

**A STUDY OF FACTORS AFFECTING ON PURCHASING
BEHAVIOR OF SUNSCREEN PRODUCTS IN BANGKOK
AND SUBURB AREAS**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF MANAGEMENT
COLLEGE OF MANAGEMENT
MAHIDOL UNIVERSITY
2016**

COPYRIGHT OF MAHIDOL UNIVERSITY

Thematic paper
entitled
**A STUDY OF FACTORS AFFECTING ON PURCHASING
BEHAVIOR OF SUNSCREEN PRODUCTS IN BANGKOK
AND SUBURB AREAS**

was submitted to the College of Management, Mahidol University
for the degree of Master of Management

on
August 21, 2016



.....
Mr. Sakonpon Chanthong
Candidate

.....
Assoc. Prof. Roy Kouwenberg,
Ph.D., CFA
Advisor

.....
Asst. Prof. Prattana Punnakitikashem,
Ph.D.
Chairperson

.....
Assoc. Prof. Annop Tanlamai,
Ph.D.
Dean
College of Management
Mahidol University

.....
Simon Zaby,
Ph.D.
Committee member

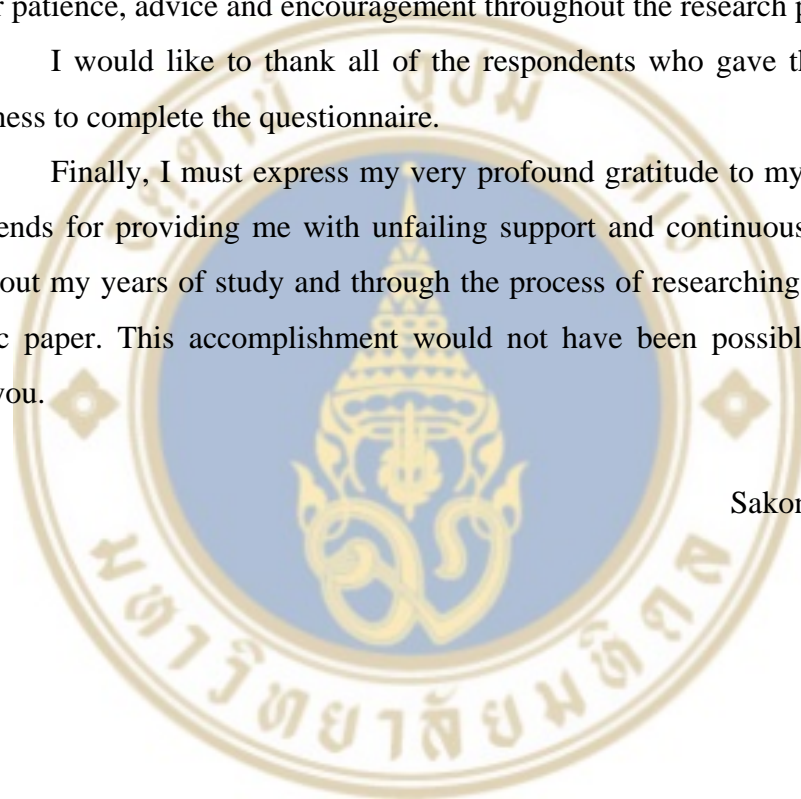
ACKNOWLEDGEMENTS

I would first like to thank my advisor Assoc. Prof. Roy Kouwenberg of the College of Management at Mahidol University. This thematic paper would not be completed without the guidance from him. I would like to express my deepest gratitude for your patience, advice and encouragement throughout the research process.

I would like to thank all of the respondents who gave their support and willingness to complete the questionnaire.

Finally, I must express my very profound gratitude to my parents and my 17C friends for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thematic paper. This accomplishment would not have been possible without them. Thank you.

Sakonpon Chanthong



A STUDY OF FACTORS AFFECTING ON PURCHASING BEHAVIOR OF SUNSCREEN PRODUCTS IN BANGKOK AND SUBURB AREAS

SAKONPON CHANTHONG 5749253

M.M. (MARKETING AND MANAGEMENT)

THEMATIC PAPER ADVISORY COMMITTEE: ASSOC. PROF. ROY KOUWENBERG, Ph.D., ASST. PROF. PRATTANA PUNNAKITIKASHEM, Ph.D., SIMON ZABY, Ph.D.

ABSTRACT

This study aims to find out sun protection behaviors of Thai people and what are the factors affecting purchasing behaviors of sun screen products among Thai consumers in Bangkok and suburb areas. The data were derived from online questionnaires which were randomly distributed and acquired the sample size of 103 respondents. The target respondents are both men and women age between 18 – 60 years old in Bangkok and suburb areas.

The findings of this research demonstrate that the demographic factors has significantly impact on purchasing behaviors of Thai consumer in Bangkok and suburb areas especially in age and sex. Besides, the study found that the marketing mix factor (4P) affecting on consumer purchasing behavior in terms of the average spending per capita in one time purchasing.

KEY WORDS: Sunscreen / Purchasing Behavior / Bangkok and suburb areas/ Marketing Mix / Buyer motivation

53 pages

CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
ABSTRACT	iii
LIST OF TABLES	vii
LIST OF FIGURES	ix
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Research Questions	3
1.4 The Research Objective	3
1.5 Research Scope	3
1.6 Expected benefit	3
CHAPTER II LITERATURE REVIEW	4
2.1 A Theory of Consumer Behavior	4
2.1.1 Meaning of consumer behavior	4
2.2 Model of Consumer Behavior	7
2.2.1 Marketing and other stimuli	7
2.2.2 Buyer's black box	8
2.2.3 Buyer's decision	8
2.3 The Definition of Marketing Mix	8
2.4 The Components of Marketing Mix	9
2.4.1 Product	9
2.4.2 Price	10
2.4.3 Place	10
2.4.4 Promotion	10
2.5 Conceptual Framework	11
CHAPTER III RESEARCH METHODOLOGY	12
3.1 Research Design	12

CONTENTS (cont.)

	Page
3.1.1 Part A: Background information	12
3.1.2 Part B: Sun protection behavior	12
3.1.3 Part C: Sun screen purchasing behavior	12
3.1.4 Part D: Marketing Mix	13
3.2 Data Collection Methodology	13
3.2.1 Population	13
3.2.2 Sampling	13
3.2.3 Data Collection	13
3.3 Data Analysis	14
CHAPTER IV RESEARCH FINDINGS	15
4.1 Statistical Descriptive Results of The Hypotheses According to the Research Conceptual Framework	16
4.1.1 Part A: The analysis of demographic information of respondents	16
4.1.1 Part B: The analysis of sun protection behaviors of Thai people in Bangkok and suburb areas	18
4.1.3 Part C: The analysis of sun screen purchasing behaviors of Thai people in Bangkok and suburb areas	19
4.1.4 Part D: The descriptive statistics of marketing mix factors affecting on purchasing of sunscreen of Thai people in Bangkok and suburb areas from highest to lowest mean scores	24
4.2 Statistical Tests of The Hypotheses According to The Research Conceptual Framework	25
CHAPTER V CONCLUSION AND RECOMMENDATION	39
5.1 Research Conclusion	39
5.1.1 Product	40
5.1.2 Price	41

CONTENTS (cont.)

