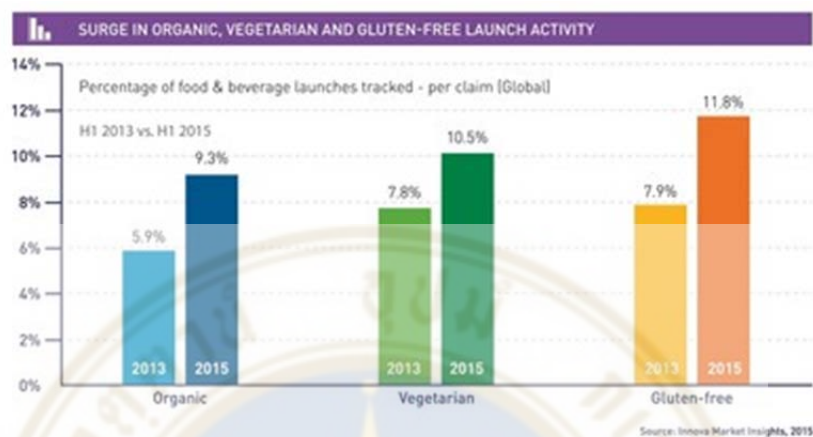


Figure 1.3 Global Healthy Trend

Source: Innova Market Insights -Top 10 Trends for 2016

Since people are much more concern about their health. Back to basic and free from approaches natural products are increased e.g. sugar free, natural etc.

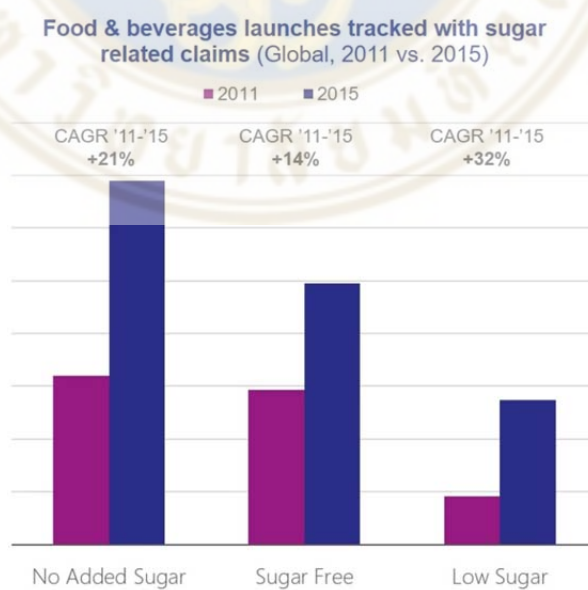


Figure 1.4 Global Healthy Trend

Source: Innova Market Insights 2015

For marketers, they may consider putting these keywords in their product as the markets are getting bigger. There are a lot of opportunity for new product development and marketing strategies.



CHAPTER II

LITERATURE REVIEW

2.1 Consumer Behavior

To defining the term consumer behavior, first thing we have to know the meaning of each term. The term consumer means the individuals who have ability or capability to make purchases product or services from marketing institution to satisfy his/her satisfaction e.g. household needs, wants, needs or desires. (Walters 1974: 4). It can be for personal uses and or organizational uses (Schiffman & Kanuk 1997: 6-7) The term behavior means the total process of individual interact with his/her environment (Walters 1974: 6). In marketing field, we can refer the behavior as frequency of buying, buying amount, place of purchases, brand loyalty, repurchase, brand attitude, and consumer minds. By combining two terms together consumer behavior can be defined as “the process whereby individuals decide whether, what, when, where, how, and from whom to purchase goods and services” according to Walters (1974: 7).

2.1.1 Factors Affecting Consumer Buying Behavior

There are many factors that affect consumer buying behaviors. In this study will focus on brand image, price sensitivity, promotions and packaging design. Firstly, Brand Image consumer may choose the good brand image product to make their first purchase instead of unknown brand. “A good brand will make you feel good about the choice you have made, to buy it and to use it. A good brand will help you make that choice in the first place, and it can do that because it knows how to make you feel good” (Peter Cheverton 2002: Understanding Brands Ch.1). From past study price is one reason that effect consumer buying behavior. Consumers who purchase products in high volume tend to concern more about price than low volume purchase customer. High volume consumers are more price sensitive according to (Ronald J. Baker 2006: Price on Purpose - Customer Segmentation Strategies). Promotion has direct impact on consumer buying behavior e.g. discount price, free samples for trial use increase sale

portions and bring new customer to try your product (Mahsa Familmaleki 2015: Analyzing the Influence of Sales Promotion on Customer Purchasing Behavior). Packaging design can be treat as valuable tool for marketing communication it represents the products value. Standardize and good package design can attract customer to try your product and even given trust and reliability to your customer (Rizwan Raheem Ahmed 2014: Impact of Product Packaging on Consumer's Buying Behavior).

2.1.2 Marketing Mix 4Ps

Marketing Mix 4Ps is a set of controllable, tactical marketing tools that marketers can use to get the desired response from the market. Planning marketing strategies and execution related to consumer behavior will lead to great understanding consumer insights and gain more market. (Kotler, P., Armstrong, G., Cunningham, P.H. (2005). Principles of Marketing. Toronto: Pearson Education Canada. pp. 67-70.)

Product: The products or services offered by a company to its customers. Product are related to variety, quality, design, features, brand name, packaging, services

Price: The amount of money paid by customers to purchase the product or service. Price can be sensitive to price sensitive customer.

Place: The activities that make the product available to consumers. e.g. availability of the product, sale channals.

Promotion: The activities that communicate the product's features and benefits and persuade customers to purchase the product. discount, coupon, buy one get one free.

2.2 New Product Development

New Product Development (NPD) defines as an order of activities, from idea generation to production process, which the outcome must be the new products (International Journal of Production, Salgado et al. 2012). The NPD process consists of the activities carried out by firms when developing and launching new products. A new product that is introduced on the market evolves over a sequence of stages, beginning with an initial product concept or idea that is evaluated, developed, tested and launched on the market (Booz, Allen & Hamilton, 1982).

2.2.1 Type of New Product Development

There are 6 types of new products development according to Booz Allen & Hamilton (1982).

2.2.1.1 New to the world: completely new product to the market create entirely new market e.g. Internet, Television etc.

2.2.1.2 New product line: Enter the established market for the first time e.g. smart TV, Flat TV

2.2.1.3 Additions to existing lines: Additional to the established product lines e.g. package size, new flavor etc.

2.2.1.4 Improvement or revisions: improve performance, quality or values to replace existing products e.g. new version of cars.

2.2.1.5 Repositioning: Retargeting the existing products into new markets and segments e.g. AXE deodorant tries to move from high school user to early jobber user.

2.2.1.6 Cost Reduction: maintain the same quality and performance at lower cost e.g. mobile phone.

In this research we will focus on extracting the consumer insights for new product-line development to develop new nut product line to penetrate the current market that will match with consumer demand.

2.2.2 Kotler's Five Product Level model

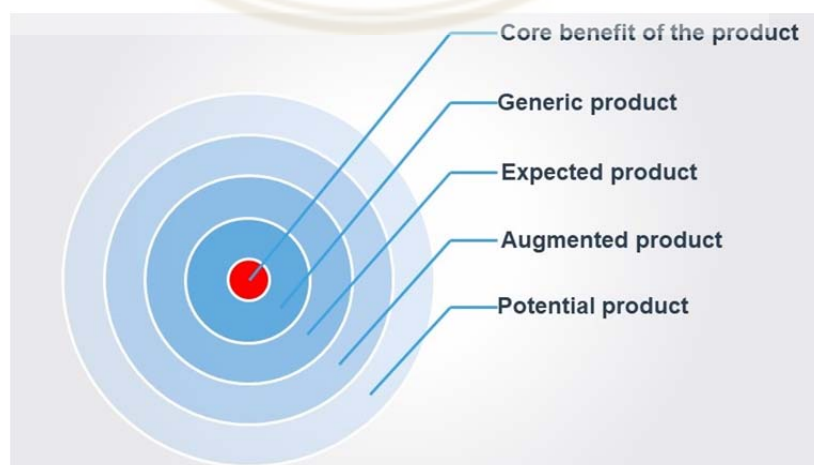


Figure 2.1 Kotler's Five Product Level model

According to Philip Kotler he stated out five product levels model as []

2.2.2.1 Core Product: Core benefits of the product focus on the purpose of the products e.g. raincoat will protect you from getting wet from rain.

2.2.2.2 Generic Product: represent qualities of the product to perform its function e.g. raincoat should be fitted and having rain repellent ability.

2.2.2.3 Expected Product: the characteristics of the products that customer expected when they buy the product e.g. raincoat should be comfortable to wear.

2.2.2.4 Augmented Product: additional features or benefits that differentiate the product of others competitor e.g. the design of raincoat, Brand images, customer services etc.

2.2.2.5 Potential Product: augmentations and transformations a product might undergo in the future e.g. new fabric technology that make the coat lighter.

To get the satisfaction from customers, the product itself should meet identical or higher than the expected product level. In this study the questionnaire should be able to extract the expected value that consumer think of when consume nuts.

2.2.3 Factors Effecting New Product Development

There are several factors that make new products fail. Those are overestimated market size, consumer don't demand this product, bad product design such as package, product itself is not different from others and has no better than other products, poor marketing strategies and promote badly. [Philip Kotler 2005 - Principle of Marketing: 14]. To reduce the risks marketers should conduct the researches to survey the market first to see the total demands of the product and consumer behaviors. According to this my research will be focus on collecting information based on these factors.