	Page
5.1.3 Promotion	41
5.1.4 Place	41
5.2 Recommendation	42
REFERENCES	43
APPENDICES	46
Appendix A : Questionnaire	47
BIOGRAPHY	53



LIST OF TABLES

Table	Page
2.1 An analysis of consumer behavior	5
4.1 Shows the number of persons and percentage of demographic results which are comprised of sex, age, occupation, education and salary	16
4.2 Shows the number of persons and percentage sun protection behavior results of Thai people in Bangkok and suburb areas	18
4.3 shows the number of persons and percentage of sunscreen purchasing behavior results of Thai people in Bangkok and suburb areas	19
4.4 The shows statistics results of marketing mix factors with statistical significance at $p < 0.05$	24
4.5 The summary of Pearson Chi-square test from Crosstabs between personal factors and purchasing behavior of sunscreen product (B1,C1-C4)	26
4.6 The summary of Crosstabs between sex and the main reason for using sunscreen products	27
4.7 The summary of Crosstabs between age and the average price of product that consumer spent for sunscreen	28
4.8 The summary of Crosstabs between age and the frequency of buying sunscreen product	29
4.9 The summary of Crosstabs between age and the most influential person or source of information when making the decision to purchase sunscreen	30
4.10 The summary of Crosstabs between career and the average price of product that consumer spent for sunscreen	31
4.11 The summary of Crosstabs between education and the average price of product that consumer spent for sunscreen	32
4.12 The summary of Crosstabs between salary and the average price of product that consumer spent for sunscreen	33

LIST OF TABLES (cont.)

Table	Page
4.13 The summary of one way ANOVA test between marketing mix and main reason of using sunscreen products (B3)	34
4.14 The summary of one way ANOVA test between marketing mix and an average price of sunscreen per capita (C1)	35
4.15 The summary of one way ANOVA test between marketing mix and frequency of buying sunscreen product (C2)	36
4.16 The summary of one way ANOVA test between marketing mix and the most influential person or source of information when making a decision to purchase sunscreen (C3)	37
4.17 The summary of one way ANOVA test between marketing mix and the most important factors for you when purchasing sunscreen (C4)	38

LIST OF FIGURES

Figure	Page
1.1 Relationship of exposure to UVR and Burden of Disease	1
2.1 Shows how the marketing mix and other stimuli enter a consumer's thoughts	7
2.2 shows the components of marketing mix	9
2.3 Conceptual Framework	11
4.1 The pie chart shows many factors that influence on a decision in sunscreen purchasing of Thai people in Bangkok and suburb areas	22
4.2 This bar graph shows important factors that people consider when purchasing sunscreen of Thai people in Bangkok and suburb areas	22
4.3 This bar graph shows the list of top sunscreen brand in consumer's minds	23

CHAPTER I

INTRODUCTION

1.1 Background

Speaking of the benefit of Solar UV radiation, we generally know that it is one of the essential factors in plant photosynthesis to release oxygen which is the most necessary element for human breathing. Further, it also has the ability to boost the human body's vitamin D supply (Mead MN, 2008). In contrast, if human unnecessarily exposes the skin to prolonged sunlight, it can cause a chronic health effects on the skin that we called Sunburn (erythema), long term inflammatory reaction of the eye, aging and damage immune system. The most serious problem from UV radiation can be a skin cancer and cataracts which have very harmful effects on human daily life (WHO, 2016). According to the World Health Organization, there are between 2 million to 3 million deaths caused by UV exposure around the world (WHO, 2016).

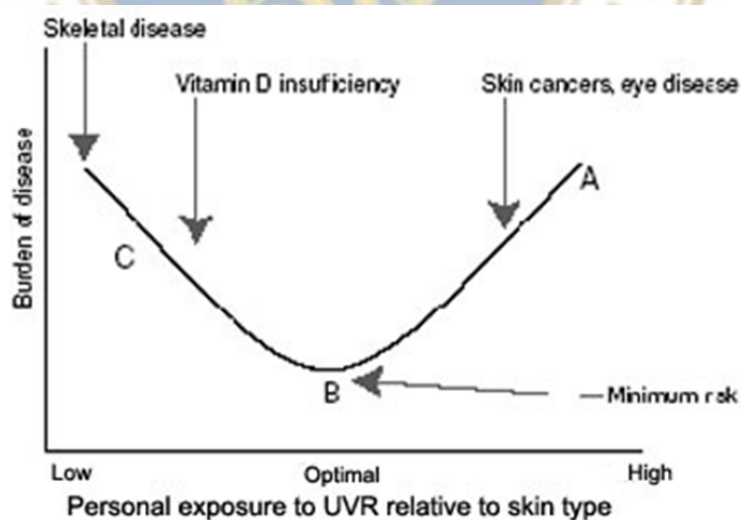


Figure 1.1 Relationship of exposure to UVR and Burden of Disease

In many parts of the world, protecting skin from excessive UV exposure is currently a concern issue especially in tropical Southeast Asia. In particular, the geographic location of Thailand (the country on the equator) is one of the most important drivers that rank Thailand in the group of the highest solar UV intensity. Recently, Bangkok reaches the highest UV index of 12 (Extreme) during 14-21 April 2016 which is really harmful to human skin (Weather online, 2016). Those who intend to risk skin cancer such as workers, people who play outdoor sports and sunbathing lovers should protect themselves. Therefore, the appropriate amount of sunlight exposure in human is what we should be concern about and the risk from excessive UV ray can be prevented by trying to avoid sunlight during 10am to 4pm which is the highest intensity period of UV in the day, wearing long-sleeved clothing and applying sunscreen with SPF 15 at least (American Skin Association, 2016).

1.2 Problem Statement

In order to prevent the skin from ultra violet rays, using enough and appropriate type of sun screens become a fundamental skincare routine of people who are concerned about their skin appearance and health. Sunscreen helps to protect your skin from sunburn, early skin aging and skin cancer. However, most Thai people typically don't understand much of what's written on a sunscreen lotion label. For example, people often lack the right understanding about UVA, UVB and SPF on label. Generally, Ultra Violet has been divided into 2 groups, UVA and UVB. The specific number of SPF is not actually relevant to the UVA but UVB which causes sunburn and skin cancer. Meanwhile, UVA causes melanoma, dark spots and aging (Fourtanier, 2008). In conclusion, Thai people tends to use more sunscreen products in recent year and some sunscreen producers are still lacks of understand n consumer's need and still do not execute the right communication to consumer.

1.3 Research Questions

1. What are the sun protection behaviors of Thai people and attitude towards UV protection and preventing skin from UV ray by using sunscreen?
2. What are the sunscreen consideration factors when Thai people decide to purchase?
3. How is the awareness of sunscreen products in Bangkok and suburb areas?
4. What are the functional benefits that Thai people are most concerned in sunscreen products?

1.4 The Research Objective

This study aims to find out sun protection behaviors of Thai people and what are the factors affecting purchasing behaviors of sun screen products among Thai consumers in Bangkok and suburb areas.

1.5 Research Scope

The research studies purchasing behavior for sunscreen product and consumer attitudes towards UV protection. The sample of the study is groups of research target in Bangkok and suburb areas both men and women age between 18 – 60 years old. The information derives from primary research (online survey).

1.6 Expected benefit

Due to sunscreen market in Thailand tend to growth year by year and has a potential to grow continuously, this study is expected to study the attitude of people towards risk from UV and its protection, purchasing behavior and other factors affecting sunscreen market in Bangkok and suburb areas. This research is expected to be a role model that can be used in strategic marketing in order to penetrate the right target and segment of sunscreen market and also set the right brand position. Moreover, it is helps to understand market channel and the way to communicate to customer to understand more about using the proper sunscreen product in order to get an effective usage.

CHAPTER II

LITERATURE REVIEW

2.1 A Theory of Consumer Behavior

Due to all marketing decisions are based on assumption about consumer behavior, studying consumer behavior helps to understand deeply what is in their mind and behave in certain ways to a variety of product and services offered in order to create value for customers and profit for organizations. A right understanding of consumer perceptions of certain products or services is a valuable key to design effective marketing activities such as marketing planning, marketing resources allocation, marketing communication and marketing managements.

2.1.1 Meaning of consumer behavior

There are some marketers who state the definitions of consumer behavior are as follows:

According to Engel, Blackwell, and Mansard, “consumer behavior is the actions and decision processes of people who purchase goods and services for personal consumption”.

According to Louden and Bitta, “consumer behavior is the decision process and physical activity, which individuals engage in when evaluating, acquiring, using or disposing of goods and services”

According to Lars Perner, "consumer behavior is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society." (Smriti Chand, 2016)

In general, to study of consumer behavior, consumer is assumed as an actor in a particular marketplace. Each of them plays various roles and perspectives in every steps of decision making process. Starting from the information provider, from the user to the player and to the disposer. Consumer behavior occurs either for the individual, in

the context of a group or an organization. For example, friends influence what kind and style of clothes a person wears. Therefore, an understanding of how consumers generally think and behave in buying situations is essential to determine the factors that influence the preferences of the target consumers.

To get more ideas in consumer mind, analyzing consumer behavior is searching for purchasing and consuming behavior in order to know their insight. There are 6Ws and 1H questions (Who?, What?, Why?, Who participates? When? Where? and How?) in order to find out 7O's answers (Occupants, Objects, Objectives, Organizations, Occasions, Outlets, and Operations (Philip Kotler, 2003).

Table 2.1 An analysis of consumer behavior

Questions (6Ws, 1H)	The Answer to know (7Os)	Marketing Strategy
1. Who is the target market?	Occupants of target group including <ul style="list-style-type: none"> • Demographic • Geographic • Psychology • Behavior 	4Ps <ul style="list-style-type: none"> • Product • Price • Place • Promotion
2. What does the consumer buy?	Objects to consumer buy <ul style="list-style-type: none"> • Product component • Competitive differentiation 	Product strategies <ul style="list-style-type: none"> • Core Product • Tangible product such as quality ,feature style ,packaging and brand • Augmented product • Expected product • Competitive differentiation product

Table 2.1 An analysis of consumer behavior (cont.)

Questions (6Ws, 1H)	The Answer to know (7Os)	Marketing Strategy
3. Why does the consumer buy?	Objectives <ul style="list-style-type: none"> • Internal factors • Cultural factors • Personal factors 	<ul style="list-style-type: none"> • Product strategies • Promotion strategies • Price strategies • Distribution Channel strategies
4. Who participate in the buying?	Influence organization including people to <ul style="list-style-type: none"> • Initiators • Influencers • Decision makers • Buyers • Users 	<ul style="list-style-type: none"> • Advertising and promotion strategies • Word of mouth
5. When does the consumer buy?	Occasions such as during seasonal or festival time	<ul style="list-style-type: none"> • Promotion strategies
6. Where does the consumer buy?	Outlets such as dependent store ,convenience store and discount store	<ul style="list-style-type: none"> • Distribution channel strategies for suitable middle man to customer
7. How does the consumer buy?	Operations including <ul style="list-style-type: none"> • Problems recognition • Information search • Evaluation of alternative • Purchase decision • Post purchase evaluation 	<ul style="list-style-type: none"> • Promotional strategies including advertising , personal selling ,public relating , and direct marketing

Source: Philip Kotler, Marketing Management 12e, page 180, 2003

2.2 Model of Consumer Behavior

The study of consumer behavior is a tough work because consumer may say one thing but do another. In other words, some consumers might not know their real motivation. With this issue, marketers cannot tap into consumer minds but they just only apply stimuli and observe the conducts of customers. The hidden information is considered to be a “black box”. Many researchers describe consumer behavior as a study of individuals or groups and physical or emotional processes they use to select, obtain, consume and dispose of products or services, to satisfy needs or wants, and the impact that these processes have on the customer and society.

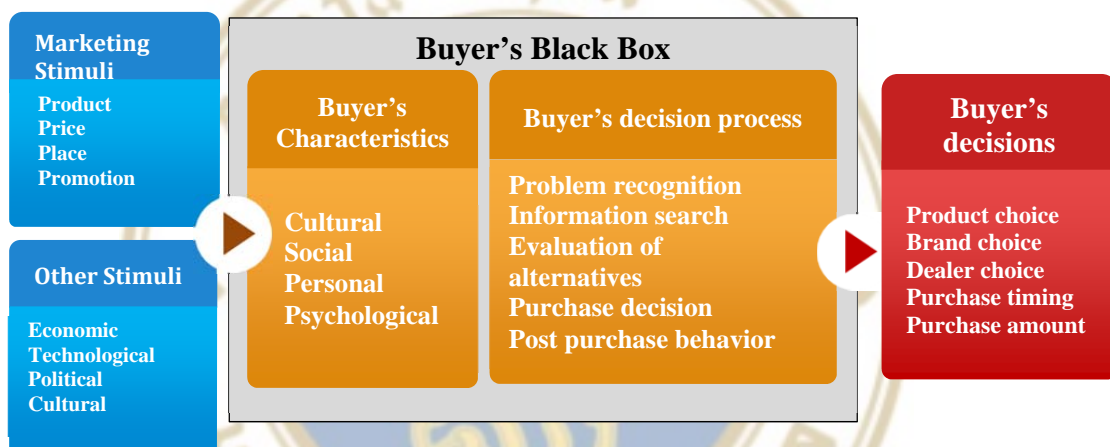


Figure 2.1 Shows how the marketing mix and other stimuli enter a consumer's thoughts

Source: Kotler (2003)

According to Phillip kotler (2003) concept of consumer behavior model, the basic model of consumer decision making process comprises three major components, marketing and other stimuli, the buyer's black box and the buyer response.

2.2.1 Marketing and other stimuli

A group of stimulus influences consumer in the environment which is defined as a two kinds. First group is marketing mix components (4Ps). There are presented by marketers via the marketing communication tools and product itself.

1. Product: attributes, features, appearance, packaging etc.
2. Price: cost, value, esteem (prestige)
3. Place: location and convenience, accessibility
4. Promotion: advertising, sales promotion, personal selling, publicity, direct marketing

The other that is presented by the environment, and could be economic, technological, political and cultural.

2.2.2 Buyer's black box

The stimulus that is presented to the consumer by the marketer and the environment is then dealt with by the buyer's black box. The buyer's black box comprises two sub components that are the buyer's characteristics and the buyer decision process. The buyer's characteristics could be personal, psychological, cultural and social. The buyers decision making process could be Problem recognition, Information search, Evaluation of alternatives, Purchase decision, Post-purchase behavior.

2.2.3 Buyer's decision

This stage is a final result after consumer already gets a conclusion to buy. The result could be a set of certain components, product choice, brand choice, dealer choice, purchase timing and purchase amount. The buyer's decision is not permanent if the stimulus and buyer's black box change.

2.3 The Definition of Marketing Mix

According to Kotler and Armstrong (2010), "the marketing mix is the set of controllable tactical marketing tools – product, price, place, and promotion – that the firm blends to produce the response it wants in the target market."

According to Kumar (2010), "the marketing mix is the terms used to describe the combination of methods employed by a business in order to achieve its objectives by marketing its products and services effectively to a specific target group."