"A new product's likelihood of success can be determined before its development by answering three questions: (1) Do people need the product? (2) Is it different and better than competitors' offerings? (3) Would people be willing to pay the proposed price? (Kotler, 2003)"

2.3 New Product Adoption

New product adoption behavior has been defined as the degree to which an individual adopts a new product relatively earlier than other members in his or her social system (Rogers and Shoemaker, 1971). This behavioral construct has been operationalized in empirical work in three ways, namely, new product ownership (e.g. Foxall, 1988), purchase intention (e.g. Holak and Lehmann, 1990), and the relative time of adoption for a particular product (e.g. Midgley and Dowling, 1993). From many studies show that innovators can be characterized by demographic and psychographic variables (Dickerson and Gentry, 1983; Gatignon and Robertson, 1991; Labay and Kinnear, 1981; Martinex et al., 1998; Midgley and Dowling, 1993; Ostlund, 1974; Summers, 1971). Demographically, most consumer innovators typically have higher income and education, and are younger (Gatignon and Robertson, 1985).

Factors related to New Product Adoption

Everett M. Rogers (1931-2004) identified the five factors influencing the adoption of any innovation whether products or services and ultimately its degree of success. as

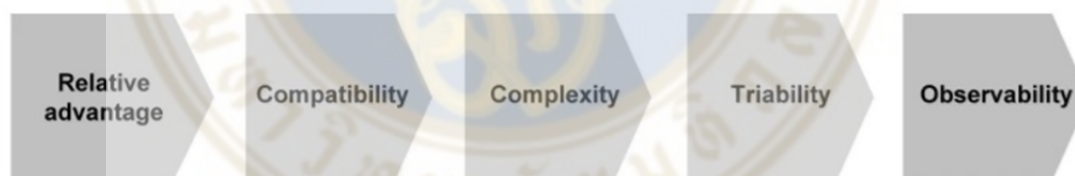


Figure 2.2 Factors related to New Product Adoption

2.3.1 Relative advantage

The innovation will be adopted more widely when the products or services itself are superior to the alternative solutions that it can be replaced. It can be measured in economic term (e.g. cheaper with the same performance than the old one or expensive but more powerful than the old one), convenience factor (e.g.using e-mail instead of writing letters) and status aspect (e.g. use this brand and I feel cool). However relative advantage alone cannot guarantee diffusion speed of adoption and success product adoption.

2.3.2 Compatibility

Compatibility related to the set of norms, value and other cultural aspects or religious beliefs of population of adopters. Product or services should be compatible with population and not against factors mentioned above (e.g. inappropriate name, wrong color, logo that has negative meaning).

2.3.3 Complexity

This is about how hard consumer can use or practice the products or services. (e.g. easy user interface, does it take many step to applied?). Low complexity level influence positive products or service adoption.

2.3.4 Triability

Triability is the degree to which an innovation may be experimented. It will lower the barriers to entry for customer. This may help to convince risk averse consumer to try and use product or services.

2.3.5 Observability

Products or services that have a lower degree of observability will spread more slowly than others, because observable innovations advertise for themselves. Marketers may have to advertise and promote their products or services for more speed adoption.

From past research findings, the first 3 factors, the relative advantage, compatibility and complexity consistently influence the level of innovation adoption. If the product score well in those three factors. Adopter likely seem to adopt the product. []

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Method

Methodology: Quantitative research approach

To survey the market and get the big pictures of how Bangkok metropolitan consume nuts. The quantitative research approach will be conducted. The data sets should be able to show the relevant consumer behaviors reflecting on Natural Nuts versus Seasoning Nuts consumption preference, Types of nut they consumed, Awareness of level of healthy diet, Diet types of consumer.

3.2 Sample Size and Data collection

Sample Size: Totals 200 samples

Demographic: Gender, Age, Income and Diet types

For conducting survey throughout Bangkok, questionnaire will be used to collect 200 samples that should be enough to well represented Bangkok metropolitans.

3.3 Research Questions

Expected Key-Results

1. Consumer Behavior Questions

- Choices of Nuts that they usually consumed
- Frequencies of consumption
- Consumption Environment – Activities and Eating with
- Purchasing Patterns – Amounts and Channels

2. Current Market Survey Questions

- Natural Nuts vs Seasonings Nuts Consumption preference
- Knowing Nut's Benefits
- Awareness Levels of healthy Diet
- Healthy Nut's Brand Perception

3. New Product Development Questions

- Important criteria related buying of Nuts
- Ideas for New Product Development

4. Additional Expected Results

- Consumer Behaviors by Genders, Age, Income Different
- Knowing Nut's Benefits relation to purchasing of product

3.3.1 Consumer Behavior Questions

3.3.1.1 Choices of Nuts that they usually consume

The question will focus on the relevant nuts that available in Thai markets which are Almonds, Macadamia, Peanuts, Cashews, Pistachio, Broad Bean, Pecan, walnuts and others.

3.3.1.2 Frequencies of consumption

How often they consume nuts Daily, Occasionally, Never, how many times in year, month or weeks.

3.3.1.3 Consumption Environment

Focusing on When and Where do they consume nuts e.g. Watching Movies, during breakfast, drinking with friends, on the trip or consume whether they feel like?

Consumption only Nuts alone or Eating with other types of food such as yogurt, milks and other kinds of food.

3.3.1.4 Buying Patterns

Number of products purchase at a time, where do they purchase from e.g. convenience store, supermarket and hypermarket.

3.3.2 Current Market Survey Questions

3.3.2.1 Knowing Nut's Benefits

Will ask consumer about knowing nut's benefits or not. This information will be used on consumer behavior related to knowing nut benefits.

3.3.2.2 Natural Nuts vs Seasonings Nuts Consumption preference

This question will reflect the trend and consumer behaviors on natural nuts (natural tastes) that already cooked and seasoning Nuts preference.

3.3.2.3 Awareness Levels of healthy Diet

Focus on finding about their healthy diet concern are they usually consume healthy food or consume like normal (doesn't think much about diets). Also questioning about nut benefits do they know the benefits of nuts. If knowing benefits of nuts will this help the consumption?

3.3.2.4 Healthy Brand Awareness

Listing of the brands that consumer perceived the healthiest brands. This will focus only on big brand that are available in Thai Market.

3.3.3 New Product Development Questions

3.3.3.1. Important criteria related buying of Nuts

Focus on how they choose to buy the product based on what criteria? In this study we will focus on 4Ps there are product, price, place and promotion factor.

3.3.3.2 Ideas for New Product Development

Ask about will consumers buy or try it when it came out? Question will survey the level of interest in nut related product e.g. Natural nuts, Seasoning nuts and Flavors.

The results of this research approach will be well match for this type of finding because it will show the trend, frequency and average consumption of nuts which are the important information for the marketers for the new product development.

CHAPTER IV

RESULTS AND FINDINGS

After the data screened out people who are not in Bangkok and not consume nuts. We ended up with total 208 samples from 240 participants. The demography of the collected samples will be shown below.

4.1 Demography of Collected Samples

Total 208 samples are 121 females and 87 males. Females are about 58.2% of total samples and male are about 42% Male from total samples.

Table 4.1 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	87	41.8	41.8	41.8
	Female	121	58.2	58.2	100.0
	Total	208	100.0	100.0	

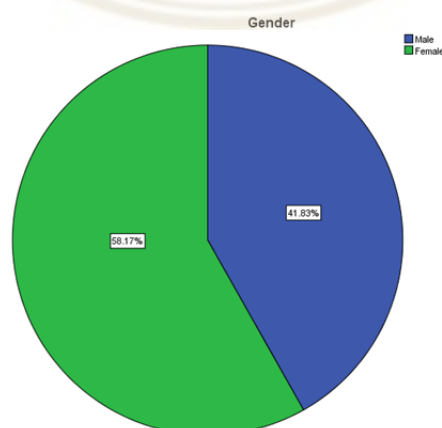


Figure 4.1 Age of Collected Samples

Most of the participants are at age range 25-34 years old which consist of 70% of the total samples and the second largest age range is between 15-25 years old which consist of about 16% of the total samples.

Table 4.2 Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-25	33	15.9	15.9	15.9
	25-34	146	70.2	70.2	86.1
	35-44	16	7.7	7.7	93.8
	45-54	9	4.3	4.3	98.1
	55-64	4	1.9	1.9	100.0
	Total	208	100.0	100.0	

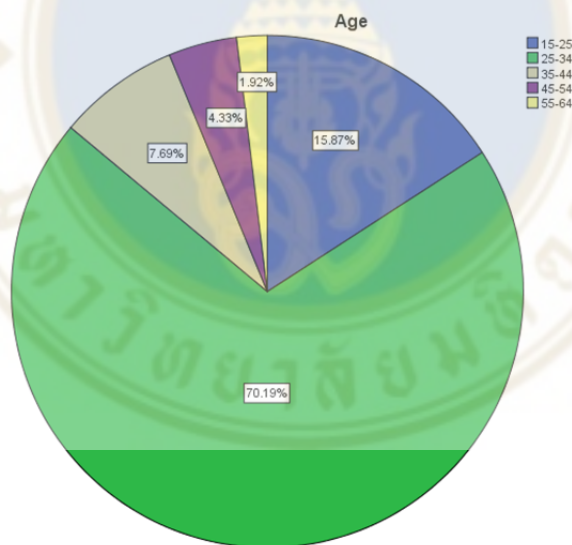
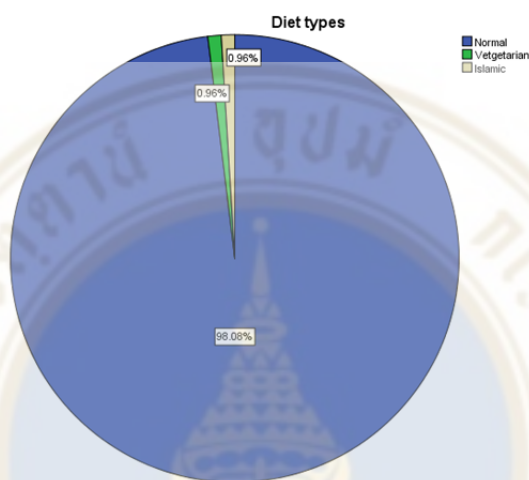


Figure 4.2 Age of Collected Samples

Most of the participants are at age range 25-34 years old which consist of 70% of the total samples and the second largest age range is between 15-25 years old which consist of about 16% of the total samples.

Table 4.3 Diet types

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	204	98.1	98.1	98.1
	Vetgetarian	2	1.0	1.0	99.0
	Islamic	2	1.0	1.0	100.0
	Total	208	100.0	100.0	

**Figure 4.3 Diet Type of Collected Samples**

Most of the participants are normal diet people which is about 98%. Unfortunately, we could collect Vegetarian and Islamic diet by only 2 persons. So, we can't say anything much these diet type of people.

Table 4.4 Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<15,000	25	12.0	12.1	12.1
	15,001-30,000	57	27.4	27.5	39.6
	30,001-50,000	69	33.2	33.3	72.9
	50,001-100,00	39	18.8	18.8	91.8
	100,001-300,000	15	7.2	7.2	99.0
	>300,000	2	1.0	1.0	100.0
	Total	207	99.5	100.0	
Missing	System	1	.5		
Total		208	100.0		

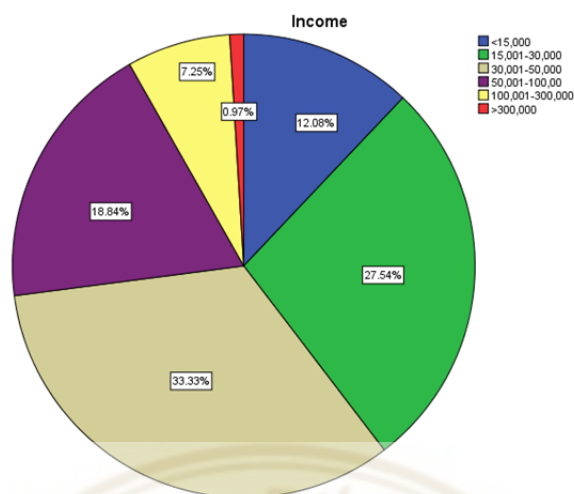


Figure 4.4 Income of Collected Samples

From the data we have collected shown the amount of salary earned per month in Thai baht. There are about 33.2% of 30,001-50,000฿ , 27.4 % of 15,001-30,000฿ , 18.8% of 50,001-100,000฿ and other range shown in the table above.

Table 4.5 Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Students	37	17.8	17.8	17.8
	Business	45	21.6	21.6	39.4
	Freelances	5	2.4	2.4	41.8
	Private Company Employees	97	46.6	46.6	88.5
	Government Employpess	8	3.8	3.8	92.3
	Government-owned company	11	5.3	5.3	97.6
	Unemployed	1	.5	.5	98.1
	others	4	1.9	1.9	100.0
	Total	208	100.0	100.0	

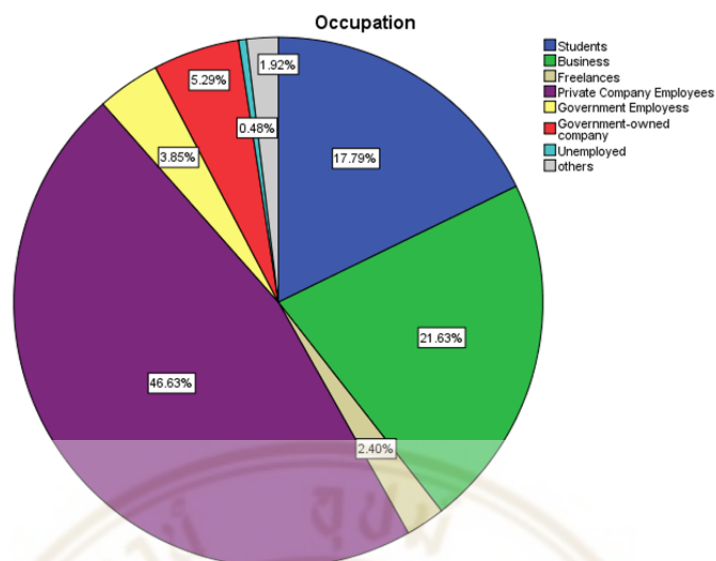


Figure 4.5 Occupation of Collected Samples

Most of the participants are Private company employees (46.6%) follow by businessman or business owners 21.6%, 17.8% students and other occupation has a little in number as seen in the table above.

4.2 Results for Consumer Behaviors

To get the overviews of consumer behavior the data in excel format will be computed to be present in charts e.g. the choices of nut they usually consume, frequency of consumption, consumption environment, natural nuts vs seasonings nuts consumption preference, knowing nut's benefits, awareness levels of healthy diet and healthy brand awareness. And the overviews results are shown below.

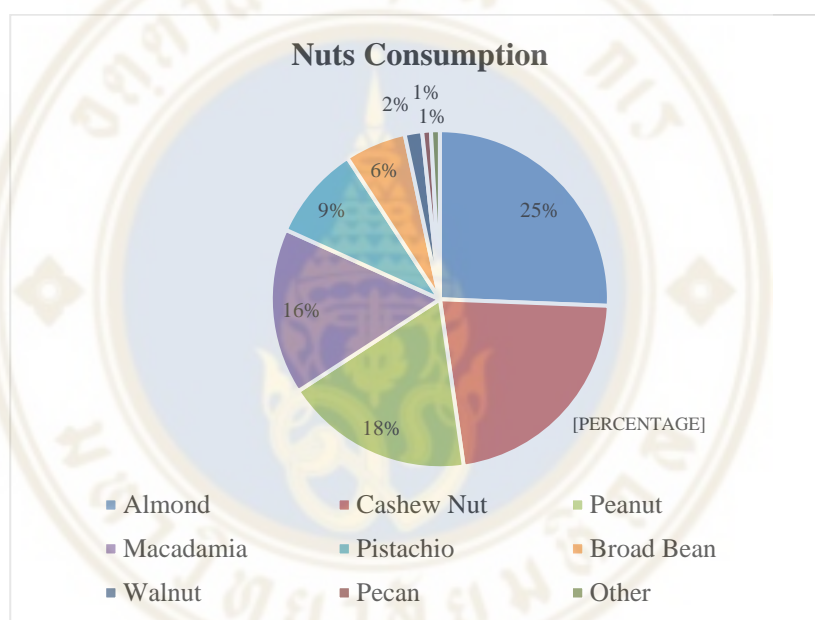
4.2.1 Choice of Nuts They Consume

Table 4.6 Nuts Consumption

Nuts	Counts	Percentages
Almond	153	25.63
Cashew Nut	132	22.11
Peanut	108	18.09

Table 4.6 Nuts Consumption (cont.)

Nuts	Counts	Percentages
Macadamia	95	15.91
Pistachio	54	9.05
Broad Bean	35	5.86
Walnut	10	1.68
Pecan	5	0.84
Other	5	0.84
Total	597	100%

**Figure 4.6 Nuts Consumption**

Almond is rank as #1 in consumption follow by #2 Cashew Nut, #3 Peanut, #4 Macadamia, #5 Pistachio, #6 Broad Bean and others as shown in chart and table above.

4.2.1.2 Choice of Nuts They Consume – Gender

Now we would like to see how male and female consume nuts differently or not. Crosstabs analyzing data from SPSS program will be applied. Among males the top 4 ranking nuts consumption are almond, cashew nut, peanut and macadamia. But for female top 4 nuts consumption are almond, cashew nut, macadamia and peanut.

The result that will be selected to present whether there is a significant in chi square. Result is shown below.

Table 4.7 SPSS Data Analysis: Peanut - Gender

Crosstab					
			Types of Nuts that you usually eat (Peanut)		Total
			0	1	
Gender	Male	Count	35	52	87
		% within Gender	40.2%	59.8%	100.0%
		% within Types of Nuts that you usually eat (Peanut)	35.0%	48.1%	41.8%
		% of Total	16.8%	25.0%	41.8%
	Female	Count	65	56	121
		% within Gender	53.7%	46.3%	100.0%
		% within Types of Nuts that you usually eat (Peanut)	65.0%	51.9%	58.2%
		% of Total	31.3%	26.9%	58.2%
Total	Count	100	108	208	
	% within Gender	48.1%	51.9%	100.0%	
	% within Types of Nuts that you usually eat (Peanut)	100.0%	100.0%	100.0%	
	% of Total	48.1%	51.9%	100.0%	
Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.689 ^a	1	.055		
Continuity Correction ^b	3.168	1	.075		
Likelihood Ratio	3.706	1	.054		
Fisher's Exact Test				.067	.037
Linear-by-Linear Association	3.671	1	.055		
N of Valid Cases	208				

Males tend to consume peanut more than females within their gender. However, the chi-square value should be less than 0.05 but as result is quite close to this value.so we can infer that there are some association between gender and peanut consumption.

Table 4.8 SPSS Data Analysis: Macadamia – Gender

Crosstab					
			Types of Nuts that you usually eat (Macadamia)		Total
			0	1	
Gender	Male	Count	55	32	87
		% within Gender	63.2%	36.8%	100.0%
		% within Types of Nuts that you usually eat (Macadamia)	48.7%	33.7%	41.8%
		% of Total	26.4%	15.4%	41.8%
	Female	Count	58	63	121
		% within Gender	47.9%	52.1%	100.0%
		% within Types of Nuts that you usually eat (Macadamia)	51.3%	66.3%	58.2%
		% of Total	27.9%	30.3%	58.2%
Total		Count	113	95	208
		% within Gender	54.3%	45.7%	100.0%
		% within Types of Nuts that you usually eat (Macadamia)	100.0%	100.0%	100.0%
		% of Total	54.3%	45.7%	100.0%
Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.765 ^a	1	.029		
Continuity Correction ^b	4.169	1	.041		
Likelihood Ratio	4.800	1	.028		
Fisher's Exact Test				.035	.020
Linear-by-Linear Association	4.742	1	.029		
N of Valid Cases	208				

According to above table. Female tend to consume macadamia more than male within their gender. And the test of chi-square shows that there is an association between gender and macadamia consumption.

4.2.1.3 Choice of Nuts They Consume - Income

There are also significant in chi-square value (<0.05) between income and almond consumption. so we can say that there is an association between income and almond consumption. the result are shown below.