Marketing mix is generally known as 4Ps. It can be highlighted as one of the fundamental concepts in marketing and focuses on four aspects of the business practice:

product, price, promotion and place (John Dudovski, 2012). It is one of the most popular theoretical marketing frameworks that have been used by many organizations to strategize marketing campaign and other decision for more efficient manner. The practical application of marketing mix by companies varies according to their size, chosen business strategies, geographical location, competitive edge and a range of other factors.



Figure 2.2 shows the components of marketing mix

2.4 The Components of Marketing Mix

2.4.1 Product

Product is a physical object that is sold and has a palpable characteristic, a complex set of benefits that can be used to meet customer needs. Product refers to the goods and services offered by the organization (Bahman S. P., Kamran N., Mostafa E., 2013). We are paying not for the tangible product but for the benefit it will provide. So, product can be described as a bundle of benefits which a marketer offers to the consumer for a price. While buying a pair of shoes, we are actually buying comfort for our feet. Product can also take the form of a service like an air travel, telecommunication, etc. Thus, the term product refers to goods and services offered by the organization for sale.

2.4.2 Price

Price is the amount charged for a product or service. It is the second most important element in the marketing mix. Pricing is one of the important decisions that need to be made by a firm which would affect its revenue and profitability (Selim A., Habibur R., 2015). Many factors like demand for a product, cost involved, consumer's ability to pay, prices charged by competitors for similar products, government restrictions etc. have to be kept in mind while fixing the price. A company or marketing manager needs to consider not only the costs it takes to produce the item, but also the customer's perception on the value of the product (Selim A., Habibur R., 2015).

2.4.3 Place

A place or distribution channel is a way of transporting the product to the customer and the level of accessibility of the product to customers. This element of marketing mix is like the vehicle for the other elements of marketing (Selim A., Habibur R., 2015). Goods are produced to be sold to the consumers. They must be made available to the consumers at a place where they can conveniently make purchase through distribution channels. Distribution channels can be defined as "a path through which goods and services flow in one direction (from vendor to the consumer) and the payments generated by them that flow in the opposite direction (from consumer to the vendor)".

2.4.4 Promotion

Promotion is a key ingredient in many marketing campaigns, consists of a diverse collection of incentive tools, mostly short term, designed to stimulate trial, or quicker or greater purchase, of particular products or services by consumers or the trade (Kotler, 2010). A marketing effort may not be successful if there are products available at outlet stores convenient to them but lack of consumer awareness about its price, features, availability etc. Therefore promotion is an important ingredient of marketing mix as it refers to a process of informing, persuading and influencing a consumer to make choice of the product to be bought. It arouses potential consumer's interest in the product, compare it with competitors' product and make his choice. The proliferation of print and electronic media has immensely helped the process of promotion.

2.5 Conceptual Framework

According to the relevant theories, here is the conceptual framework that shows the independent variables and dependent variables.

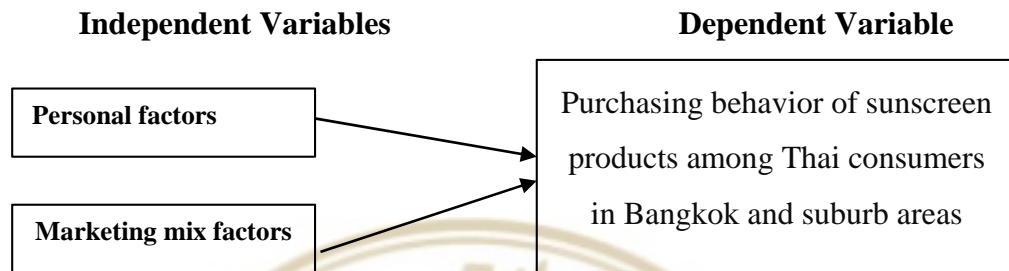


Figure 2.3 Conceptual Framework



CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This research will explore the factors that affect the purchasing behavior of sunscreen product in Bangkok and suburb areas. The research is divided into four sections: background information, sun protection behavior, sun screen purchasing behavior, and marketing mix. The following are the sample questions of each part.

3.1.1 Part A: Background information

1. Sex
2. Age
3. Education
4. Salary
5. Occupations

3.1.2 Part B: Sun protection behavior

1. Do you apply sunscreen every day?
2. What is an average time that you spend outdoor on weekdays?
3. What is an average time that you spend outdoor on weekends?
4. What is your main reason for using sunscreen products?
5. What is your main reason for not using sunscreen products?

3.1.3 Part C: Sun screen purchasing behavior

1. Which one is the most influenced person/media on your decision making in purchasing sunscreen?
2. How is your frequency in buying sunscreen product?
3. What are the most consideration factors when purchasing sunscreen?

3.1.4 Part D: Marketing Mix

Please consider each factor and choose (mark) the level of agreement which indicate how much each factors affect your consideration on purchasing sunscreen product in the market (Use Likert scale)

So the result will benefit for both marketing and business analysis. The research wills analysis by many SPSS methods to show the relations between each variable and helps to understand more in consumer purchasing behavior of sunscreen product.

3.2 Data Collection Methodology

3.2.1 Population

This research population focuses on people who usually consume sunscreen product in Bangkok area and suburb. The target population should also be able to access the internet and social media due to the online questionnaire approach. This research does not limit the age, income, or occupation of the respondents, beyond having internet access.

3.2.2 Sampling

The sampling group of this research is randomly picked to answer the online questionnaire. The sample size is at least 100 male and female respondents and lives in Bangkok and suburb areas. The research approach is the online close-ended questionnaire due to it is easy and convenience for respondents to access the survey.

3.2.3 Data Collection

Based on the research design, the data collection will conduct with the online close-ended questionnaire covering all frameworks and five sections of answers that the research aims to find out. The questionnaire is designed into five parts.

1. Introduction is the first part that indicates the objective of survey and estimate time to complete it.
2. Screening question is the second that helps to screen respondents to get into the real sampling target.

3. General question helps to explore the research target behavior of using sunscreen in daily life.

4. Specific question helps to explore deeply about attitude towards UV protection, insight of purchasing and using behavior of sunscreen, awareness of sunscreen brands in. This part will ask the respondents the opinion in many aspects and will be measured by Likert scales to observe the level of agreement or disagreement.

5. Demographic question will collect the general information about the respondents such as age, sex, education level, occupation, and personal income. To find out the relationship between the demographic, behavior, and variables that affects purchasing behavior of consumers in Bangkok and suburb area.

3.3 Data Analysis

The data will be analyzed by Statistical Package for Social Sciences (SPSS) program software for calculate and test the variables that are related to the topics. The methods are Frequencies analysis, Cross-tabulation, ANOVA. Frequencies analysis is used to summarize the demographic data and behavior of the respondents. In order to find the relationship between variables and nominal data, the cross-tabulation and ANOVA is the key tool to analyze data.

CHAPTER IV

RESEARCH FINDINGS

In this chapter, the research findings will be presented and discussed. The 103 questionnaires were distributed and completed by the target group in Bangkok and suburb areas. The result will be described first using descriptive statistics. Moreover, the hypotheses will be tested according to statistical methods. First, the demographic characteristics of the respondents will be presented. Next to this the overall sun protection behavior of Thai people who live in Bangkok and suburb areas will be summarized. The attitude of our target group will be analyzed in order to demonstrate their purchasing behavior and the relationship with dimensions of marketing mix which are product, price, place, and promotion variables. Finally, the statistical methods will be applied to estimate the relationship between each variable in the hypotheses. In order to achieve the objective of research, the result analysis is divided into 4 parts.