Table 4.9 SPSS Data Analysis: Income - Almond

		Crosstab			
		Types of Nuts that you usually eat (Almond)		Total	
		0	1		
Income	<15,000	Count	11	14	25
		% within Income	44.0%	56.0%	100.0%
		% within Types of Nuts that you usually eat (Almond)	17.7%	9.7%	12.1%
		% of Total	5.3%	6.8%	12.1%
	15,001-30,000	Count	19	38	57
		% within Income	33.3%	66.7%	100.0%
		% within Types of Nuts that you usually eat (Almond)	30.6%	26.2%	27.5%
		% of Total	9.2%	18.4%	27.5%
	30,001-50,000	Count	19	50	69
		% within Income	27.5%	72.5%	100.0%
		% within Types of Nuts that you usually eat (Almond)	30.6%	34.5%	33.3%
		% of Total	9.2%	24.2%	33.3%
	50,001-100,00	Count	10	29	39
		% within Income	25.6%	74.4%	100.0%
		% within Types of Nuts that you usually eat (Almond)	16.1%	20.0%	18.8%
		% of Total	4.8%	14.0%	18.8%

Table 4.9 SPSS Data Analysis: Income – Almond (cont.)

Crosstab					
			Types of Nuts that you usually eat (Almond)		Total
			0	1	
	100,001-300,000	Count	1	14	15
		% within Income	6.7%	93.3%	100.0%
		% within Types of Nuts that you usually eat (Almond)	1.6%	9.7%	7.2%
		% of Total	0.5%	6.8%	7.2%
	>300,000	Count	2	0	2
		% within Income	100.0%	0.0%	100.0%
		% within Types of Nuts that you usually eat (Almond)	3.2%	0.0%	1.0%
		% of Total	1.0%	0.0%	1.0%
Total	Count	62	145	207	
	% within Income	30.0%	70.0%	100.0%	
	% within Types of Nuts that you usually eat (Almond)	100.0%	100.0%	100.0%	
	% of Total	30.0%	70.0%	100.0%	
Chi-Square Tests					
		Value	df	Asymptotic Significance (2-sided)	
Pearson Chi-Square		11.753 ^a	5	.038	
Likelihood Ratio		12.902	5	.024	
Linear-by-Linear Association		3.173	1	.075	
N of Valid Cases		207			

As we can see from above table, People who have high income tend to consume more almond within their income group. And we can see that higher income tend to be higher almond consumption.

4.2.2 Frequencies of Consumption

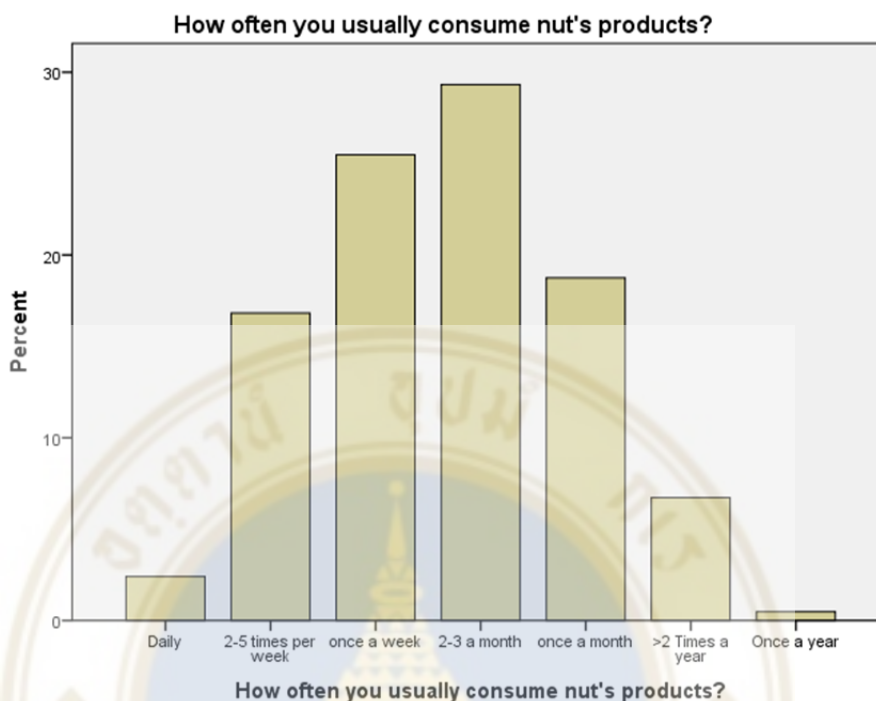


Figure 4.7 Frequencies of Consumption

Table 4.10 Frequencies of Consumption

How often you usually consume nut's products?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	5	2.4	2.4	2.4
	2-5 times per week	35	16.8	16.8	19.2
	once a week	53	25.5	25.5	44.7
	2-3 a month	61	29.3	29.3	74.0
	once a month	39	18.8	18.8	92.8
	>2 Times a year	14	6.7	6.7	99.5
	Once a year	1	.5	.5	100.0
	Total	208	100.0	100.0	

We can see that majority of the people usually consume nuts related products 2-3 times per months and around 1 time a week. We have run the crosstabs analyzing between frequency of consumption with gender, age, income, occupation and knowing nut's benefits but there are no relevant significant in chi-square values.

4.2.3 Consumption Environment

Activities

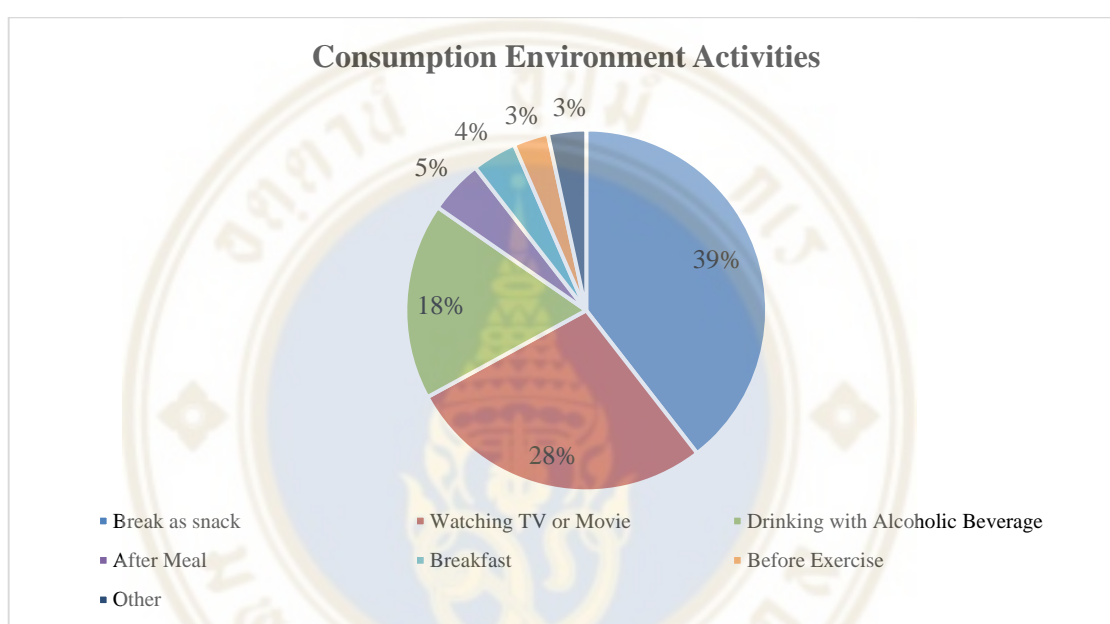


Figure 4.8 Consumption environment activities

Table 4.11 Activities

Activities	Counts	Percentages
Break as snack	139	39.48863636
Watching TV or Movie	97	27.55681818
Drinking with Alcoholic Beverage	62	17.61363636
After Meal	17	4.829545455
Breakfast	14	3.977272727
Before Exercise	11	3.125
Other	12	3.409090909
Total	352	

Above table shown the top 3 activities that consumers usually consume nut related products those are when they break as snack, watching TV or Movie and drinking alcohol beverages accordingly. In addition, there are some relevant significant association as shown below.

Activities – Gender

Table 4.12 SPSS Data Analysis: Drinking Alcoholic Beverage - Gender

Crosstab					
			When do you usually consume Nut's products? (Drinking Alcoholic Beverage)		Total
			0	1	
Gender	Male	Count	48	39	87
		% within Gender	55.2%	44.8%	100.0%
		% within When do you usually consume Nut's products? (Drinking Alcoholic Beverage)	33.6%	60.0%	41.8%
		% of Total	23.1%	18.8%	41.8%
	Female	Count	95	26	121
		% within Gender	78.5%	21.5%	100.0%
		% within When do you usually consume Nut's products? (Drinking Alcoholic Beverage)	66.4%	40.0%	58.2%
		% of Total	45.7%	12.5%	58.2%
Total		Count	143	65	208
		% within Gender	68.8%	31.3%	100.0%
		% within When do you usually consume Nut's products? (Drinking Alcoholic Beverage)	100.0%	100.0%	100.0%
		% of Total	68.8%	31.3%	100.0%

Table 4.12 SPSS Data Analysis: Drinking Alcoholic Beverage – Gender (cont.)

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.833 ^a	1	.000		
Continuity Correction ^b	11.769	1	.001		
Likelihood Ratio	12.773	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	12.771	1	.000		
N of Valid Cases	208				

There is an association between gender and drinking with alcoholic beverages. Male tend to consume nuts when they drink more than female within their gender group.

Table 4.13 SPSS Data Analysis: Break as Snack - Gender

Crosstab					
			When do you usually consume Nut's products? (Break as snack)		Total
			0	1	
Gender	Male	Count	39	48	87
		% within Gender	44.8%	55.2%	100.0%
		% within When do you usually consume Nut's products? (Break as snack)	53.4%	35.6%	41.8%
		% of Total	18.8%	23.1%	41.8%
	Female	Count	34	87	121
		% within Gender	28.1%	71.9%	100.0%
		% within When do you usually consume Nut's products? (Break as snack)	46.6%	64.4%	58.2%
		% of Total	16.3%	41.8%	58.2%
Total		Count	73	135	208
		% within Gender	35.1%	64.9%	100.0%
		% within When do you usually consume Nut's products? (Break as snack)	100.0%	100.0%	100.0%
		% of Total	35.1%	64.9%	100.0%

Table 4.13 SPSS Data Analysis: Break as Snack – Gender (cont.)