Part A: The analysis of demographic information of respondents

Part B: The analysis of sun protection behaviors of Thai people in Bangkok and suburb areas

Part C: The analysis of sun screen purchasing behaviors of Thai people in Bangkok and suburb areas

Part D: The analysis of marketing mix factors affecting on purchasing of sunscreen of Thai people in Bangkok and suburb areas

4.1 Statistical Descriptive Results of The Hypotheses According to the Research Conceptual Framework

4.1.1 Part A: The analysis of demographic information of respondents

Table 4.1 Shows the number of persons and percentage of demographic results which are comprised of sex, age, occupation, education and salary

Demographic	Persons	Percentage
A1: Sex		
Male	34	33.0%
Female	69	67.0%
Total	103	100.0%
A2: Age (Years old)		
20 or below	0	0.0%
21 - 30	52	50.5%
31 - 40	41	39.8%
41 - 50	5	4.9%
51 or above	5	4.9%
Total	103	100.0%
A3: Occupation		
Company officer	66	64.1%
Government officer	13	12.6%
Business owner	9	8.7%
Student	8	7.8%
Housewives	4	3.9%
Others	3	2.9%
Total	103	100.0%

Table 4.1 Shows the number of persons and percentage of demographic results which are comprised of sex, age, occupation, education and salary (cont.)

Demographic	Persons	Percentage
A4: Education		
High school	1	1.0%
Vocational Certificate /High Vocational Certificate	4	3.9%
Bachelor degree	49	47.6%
Master degree or higher	49	47.6%
Total	103	100.0%
A5: Salary (THB)		
Less than 20,000	8	7.8%
20,000 – 30,000	27	26.2%
30,001 – 40,000	15	14.6%
40,001 – 50,000	19	18.4%
More than 50,000	34	33.0%
Total	103	100.0%

According to the group of table 4.1, the result shows that the majority is the group of female respondents (67%) , ages between 21-30 years old (50.5%), works as company officer (64.1%), equally completes an education of bachelor and master(or higher) degree (47.6%) and earns salary more than 50,000 THB (33%).

4.1.1 Part B: The analysis of sun protection behaviors of Thai people in Bangkok and suburb areas

Table 4.2 Shows the number of persons and percentage sun protection behavior results of Thai people in Bangkok and suburb areas

Sun protection behaviors of Thai people	Persons	Percentage
B1: Do you apply sunscreen every day?		
Every day	55	53.4%
Almost everyday	16	15.5%
Only on day with outdoor activities	25	24.3%
Never	7	6.8%
Grand Total	103	100%
B2: What is your main reason for not using sunscreen products?		
I do not like the product texture, or its smell	2	28.6%
It is not necessary for me to apply sunscreen	2	28.6%
It wastes my time when I have to wear it.	1	14.3%
Others	2	28.6%
Grand Total	7	100%
B3: What is your main reason for using sunscreen products?		
To lighten the skin	36	37.5%
To prevent skin from dark spots, such as melasma and freckle	29	30.2%
To prevent skin from wrinkles	11	11.5%
To prevent skin from sunburn	14	14.6%
To prevent skin from cancer	6	6.3%
Grand Total	96	100%
B4: What is the average time spent outdoor on weekdays?		
30 minutes or less	31	32.3%
31 minutes - 1 hour	38	39.6%
1 - 2 hours	17	17.7%
2 - 3 hours	9	9.4%
more than 3 hours	1	1.0%
Grand Total	96	100%

Table 4.2 Shows the number of persons and percentage sun protection behavior results of Thai people in Bangkok and suburb areas (cont.)

Sun protection behaviors of Thai people	Persons	Percentage
B5: What is the average time spent outdoor on weekend?		
30 minutes or less	37	38.5%
31 minutes - 1 hour	25	26.0%
1 - 2 hours	16	16.7%
2 - 3 hours	13	13.5%
Grand Total	103	100%

According to group of table 4.2, the result shows that the majority of the respondents use sunscreen every day (53.4%) and the smallest group of respondents never uses sunscreen (6.8%). Among respondents who never use sunscreen before, the two main reasons are they don't like the product texture, or its smell and it is not necessary for them to apply sunscreen. In terms of the main reason of using sunscreen products, the majority of respondents want to lighten the skin and to prevent skin from dark spots, such as melasma and freckle. (37.5%, 30.2% respectively). Furthermore, the majority group of respondents spends time outside around 31 minutes to an hour on weekdays (39.6%) and 30 minutes or less on weekends (38.5%).

4.1.3 Part C: The analysis of sun screen purchasing behaviors of Thai people in Bangkok and suburb areas

Table 4.3 shows the number of persons and percentage of sunscreen purchasing behavior results of Thai people in Bangkok and suburb areas

Sunscreen purchasing behavior results of Thai people	Persons	Percentage
C1: What is an average price of product that you spent for sunscreen in a time?		
Less than 200 THB	2	2.1%
201 – 500 THB	51	53.1%
501 – 800 THB	19	19.8%
More than 800 THB	24	25.0%
Grand Total	96	100%

Table 4.3 Shows the number of persons and percentage of sunscreen purchasing behavior results of Thai people in Bangkok and suburb areas (cont.)

Sunscreen purchasing behavior results of Thai people	Persons	Percentage
C2: How often do you buy sunscreen product?		
More than once a month	2	2.1%
Once a month	14	14.6%
Once in 2 -3 months	40	41.7%
Once in 4 months or above	40	41.7%
Grand Total	96	100.0%
C3: What is the most influential person or source of information when making your decision to purchase sunscreen?		
More than once a month	2	2.1%
Once a month	14	14.6%
Once in 2 -3 months	40	41.7%
Once in 4 months or above	40	41.7%
Grand Total	96	100.0%
C4: What are the most important factors for you when purchasing sunscreen?		
Choosing high SPF products	76	29.1%
Choosing high PA products	30	11.5%
Choose less irritating product and soft to skin	33	12.6%
Choose non sticky product or not very sticky product	57	21.8%
Choose easy to wash off product	5	1.9%
Choose sweat and water proof product	26	10.0%
Choose the product that doesn't has perfume, color and preservation	2	0.8%
Choose the product that already allergy tested	22	8.4%
Extended the cream very well	9	3.4%
Others	1	0.4%
Grand Total	182	100.0%

Table 4.3 Shows the number of persons and percentage of sunscreen purchasing behavior results of Thai people in Bangkok and suburb areas (cont.)

Sunscreen purchasing behavior results of Thai people	Persons	Percentage
C5: How often do you buy sunscreen product?		
Nivia	42	16.1%
Lo'Real	10	3.8%
Ganier	3	1.1%
OLay	6	2.3%
Banana Boat	55	21.1%
La roche-posay	10	3.8%
ZA	6	2.3%
Biore	31	11.9%
Shiseido/Anessa	32	12.3%
Eucerin	21	8.0%
Bioderma	2	0.8%
Vichy	4	1.5%
Keih'l	2	0.8%
Spectraban	13	5.0%
Vaseline	10	3.8%
Others	5	1.9%
Grand Total	96	100.0%

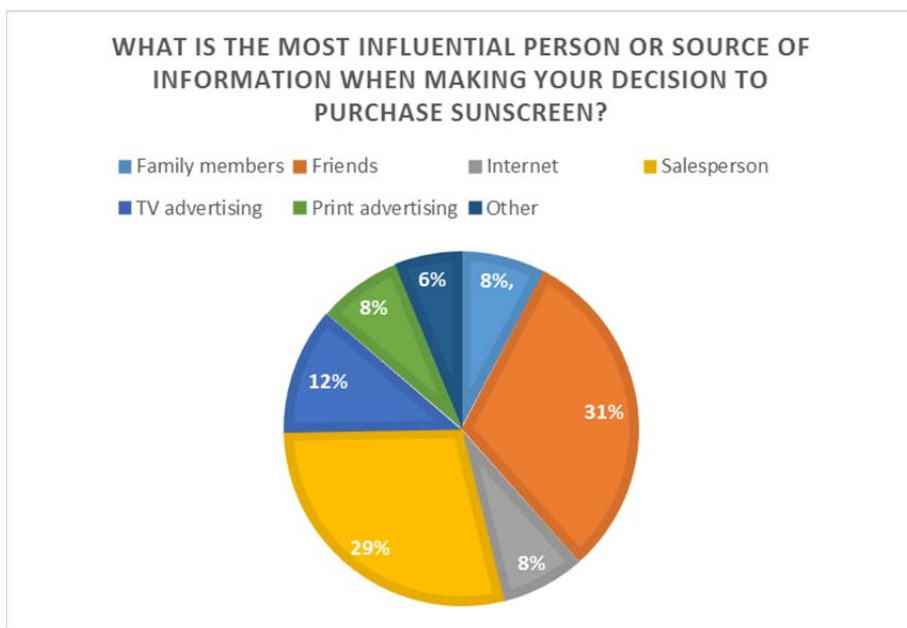


Figure 4.1 The pie chart shows many factors that influence on a decision in sunscreen purchasing of Thai people in Bangkok and suburb areas

What are the most important factors for you when purchasing sunscreen?

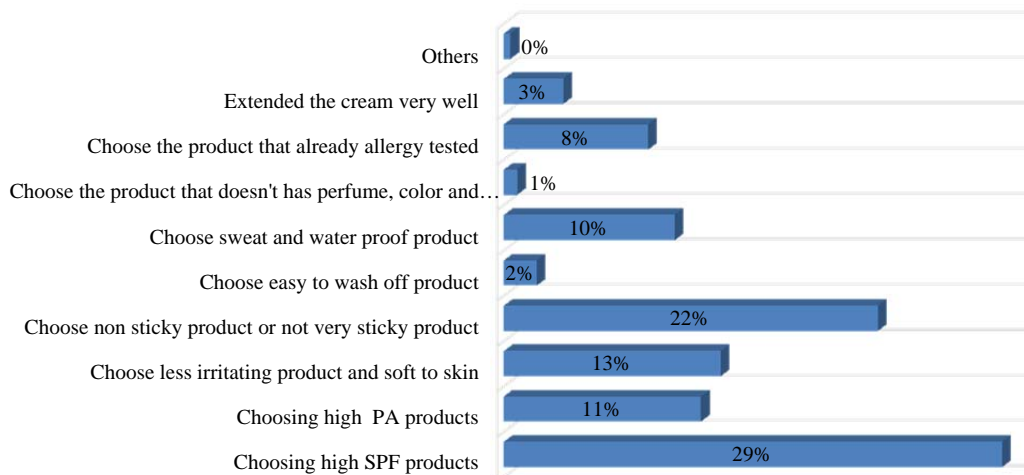


Figure 4.2 This bar graph shows important factors that people consider when purchasing sunscreen of Thai people in Bangkok and suburb areas

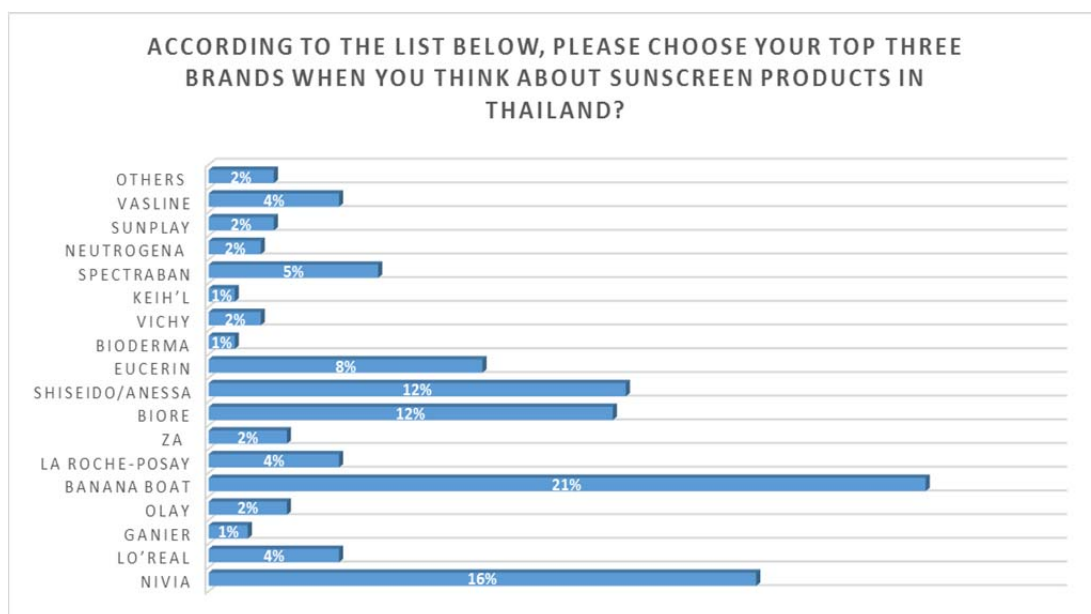


Figure 4.3 This bar graph shows the list of top sunscreen brand in consumer's minds

According to group of table 4.3, the result shows that the majority of a sunscreen product's price that they buy is 201 – 500 THB (53.1%). In terms of the frequency in buying sunscreen product, the two majority group of respondents buys the product once in 2 -3 months (41.7%) and once in 4 months or above (41.7%). In additions, the most influential person/source of information when making a decision to purchase sunscreen is friends (30.8%), salesperson (28.6%) and TV advertising (11.5%) respectively. Regarding the important factor when purchasing sunscreen, the most respondents chooses high SPF products as their priority (29.1%) then choose product which is non-sticky or not very sticky (21.8%) and choose less irritating products and soft to skin (12.6%). Moreover, the top three sunscreen brands in Thailand on respondents' mind are Banana boat (21%), Nivea (16%) and Shiseido (Anessa) (12%) respectively.

4.1.4 Part D: The descriptive statistics of marketing mix factors affecting on purchasing of sunscreen of Thai people in Bangkok and suburb areas from highest to lowest mean scores

Table 4.4 The table shows statistics results of marketing mix factors with statistical significance at $p < 0.05$

Descriptive Statistics					
	N	Sum	Mean	Std. Deviation	Var.
D2. Product effectiveness of a sunscreen product is important for me	96	432	4.50	.781	.611
D7. Reasonable price that agrees with the quality	96	406	4.23	.876	.768
D4. A product which has approved by FDA is important for me	96	387	4.03	.956	.915
D3. A clear product label and ingredient on its packaging is important	96	378	3.94	1.044	1.091
D8. Reasonable price agrees with the volume	96	376	3.92	.970	.940
D1. Brand Reputation of a sunscreen product is important for me	96	338	3.52	.846	.715
D10. It's convenience and easy to buy a product	96	333	3.47	1.123	1.262
D6. Having various sizes is important for me	96	331	3.45	1.004	1.008
D18. Sales event/ seasonal sales	96	323	3.36	1.116	1.245
D5. Nice and modern packaging is important for me	96	314	3.27	1.061	1.126
D14. Having a promotion on media channels such as TV, mag etc.	96	311	3.24	.992	.984
D15. Free product sample	96	293	3.05	1.146	1.313
D19. Giveaways /Gift cards	96	293	3.05	1.200	1.439
D16. Recommendation from salesperson	96	289	3.01	1.235	1.526
D17. Discount coupon	96	281	2.93	1.233	1.521
D9. Cheaper price than other products	96	258	2.69	1.069	1.143
D12. Eye-level product shelf	96	258	2.69	1.234	1.522
D13. Modern and nice shop	96	255	2.66	1.103	1.217
D20. Lucky draw	96	223	2.32	1.201	1.442
D11. It's available in online shop	96	214	2.23	1.090	1.189
Descriptive Statistics by marketing mix group					
	N	Minimum	Maximum	Mean	Std. Deviation
Product	96	1.67	5.00	3.7847	.65869
Price	96	1.00	5.00	3.6111	.76421
Promotion	96	1.00	5.00	2.9955	.90765
Place	96	1.00	5.00	2.7604	.92332
Valid N (listwise)	96				