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.218 ^a	1	.013		
Continuity Correction ^b	5.505	1	.019		
Likelihood Ratio	6.189	1	.013		
Fisher's Exact Test				.018	.010
Linear-by-Linear Association	6.188	1	.013		
N of Valid Cases	208				

There is an association between gender and consumption environment - break as snack. Female tend to consume nuts when they are break than male within their gender group.

4.2.4 Eating with

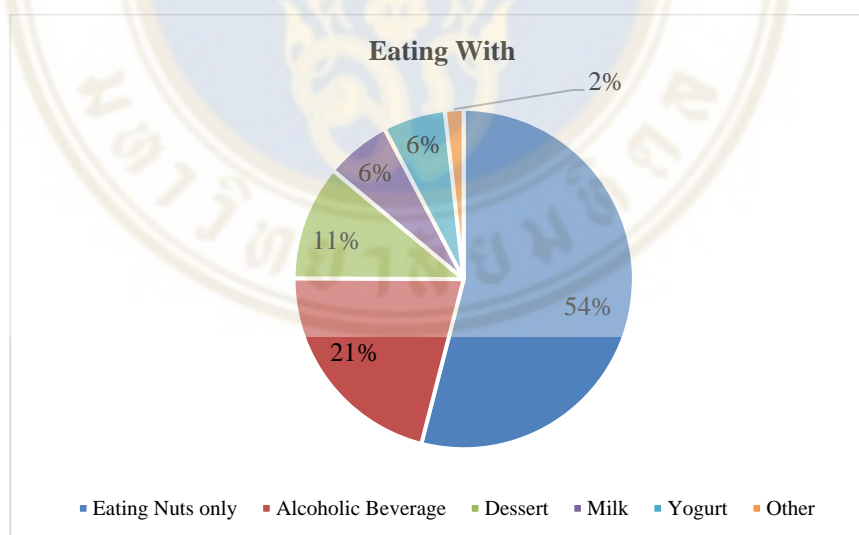
**Figure 4.9 Eating with**

Table 4.14 Eating with

Eating With	Counts	Percentages
Eating Nuts only	182	54.00593472
Alcoholic Beverage	71	21.06824926
Dessert	37	10.97922849
Milk	21	6.231454006
Yogurt	20	5.934718101
Other	6	1.78041543
Total	337	

Most people consume nuts only, with alcoholic beverage and with dessert as shown above in chart and table.

Eating with – Gender

Table 4.15 SPSS Data Analysis: Eating With - Gender

Crosstab					
			Do you usually consume Nuts with others food? (Eating with Alcoholic Beverages)		Total
			0	1	
Gender	Male	Count	48	39	87
		% within Gender	55.2%	44.8%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Alcoholic Beverages)	35.0%	54.9%	41.8%
		% of Total	23.1%	18.8%	41.8%
	Female	Count	89	32	121
		% within Gender	73.6%	26.4%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Alcoholic Beverages)	65.0%	45.1%	58.2%
		% of Total	42.8%	15.4%	58.2%
Total		Count	137	71	208
		% within Gender	65.9%	34.1%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Alcoholic Beverages)	100.0%	100.0%	100.0%
		% of Total	65.9%	34.1%	100.0%

Table 4.15 SPSS Data Analysis: Eating With – Gender (cont.)

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.606 ^a	1	.006		
Continuity Correction ^b	6.810	1	.009		
Likelihood Ratio	7.569	1	.006		
Fisher's Exact Test				.008	.005
Linear-by-Linear Association	7.569	1	.006		
N of Valid Cases	208				

There is an association (Chi-square <0.05) between gender and consumption environment – eating with alcoholic beverage. Males tend to consume nuts related product with alcoholic beverage than females with their gender group.

Table 4.16 SPSS Data Analysis: Eating with Desserts – Gender

Crosstab					
			Do you usually consume Nuts with others food? (Eating with Desserts)		Total
			0	1	
Gender	Male	Count	79	8	87
		% within Gender	90.8%	9.2%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Desserts)	46.5%	21.1%	41.8%
		% of Total	38.0%	3.8%	41.8%
	Female	Count	91	30	121
		% within Gender	75.2%	24.8%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Desserts)	53.5%	78.9%	58.2%
		% of Total	43.8%	14.4%	58.2%
Total		Count	170	38	208
		% within Gender	81.7%	18.3%	100.0%
		% within Do you usually consume Nuts with others food? (Eating with Desserts)	100.0%	100.0%	100.0%
		% of Total	81.7%	18.3%	100.0%

Table 4.16 SPSS Data Analysis: Eating with Desserts – Gender (cont.)

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.247 ^a	1	.004		
Continuity Correction ^b	7.235	1	.007		
Likelihood Ratio	8.831	1	.003		
Fisher's Exact Test				.006	.003
Linear-by-Linear Association	8.207	1	.004		
N of Valid Cases	208				

There is an association (Chi-square <0.05) between gender and consumption environment – eating with dessert. Females tend to consume nuts related product with dessert than males with their gender group.

4.2.5 Purchasing Patterns

Amount of Purchase

**Figure 4.10 Amount of Purchase**

Table 4.17 Amount of Purchase

Amount of Nut Related Products you buy at a time					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 pack	109	52.4	52.4	52.4
	2-5 packs	94	45.2	45.2	97.6
	6-12 packs	4	1.9	1.9	99.5
	>12 packs	1	.5	.5	100.0
	Total	208	100.0	100.0	

People usually buy nuts related products from 1-5 packs as shown in above chart and table.

4.2.6 Distribution Channels

**Figure 4.11 Distribution Channels**

Table 4.18 Distribution Channels

You usually buy Nut Related Products from?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Covenience Store	99	47.6	47.6	47.6
	Super Market	71	34.1	34.1	81.7
	Hyper Market	19	9.1	9.1	90.9
	Traditional Store	9	4.3	4.3	95.2
	Online Channal	1	.5	.5	95.7
	Other	9	4.3	4.3	100.0
	Total	208	100.0	100.0	

Most consumers buy nuts related products from Convenience store and supermarket as shown above from chart and table.

Distribution Channels - Income

Table 4.19 SPSS Data Analysis: Distribution Channels – Income

		Income * You usually buy Nut Related Products from ? Crosstabulation						
		You usually buy Nut Related Products from ?						
		Covenience Store	Super Market	Hyper Market	Traditional Store	Online Channal	Other	Total
Income <15,000	Count	13	5	2	3	0	2	25
	% within Income	52.0%	20.0%	8.0%	12.0%	0.0%	8.0%	100.0%
	% within You usually buy Nut Related Products from ?	13.1%	7.0%	11.1%	33.3%	0.0%	22.2%	12.1%
	% of Total	6.3%	2.4%	1.0%	1.4%	0.0%	1.0%	12.1%
15,001-30,000	Count	32	18	0	5	1	1	57
	% within income	56.1%	31.6%	0.0%	8.8%	1.8%	1.8%	100.0%
	% within You usually buy Nut Related Products from ?	32.3%	25.4%	0.0%	55.6%	100.0%	11.1%	27.5%
	% of Total	15.5%	8.7%	0.0%	2.4%	0.5%	0.5%	27.5%
30,001-50,000	Count	32	22	9	1	0	5	69
	% within Income	46.4%	31.9%	13.0%	1.4%	0.0%	7.2%	100.0%
	% within You usually buy Nut Related Products from ?	32.3%	31.0%	50.0%	11.1%	0.0%	55.6%	33.3%
	% of Total	15.5%	10.6%	4.3%	0.5%	0.0%	2.4%	33.3%
50,001-100,00	Count	17	16	6	0	0	0	39
	% within Income	43.6%	41.0%	15.4%	0.0%	0.0%	0.0%	100.0%
	% within You usually buy Nut Related Products from ?	17.2%	22.5%	33.3%	0.0%	0.0%	0.0%	18.8%
	% of Total	8.2%	7.7%	2.9%	0.0%	0.0%	0.0%	18.8%

Table 4.19 SPSS Data Analysis: Distribution Channels – Income (cont.)

Income * You usually buy Nut Related Products from ? Crosstabulation

		You usually buy Nut Related Products from ?						
		Covenience Store	Super Market	Hyper Market	Traditional Store	Online Channal	Other	Total
100,001-300,000	Count	5	10	0	0	0	0	15
	% within Income	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	100.0%
	% within You usually buy Nut Related Products from ?	5.1%	14.1%	0.0%	0.0%	0.0%	0.0%	7.2%
	% of Total	2.4%	4.8%	0.0%	0.0%	0.0%	0.0%	7.2%
>300,000	Count	0	0	1	0	0	1	2
	% within Income	0.0%	0.0%	50.0%	0.0%	0.0%	50.0%	100.0%
	% within You usually buy Nut Related Products from ?	0.0%	0.0%	5.6%	0.0%	0.0%	11.1%	1.0%
	% of Total	0.0%	0.0%	0.5%	0.0%	0.0%	0.5%	1.0%
Total	Count	99	71	18	9	1	9	207
	% within Income	47.8%	34.3%	8.7%	4.3%	0.5%	4.3%	100.0%
	% within You usually buy Nut Related Products from ?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	47.8%	34.3%	8.7%	4.3%	0.5%	4.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	51.174 ^a	25	.002
Likelihood Ratio	52.559	25	.001
Linear-by-Linear Association	.001	1	.972
N of Valid Cases	207		

a. 25 cells (69.4%) have expected count less than 5. The minimum expected count is .01.

There is an association (Chi-square <0.05) between income and distribution channels. People who have higher income tend to buy more from supermarket than convenience store.