According to group of table 4.4, the result shows that the most influential marketing mix factor is Product with the highest mean score at 3.78. The other factors are Price (mean = 3.61), Promotion (mean = 3.00) and Place (mean = 2.76). Furthermore, the top 3 of highest mean score are “the product effectiveness of a sunscreen product is important for me” (mean = 4.5) “Reasonable price that agrees with the quality” (mean = 4.23) and “a product which has approved by FDA is important for me” (mean = 4.03) respectively and the top three lowest mean score are “It’s available in online shop” (mean = 2.23) “Lucky draw” (mean = 2.32) and “modern and nice shop” (mean = 2.66) respectively.

4.2 Statistical Tests of The Hypotheses According to The Research Conceptual Framework

1. Hypothesis 1.1

H0: Sex has no significantly impact on purchasing behavior of sunscreen product.

H1: Sex has a significantly impact on purchasing behavior of sunscreen product.

2. Hypothesis 1.2

H0: Age has no significantly impact on purchasing behavior of sunscreen product.

H1: Age has a significantly impact on purchasing behavior of sunscreen product.

3. Hypothesis 1.3

H0: Career has no significantly impact on purchasing behavior of sunscreen product.

H1: Career has a significantly impact on purchasing behavior of sunscreen product.

4. Hypothesis 1.4

H0: Education has no significantly impact on purchasing behavior of sunscreen product.

H1: Education has a significantly impact on purchasing behavior of sunscreen product.

Table 4.5 The summary of Pearson Chi-square test from Crosstabs between personal factors and purchasing behavior of sunscreen product (B1,C1-C4)

Personal factors	Pearson Chi-Square				
	B1	C1	C2	C3	C4
Sex	11.005a	6.650a	1.340a	8.191a	5.247a
Statistics sig.	0.03*	0.08	0.72	0.22	0.26
Age	14.601a	37.920a	19.517a	38.364a	4.363a
Statistics sig.	0.26	0.00**	0.02*	0.03*	0.98
Career	24.456a	61.432a	11.336a	40.100a	21.195a
Statistics sig.	0.22	0.00**	0.73	0.10	0.39
Education	18.337a	69.854a	10.834a	22.816a	4.841a
Statistics sig.	0.11	0.00**	0.29	0.20	0.96
Salary	18.474a	22.042a	12.068a	16.007a	12.742a
Statistics sig.	0.30	0.04*	0.44	0.89	0.69
*Statistically significant at the 0.05 level					
**Statistically significant at the 0.01 level					

B1: Main reason for using sunscreen products

C1: An average price of sunscreen product per spending

C2: Frequency of buying sunscreen product

C3: The most influential person or source of information when making a decision to purchase sunscreen

C4: The most important factors for each respondents when purchasing sunscreen

In the table 4.5, the Pearson Chi-square is applied to examine the relation between personal factors and overall purchasing behavior factors. Regarding the result, the null hypothesis (H1.1) is rejected since the significant score of B1 less than 0.05 (sig-value = 0.03 < 0.05). This means that sex has a significantly direct impact on purchasing behavior of sunscreen product in terms of main reason of using sunscreen products. The null hypothesis (H1.2) is rejected since the significant score of C1 less than 0.01 (sig-value = 0.00 < 0.01) and C2, C3 are less than 0.05 (sig-value = 0.02 , 0.03 < 0.05). This means that age has a significantly direct impact on purchasing behavior of sunscreen product in terms of average price of sunscreen product per spending, frequency of buying

sunscreen product and the most influential person or source of information when making a decision to purchase sunscreen. The null hypothesis (H1.3) is rejected since the significant score of C1 less than 0.01 (sig-value = 0.00 < 0.01). This means that career has a significantly direct impact on purchasing behavior of sunscreen product in terms of an average price of sunscreen product per spending. The null hypothesis (H1.4) is rejected since the significant score of C1 less than 0.01 (sig-value = 0.00 < 0.01). This means that education has a significantly direct impact on purchasing behavior of sunscreen product in terms of an average price of sunscreen product per spending. The null hypothesis (H1.5) is rejected since the significant score of C1 less than 0.05 (sig-value = 0.04 < 0.05). This means that salary has a significantly direct impact on purchasing behavior of sunscreen product in terms of an average price of sunscreen product per spending.

Table 4.6 The summary of Crosstabs between sex and the main reason for using sunscreen products

Crosstab

		What is your main reason for using sunscreen products?					Total	
		To lighten the skin	To prevent skin from dark spots, such as melasma and freckle	To prevent skin from wrinkles	To prevent skin from sunburn	To prevent skin from cancer		
Sex	Male	Count	6	2	4	2	15	29
		% within Sex	20.7%	6.9%	13.8%	6.9%	51.7%	100.0%
	Female	Count	8	27	7	4	21	67
		% within Sex	11.9%	40.3%	10.4%	6.0%	31.3%	100.0%
Total		Count	14	29	11	6	36	96
		% within Sex	14.6%	30.2%	11.5%	6.3%	37.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.005 ^a	4	.027
Likelihood Ratio	12.985	4	.011
Linear-by-Linear Association	2.768	1	.096
N of Valid Cases	96		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.81.

According to the table 4.6 the crosstab result indicates that the largest group responding the survey is the group of female. Most of female respondents use sunscreen to prevent skin from dark spots such as melasma and freckle (40.3%) and most of male

respondents use sunscreen to prevent skin from cancer (51.7%) and with a statistical significant level at 0.05

Table 4.7 The summary of Crosstabs between age and the average price of product that consumer spent for sunscreen

Crosstab

			What is an average price of product that you spent for sunscreen in a time?				Total
			Less than 200 THB	201 – 500 THB	501 – 800 THB	More than 800 THB	
Age	21 - 30 years old	Count	0	33	11	6	50
		% within Age	.0%	66.0%	22.0%	12.0%	100.0%
	31 - 40 years old	Count	0	12	8	17	37
		% within Age	.0%	32.4%	21.6%	45.9%	100.0%
	41 - 50 years old	Count	1	2	0	1	4
		% within Age	25.0%	50.0%	.0%	25.0%	100.0%
	more than 51 years old	Count	1	4	0	0	5
		% within Age	20.0%	80.0%	.0%	.0%	100.0%
Total	Count	2	51	19	24	96	
	% within Age	2.1%	53.1%	19.8%	25.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.920 ^a	9	.000
Likelihood Ratio	30.631	9	.000
Linear-by-Linear Association	.003	1	.956
N of Valid Cases	96		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .08.