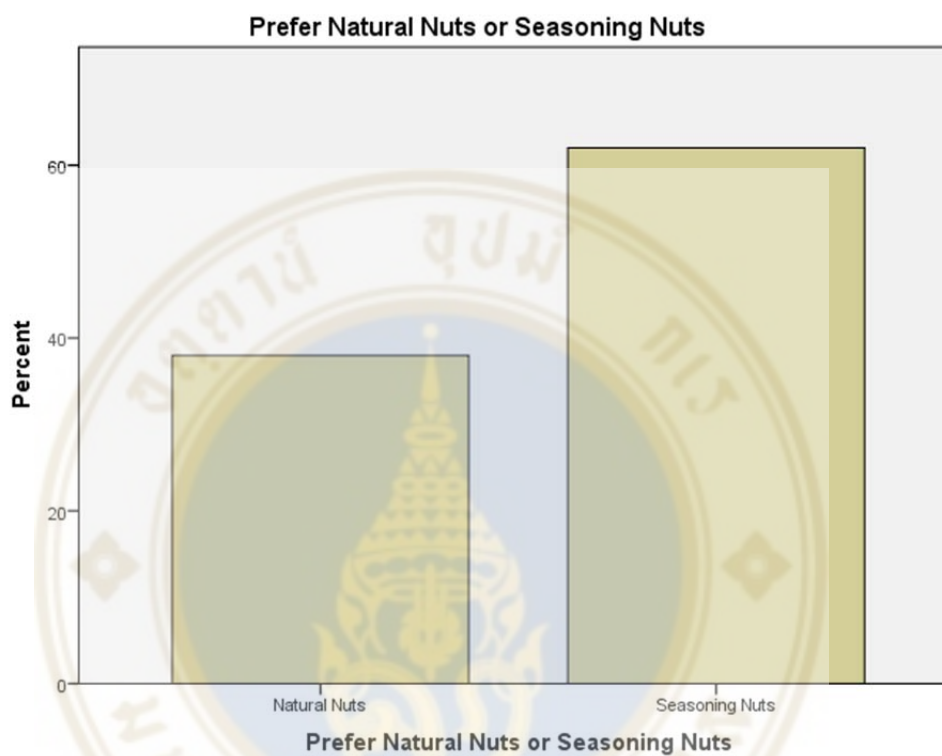
4.3 Results for Current Market Analysis

To get the overviews of current market situation, Data of natural nuts vs seasoning nuts consumption preference, knowing nut's benefits, people diet types, and current consumer health brands perception will be presented. The results are being shown below.

Natural Nuts vs Seasonings Nuts Consumption preference

Prefer Natural Nuts or Seasoning Nuts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Natural Nuts	79	38.0	38.0	38.0
	Seasoning Nuts	129	62.0	62.0	100.0
	Total	208	100.0	100.0	

**Figure 4.12** Natural vs Seasoning Nuts Preference

From collected samples, 62% of people prefer seasoning nuts and 38% prefer natural nuts. Most people prefer seasoning nuts more than natural Nuts.

4.3.1 Knowing Nut's Benefits

Knowing Nuts Benefits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	138	66.3	66.3	66.3
	No	70	33.7	33.7	100.0
Total		208	100.0	100.0	

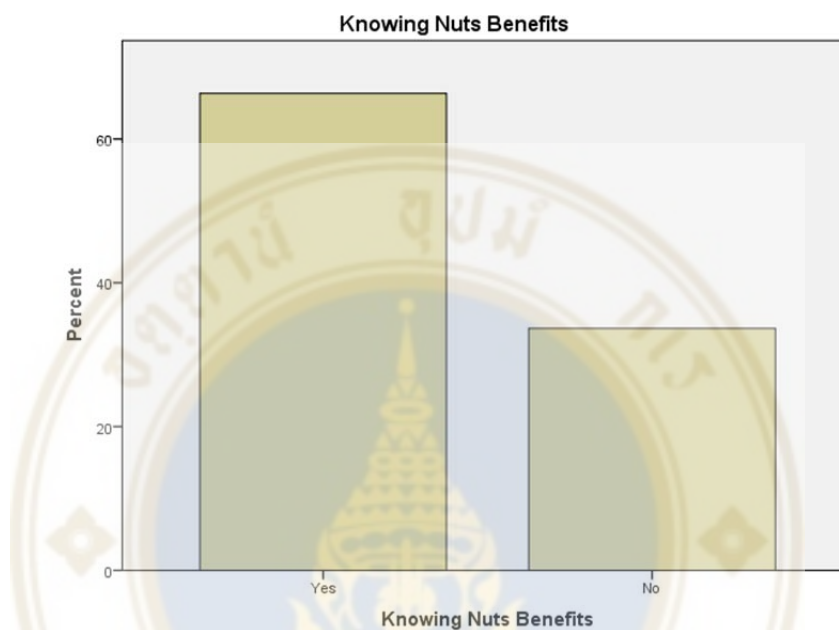


Figure 4.13 Knowing Nut's Benefit

Table 4.20 SPSS Data Analysis: Knowing Nuts Benefits – Frequencies of Consumption (Correlations)

Correlations

		Knowing Nuts Benefits		How often you usually consume nut's products?
Spearman's rho	Knowing Nuts Benefits	Correlation Coefficient	1.000	.093
		Sig. (2-tailed)	.	.181
		N	208	208
	How often you usually consume nut's products?	Correlation Coefficient	.093	1.000
		Sig. (2-tailed)	.181	.
		N	208	208

From collected samples, around 66.3% of people know benefit of nuts. we have conduct the test of correlation between knowing nut's benefit and frequency of consumption. The result show that they are not corelated (coefficient value >0.05).

4.3.2 Diet types

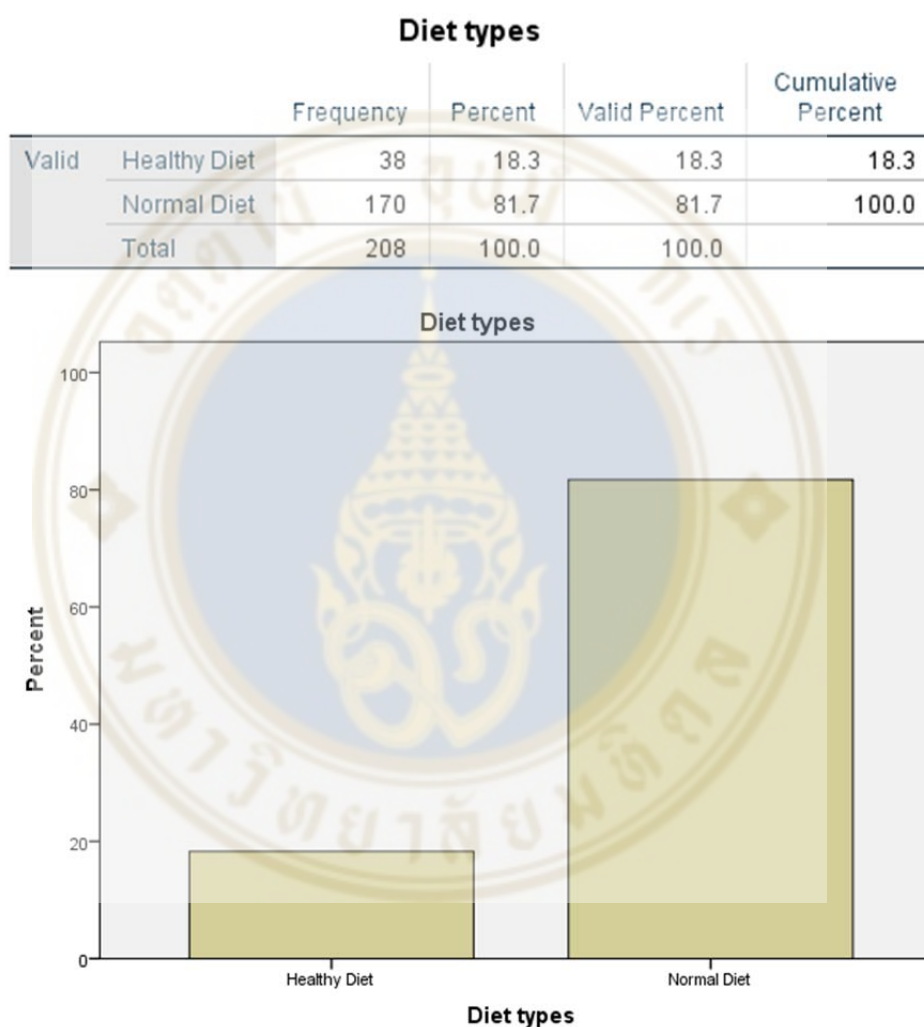


Figure 4.14 Knowing Nut's Benefit

From collected samples, 81.7% of people are normal diet people and 18.3% are healthy diet people. So, there could be a potential market for healthy nuts product for this type of group around 20% of total samples. We will find out more about healthy diet people are associate or related with their interests in healthy nuts products (natural nuts) or not.

4.3.3 Healthy Nut's Brand Perception

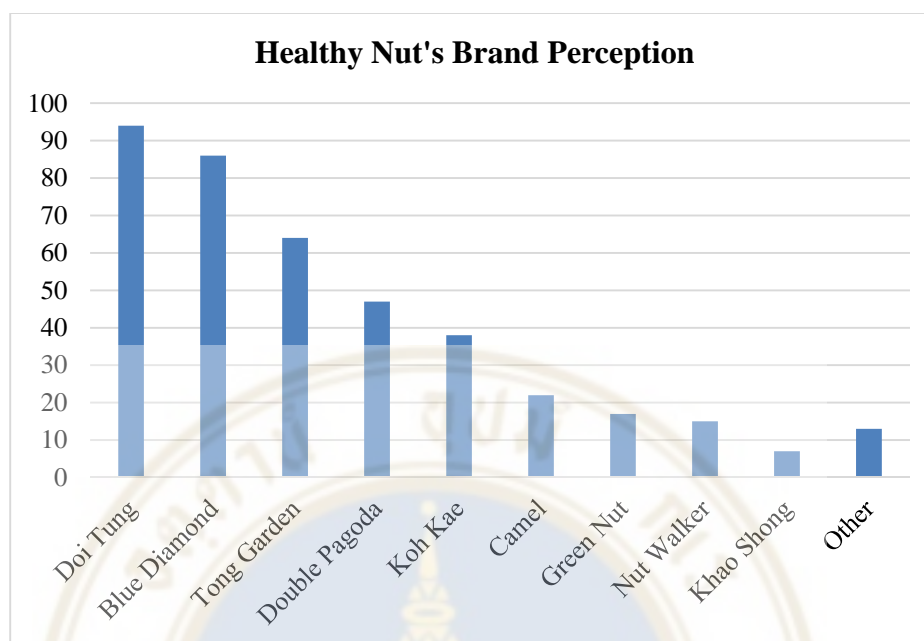


Figure 4.15 Knowing Nut's Benefit

Table 4.21 Knowing Nut's Benefit

Brands	Counts	Percentages
Doi Tung	94	23.32506203
Blue Diamond	86	21.33995037
Tong Garden	64	15.8808933
Double Pagoda	47	11.66253102
Koh Kae	38	9.429280397
Camel	22	5.459057072
Green Nut	17	4.218362283
Nut Walker	15	3.722084367
Khao Shong	7	1.736972705
Other	13	3.225806452
Total	403	

From result above, we can see consumer perception about current healthy nuts brands in consumer minds ranked as above chart and table. Results are Rank #1 Doi Tung, Rank #2 Blue Diamond, Rank #3 Tong Garden, Rank #4 Double Pagoda and Rank #5 Koh Kae.

4.4 Results for New Product Development

4.4.1 Important criteria related buying of Nuts

Below information show about 4Ps factors and sub-factors results from the data we have collected. The questionnaire is five level weighting scale. After we run data in SPSS program to find means of each factor we need make the interpretation. For interpretation we divide the important of each factor by range of interval. Given that value 1.00-1.80 is not important, 1.81-2.60 not quite important, 2.61-3.40 is moderately important, 3.41-4.20 is quite important and 4.21-5.00 is very important.

4.4.1.1 Products

Table 4.22 Product

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Brand	208	1	5	3.55	.936
Quality of Product	208	1	5	4.55	.665
Packaging Design	208	1	5	3.57	.854
Taste	208	1	5	4.72	.564
Healthy Products	208	1	5	3.68	.977
Halal logo	208	1	5	2.16	1.323
Organic Products	208	1	5	3.34	1.144
Gluten-Free Products	208	1	5	2.71	1.342
Valid N (listwise)	208				

The top three most important factors for product are taste, quality and healthy product. Consumer rated taste and quality are very important factors for purchasing criteria.

4.4.1.2 Price

Table 4.23 Price

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Low Price	208	1	5	3.52	.922
Reasonable Price with Quality	208	1	5	4.48	.688
High Price High Quality	208	1	5	3.73	.894
Valid N (listwise)	208				

For price consumer rated reasonable price with quality as very important factors for purchasing criteria.

4.4.1.3 Place

Table 4.24 Place

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Easy to Purchase from convenience store and supermarket	208	1	5	4.33	.787
Can order from online channal	208	1	5	2.84	1.243
Can be purchase from Café and Restaurant	208	1	5	3.05	1.134
Valid N (listwise)	208				

For place, consumers rated easy to purchase from convenience store and supermarket as very important factor for purchasing criteria.

4.4.1.4 Promotion

Table 4.25 Promotion

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Discount	208	1	5	3.57	1.157
Buy 1 get 1 Free	208	1	5	3.92	1.120
Lucky Draw for Air plane ticket and travel trip	208	1	5	2.49	1.344
Lucky Draw for cars and phones	208	1	5	2.50	1.348
Valid N (listwise)	208				

For promotion consumes rated buy one gets one free and discount as quite important factors for purchasing criteria.

For overall factor summary of 4Ps, the top five important factors are taste, quality, reasonable price, easy to purchase and buy one gets one free.

4.4.2 Type of New Product

The results are gathered from consumers asking about their interesting levels to try each product types if there are new products to the market.

Table 4.26 Type of New Product

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Healthy Nuts (Natural tastes, No Seasoning and additives)	208	1	5	3.81	1.104
Mixed Nuts	208	1	5	3.34	1.271
Coated Nuts	208	1	5	2.47	1.191
Seasoning Nuts (Nuts with Flavors e.g. Wasabi, Tomyum)	208	1	5	3.55	1.195
Ready to Eat Nuts products e.g. Nut with milk or yogurt	208	1	5	3.42	1.209
Valid N (listwise)	208				

The result shown that consumer rated healthy nut products as quite interest product to try.

Table 4.27 SPSS Data Analysis: Healthy Nuts – Diet Types

Crosstab

Healthy Nuts (Natural tastes, No Seasoning and additives)

			1	2	3	4	5	Total
Diet types	Healthy Diet	Count	2	1	3	9	23	38
		% within Diet types	5.3%	2.6%	7.9%	23.7%	60.5%	100.0%
		% within Healthy Nuts (Natural tastes, No Seasoning and additives)	28.6%	5.0%	6.3%	14.1%	33.3%	18.3%
		% of Total	1.0%	0.5%	1.4%	4.3%	11.1%	18.3%
Normal Diet	Normal Diet	Count	5	19	45	55	46	170
		% within Diet types	2.9%	11.2%	26.5%	32.4%	27.1%	100.0%
		% within Healthy Nuts (Natural tastes, No Seasoning and additives)	71.4%	95.0%	93.8%	85.9%	66.7%	81.7%
		% of Total	2.4%	9.1%	21.6%	26.4%	22.1%	81.7%
Total	Total	Count	7	20	48	64	69	208
		% within Diet types	3.4%	9.6%	23.1%	30.8%	33.2%	100.0%
		% within Healthy Nuts (Natural tastes, No Seasoning and additives)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.4%	9.6%	23.1%	30.8%	33.2%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.745 ^a	4	.001
Likelihood Ratio	19.208	4	.001
Linear-by-Linear Association	9.848	1	.002
N of Valid Cases	208		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.28.

There is an association between diet type and interest levels of healthy nut product. Healthy diet type people tend to rate their interest levels higher than normal diet type people.

4.4.3 Flavors

Table 4.28 Flavors

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pizza	208	1	5	2.85	1.245
Wasabi	208	1	5	3.18	1.350
Mala	208	1	5	2.81	1.366
Cheese	208	1	5	3.35	1.389
TomYumGoong	208	1	5	3.30	1.278
Green Curry	208	1	5	2.47	1.231
Chicken	208	1	5	2.81	1.307
Paprika	176	1	5	3.42	1.276
Valid N (listwise)	176				

Consumer rated top three interested flavor as paprika, cheese and TomYumGoong. However, these flavors are not reach 4.20 which are very interested. So, we can infer that they are quite interested in these flavors.

CHAPTER V

DISCUSSION AND CONCLUSION

5.1 Discussion

From all results and findings, there are many interested things to be considered. The summary is listed below.

1. Top three nuts consumption in Bangkok are almond, cashew nut and peanut.
2. There is different behavior between males and females on nuts consumption in Bangkok. Females ranked nuts they usually consume as almond, cashew nut and macadamia. While males ranked as almond cashew nut and peanut.
3. People who have more income in Bangkok tend to choose almond as the nut they usually consume.
4. Major frequency of purchasing of nuts related products in Bangkok is around 2-4 times a month.
5. People in Bangkok consume nut products when they break as snack, watching TV and drinking alcohol.
6. Males in Bangkok tend to consume nut product when they drink alcohol than females and females in Bangkok tend to consume nut as breaking snack more than males
7. Males in Bangkok tend to consume nut products with alcohol more than female. And females tend to consume nut products with dessert more than males.
8. In Bangkok, the amount of purchase from consumer at a time is around 1-5 packs.
9. Most consumers in Bangkok buy nut related products from convenience store and supermarket.
10. In Bangkok, People who have high income tend to buy nut related products from supermarket than convenience store.
11. Around 38% of people in Bangkok preferred natural nuts
12. Around 66.3% of people in Bangkok know nut's benefits

13. There is no association between knowing nut's benefit and frequency of purchasing nut related products in Bangkok

14. Around 18.3% of people in Bangkok are healthy diet people

15. The top 3 healthy nut brands in Bangkok people mind are Doi Tung, Blue Diamond and Tong Garden.

16. The top three most new products people in Bangkok want to try are healthy natural nut product, new flavor seasoning nut and ready to eat nut with milk or yogurt.

17. Females in Bangkok tend to interest more to try healthy natural nuts products than males.

18. Healthy diet type people in Bangkok tends to interest more to try natural nuts products than normal diet type.

19. The top five important factors for purchasing consideration in Bangkok people mind are taste, quality, reasonable price, easy to find from convenience store and supermarket and promotion buy one gets one free.

From information we got I think that there is potential market for healthy nut products. According to the data there are about 18.3% of healthy diet people and most people ranked healthy nut products as number one which mean they are interested in healthy nut products. There are demands for healthy nut's product which may be good for new product adoption because people show high interest about this. It's not against the world trends that would resulted in more compatibility of the products and nuts product is not a complicated product.

In real situation manufacturing natural healthy nuts products is a lot easier than seasoning, coated, mixed nuts etc. Healthy nuts products cost less cost in manufacturing because they don't have to add anything e.g. seasoning and additives. They just clean and pack. This kind of product result in higher gross profit which mean the company will get more income.

I quite be surprised about knowing nut benefits should mean something to frequency of purchasing but there is no association and relation. This study shows that there are not. People just eat nuts product without think that much.

From the literature review and the framework consumer still consider 4Ps as their main criteria to purchase. We can see that all five attributes that they rank

which are taste quality are product, reasonable price related price, easy to find related to place and buy one get one free related to promotion. The 4Ps framework is relevant framework related to consumer buying behaviors. To meet the expectation of consumers, the new product should be at least in the level of expected products which they should consider 4Ps.

5.2 Conclusion

Overall project is quite successful. All the information that we got answer all the research questions and objective of this study. Those are consumer behaviors of people in Bangkok, current market situation and ideas for new product development. Since It is hard to get information about nut consumption in Thailand from previous studies and I can't find any of those. So, I conducted this research. We gain all necessary information about consumer behavior, current market situation and ideas for new product development. For consumer behavior we know about what type of nuts they consume, frequency of consumption, consumption environment, purchasing amount and purchasing channels. For current market situation we gained information about the demand of healthy nut's products, healthy nut brand's perception, knowing nut benefits and percentage of people who are healthy diet people. For ideas for new product development we got the information about new types of nut product that they most interested and the most interest flavor that they interest. All this information can answer the 3 aspects of research question and the objective

The information we got can be used for creating marketing strategies to compete against current nuts market. There are a lot many unprocessed data to find out more. But I choose to process only necessary data that are enough to answer my research questions.

CHAPTER VI

RECOMMENDATION AND LIMITATION

6.1 Recommendation

This study provides a lot of information about current nut's market in Bangkok. Nut's company may use this information about consumer behaviors to launch effective marketing strategies and create new products that match with current market demands.

6.1.1 For New Product Development

6.1.1.1 Seasoned Nuts Market is still the Main Market

From the research we can see that majority of consumers (about 60%) still prefer seasoning nuts. If the company want to launch new seasoning nut product, they could launch top 3 flavors that ranked from this research those are paprika, cheese and Tom Yum Goong. The product that they should focus to launch new flavors are almond, cashew nut, peanut and macadamia because these are the nuts that most people consume. We should launch this to match with the demand of current market.

6.1.1.2 Demand for Healthy Nuts

Around 40% of consumers demand healthy nut products. Healthy nut products may cost less to manufacture. Since the product itself should be natural and clean. They don't have to put the seasoning and additives to its. This may be result in higher gross profit. The company may launch more natural nuts product into the market since the current market does not have much of these in the market. There is still not much competition in this market. So, it could be the blue ocean and the great opportunity to seize this market. They could launch new product in almond, cashew nut, peanut and macadamia to match with current market demand.

6.1.2 For Marketing Strategies

6.1.2.1 Put High Price products in Supermarket

People with high income and high purchasing power tend to buy nut product from supermarket. Company may put the product such as almond, macadamia, cashew nut in supermarket by offering them many choices of product while putting low price product such as peanut in convenience store to match with consumer type.

6.1.2.2 Main Selling Channels

Convenience store and supermarket are still the main selling channel. They should still consider its as the main distribution channels. While online shopping and café and restaurant may be considered as alternative way of advertising your products over the competitors

6.1.2.3 Promotional Usage

Company may launch promotion buy one get one free. This is the most effective promotion that will drive sale growth.

6.1.2.4 Advertising about Nut's Products

For advertisement company should focus to show the taste and quality of the products to consumers. They should not provide much information about nut benefits because from this study show that people just consume nut because they want to. It is not related to the knowledge they have about nuts. This may save their air time and cost for useless advertisement.

6.2 Limitation and Further studies

Limitation of this study is time constraint. I got only 3 months to finish this study. It ended up as I can conduct this research in only limit area which are Bangkok. There are somethings that should be recommend for further study. First point is the demographic of samples. In this study I ended up with only 2 vegetarian diet people and 2 Islamic diet people which are not enough to run the statistical test. So, I would recommend researcher to collect more samples within this group of people. These group of people consumer behavior maybe different from normal people who are the majority in Bangkok. Second point is the place to conduct this study is only in Bangkok which cannot represent population of Thai people due to limitation of timeframe. So, for further research.

New research should be conducting to cover all regions in Thailand that can represent Thai population and the result that will be gained may be different from this study.



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Appendix A: Interview Guides

Questionnaire Draft 1

1. Do you consume nuts? (if no -> skip the questionnaire)
 - a. Yes
 - b. No

2. Do you live in Bangkok? (If no -> skip the questionnaire)
 - a. Yes
 - b. No

3. Please select 3 types of nuts that you usually consume? (Can choose more than one choice)
 - Peanuts
 - Cashew Nuts
 - Almonds
 - Pistachios
 - Broad Beans
 - Macadamias
 - Walnuts
 - Pecan
 - Other please specify

4. How often do you usually consume Nuts?
 - a. Daily
 - b. 2-3 times a week
 - c. Once a week
 - d. Twice a month
 - e. Once a month
 - f. Quarterly
 - g. Twice a year
 - h. Once a year

5. When do you usually consume Nuts?

- During breakfast
- Watching TV or Movies
- Drinking alcohols
- During break as snacks
- Before exercise
- After Meal
- Others please specify _____

6. Do you usually consume Nuts with others food? (Can choose more than one choice)

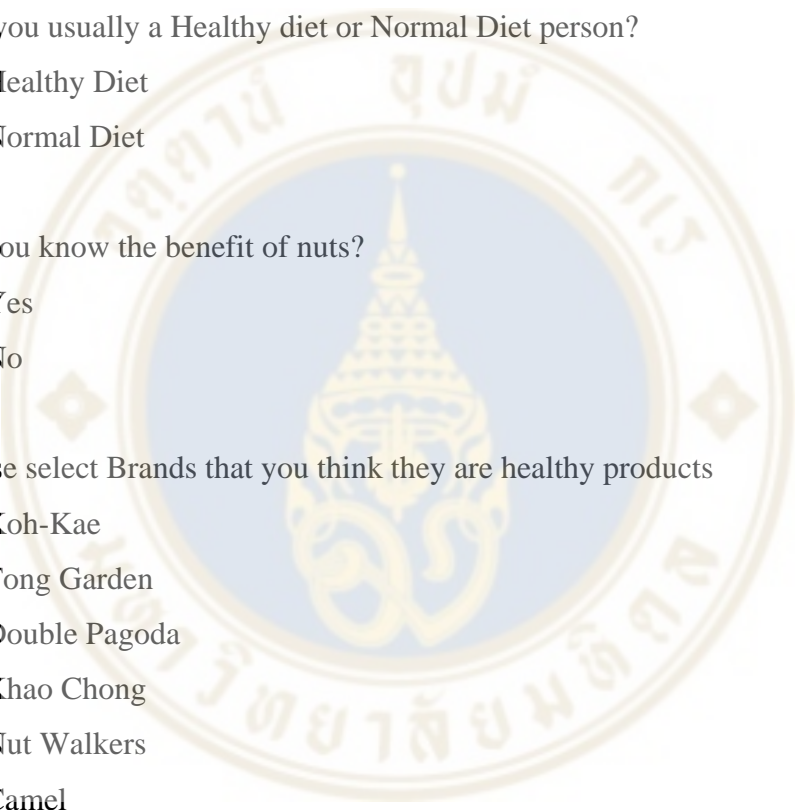
- Eating Nuts only
- With Milk
- With yogurt
- With Deserts E.g. Cake, Chocolates
- With Alcoholic beverages
- Others please specify _____

7. Where do you buy nuts products?

- a. Convenience Store e.g. 7-11, Family Mart
- b. Super Market e.g. Tops, Gourmet Market, Central food hall
- c. Hyper market e.g. Makro, Lotus, Big-C
- d. Online Purchase

8. How do you buy nut product per one purchase?

- a. 1 pack
- b. 2-5 packs
- c. 6-12 packs
- d. >12 packs

9. Who will you usually buy nut products for?
- for personal consumption
 - for others
10. Do you prefer eating Natural Nuts (Natural Taste) or Seasoning Nuts?
- Natural Nuts
 - Seasoning Nuts
11. Are you usually a Healthy diet or Normal Diet person?
- Healthy Diet
 - Normal Diet
12. Do you know the benefit of nuts?
- Yes
 - No
13. Please select Brands that you think they are healthy products
- Koh-Kae
 - Tong Garden
 - Double Pagoda
 - Khao Chong
 - Nut Walkers
 - Camel
 - Doi Tung
 - others please specify_____
- 

14. What are factors that concern to you when buying Nuts product rate from 1-5 (1 least concerned – 5 Most concerned) (Please mark X in the box)

Factors	Sub-factors	Least important	Less important	Moderately important	More important	Most important
Product	Brand					
	Quality of the product					
	Packaging					
	Healthy					
	Taste					
	Halal					
	Organic					
Gluten Free						
Price	Low price					
	Reasonable price related to quality					
	High price with premium quality					
Place	Availability of the product in store (easy to find and buy)					
	Can order online					
	Can be bought in café (coffee shop) and restaurant					
Promotion	Discount					
	Buy 1 got 1 free					
	Offer sweepstake coupon for ticket or travel trip					
	Offer sweepstake coupon for prize e.g. (motor cycle, car, money)					

15. If there are new nut products in the market which one you want to buy? (Please mark x in the box)

Product	Least interest	Less interest	Moderately interest	More interest	Most interest
Healthy and Natural nut product (Natural tastes, No additives, no seasoning, no MSG)					
Mixed Nuts product (e.g. Almond with dried fish, Variety of nut in one package)					
Nut product with tasty flavor					
Ready to eat Natural Nut products pair with yogurt or milks					

16. If there are new nut flavors in market which one you are likely to try or buy? (Please mark x in the box).

Flavors	Don't want to try	Not much interest	average	Quite like to try	Surely will try it
Pizza					
Wasabi					
Mala (มาลา)					
Cheese					
Tom yum Goong					
Green Curry					
Chicken					

Other flavor please specified _____

Participant Information

Genders

- a. Male
- b. Female

Ages

- a. 15-24
- b. 25-34
- c. 35-44
- d. 45-54
- e. 55-64
- f. 65+

Diet Types

- a. Normal Diets
- b. Vegetarian
- c. Islamic

Occupation

- a. Students/Collages
- b. Private company employee
- c. Government employee
- d. Freelance
- e. Business Owner
- f. Unemployed
- g. Other_____

Income

- a. Lower than <15,000 THB
- b. 15,001 - 30,000 THB
- c. 30,001 - 50,000 THB
- d. 50,001 - 100,000 THB
- e. 100,000 - 300,000 THB
- f. More than 300,000 THB