According to the table 4.7, the crosstab result indicates that the largest group responding the survey is the group of age 21 – 30 years old. Most of age 21-30 group respondents spent around 201 – 500 THB per one time to buy sunscreen products (66%) and most of age 31-40 group respondents spent more than 800 THB per one time to buy sunscreen products (45.9%) with a statistical significant level at 0.01

Table 4.8 The summary of Crosstabs between age and the frequency of buying sunscreen product

Crosstab

			How often do you buy sunscreen product?				Total
			More than once a month	Once a month	Once in 2 -3 months	Once in 4 months or above	
Age	21 - 30 years old	Count	1	6	27	16	50
		% within Age	2.0%	12.0%	54.0%	32.0%	100.0%
	31 - 40 years old	Count	0	7	11	19	37
		% within Age	.0%	18.9%	29.7%	51.4%	100.0%
	41 - 50 years old	Count	0	1	2	1	4
		% within Age	.0%	25.0%	50.0%	25.0%	100.0%
	more than 51 years old	Count	1	0	0	4	5
		% within Age	20.0%	.0%	.0%	80.0%	100.0%
Total	Count	2	14	40	40	96	
	% within Age	2.1%	14.6%	41.7%	41.7%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.517 ^a	9	.021
Likelihood Ratio	17.820	9	.037
Linear-by-Linear Association	.498	1	.480
N of Valid Cases	96		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .08.

According to the table 4.8, the crosstab result indicates that the largest group responding the survey is the group of age 21 -30 years old. Most of age 21-30 years old group respondents buy sunscreen products once in 2-3 months (54%) and most of age 31-40 years old group respondents buy sunscreen products once in 4 months or above (51.4%) with a statistical significant level at 0.05

Table 4.9 The summary of Crosstabs between age and the most influential person or source of information when making the decision to purchase sunscreen

			What is the most influential person or source of information when making your decision to purchase sunscreen?						Total	
			Family members	Friends	Internet	Salesperson	TV advertising	Print advertising		Others
Age	21 - 30 years old	Count	9	29	1	7	2	0	2	50
		% within Age	18.0%	58.0%	2.0%	14.0%	4.0%	.0%	4.0%	100.0%
	31 - 40 years old	Count	3	16	3	9	0	2	4	37
		% within Age	8.1%	43.2%	8.1%	24.3%	.0%	5.4%	10.8%	100.0%
	41 - 50 years old	Count	0	2	0	0	2	0	0	4
		% within Age	.0%	50.0%	.0%	.0%	50.0%	.0%	.0%	100.0%
	more than 51 years old	Count	2	1	0	1	0	0	1	5
		% within Age	40.0%	20.0%	.0%	20.0%	.0%	.0%	20.0%	100.0%
Total		Count	14	48	4	17	4	2	7	96
		% within Age	14.6%	50.0%	4.2%	17.7%	4.2%	2.1%	7.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.364 ^a	18	.003
Likelihood Ratio	27.984	18	.062
Linear-by-Linear Association	3.130	1	.077
N of Valid Cases	96		

a. 22 cells (78.6%) have expected count less than 5. The minimum expected count is .08.

According to the table 4.9 the crosstab result indicates that the largest group responding the survey is the group of age 21 –30 years old. Most of age 21-30 years old group respondents are influenced by friends when making their decision to purchase sunscreen (58%) and most of age 31-40 years old group respondents are influenced by friends when making their decision to purchase sunscreen (43.2%) as well with a statistical significant level at 0.01

Table 4.10 The summary of Crosstabs between career and the average price of product that consumer spent for sunscreen

			What is an average price of product that you spent for sunscreen in a time?				Total
			Less than 200 THB	201 – 500 THB	501 – 800 THB	More than 800 THB	
Career	Company Officer	Count	0	32	15	16	63
		% within Career	.0%	50.8%	23.8%	25.4%	100.0%
	Government Officer	Count	0	8	0	3	11
		% within Career	.0%	72.7%	.0%	27.3%	100.0%
	Business Owner	Count	0	6	1	0	7
		% within Career	.0%	85.7%	14.3%	.0%	100.0%
	Student	Count	0	4	3	1	8
		% within Career	.0%	50.0%	37.5%	12.5%	100.0%
	Housewives	Count	2	0	0	2	4
		% within Career	50.0%	.0%	.0%	50.0%	100.0%
	Others	Count	0	1	0	2	3
		% within Career	.0%	33.3%	.0%	66.7%	100.0%
Total		Count	2	51	19	24	96
		% within Career	2.1%	53.1%	19.8%	25.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	61.432 ^a	15	.000
Likelihood Ratio	34.251	15	.003
Linear-by-Linear Association	.071	1	.790
N of Valid Cases	96		

According to the table 4.10, the crosstab result indicates the largest group responding the survey is the group of company officer. Most of company officer respondents usually spend around 201–500 THB to buy sunscreen per one time (50.8%) and most of government officer respondents usually spend around 201–500 THB to buy sunscreen per one time (72.7%) as well with a statistical significant level at 0.01.

Table 4.11 The summary of Crosstabs between education and the average price of product that consumer spent for sunscreen

			What is an average price of product that you spent for sunscreen in a time?				Total
			Less than 200 THB	201 – 500 THB	501 – 800 THB	More than 800 THB	
Education	High School	Count	0	1	0	0	1
		% within Education	.0%	100.0%	.0%	.0%	100.0%
	Vocational Ct. /High Vocational Ct.	Count	2	1	0	0	3
		% within Education	66.7%	33.3%	.0%	.0%	100.0%
	Bachelor degree	Count	0	28	10	7	45
		% within Education	.0%	62.2%	22.2%	15.6%	100.0%
	Master degree	Count	0	21	9	17	47
		% within Education	.0%	44.7%	19.1%	36.2%	100.0%
Total	Count	2	51	19	24	96	
	% within Education	2.1%	53.1%	19.8%	25.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	69.854 ^a	9	.000
Likelihood Ratio	23.415	9	.005
Linear-by-Linear Association	10.022	1	.002
N of Valid Cases	96		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .02.

According to the table 4.11, the crosstab result indicates the largest group responding the survey completed the highest education in master degree. Most of the master degree respondents usually spend around 201–500 THB to buy sunscreen per one time (44.7%) and most of bachelor degree respondents usually spend around 201–500 THB to buy sunscreen per one time (62.2%) as well with a statistical significant level at 0.01.

Table 4.12 The summary of Crosstabs between salary and the average price of product that consumer spent for sunscreen

			What is an average price of product that you spent for sunscreen in a time?				Total
			Less than 200 THB	201 – 500 THB	501 – 800 THB	More than 800 THB	
Salary	Less than 20,000 THB	Count	1	5	2	0	8
		% within Salary	12.5%	62.5%	25.0%	.0%	100.0%
	20,001 - 30,000 THB	Count	1	15	4	4	24
		% within Salary	4.2%	62.5%	16.7%	16.7%	100.0%
	30,001 - 40,000 THB	Count	0	9	4	1	14
		% within Salary	.0%	64.3%	28.6%	7.1%	100.0%
	40,001 - 50,000 THB	Count	0	12	3	4	19
		% within Salary	.0%	63.2%	15.8%	21.1%	100.0%
	More than 50,000 THB	Count	0	10	6	15	31
		% within Salary	.0%	32.3%	19.4%	48.4%	100.0%
Total	Count	2	51	19	24	96	
	% within Salary	2.1%	53.1%	19.8%	25.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.042 ^a	12	.037
Likelihood Ratio	22.637	12	.031
Linear-by-Linear Association	12.795	1	.000
N of Valid Cases	96		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .17.

According to the table 4.12, the crosstab result indicates the largest group responding the survey earns a salary more than 50,000 THB. Most of the 50,000 THB group respondents usually spend more than 800 THB to buy sunscreen per one time (48.4%) and most of the 20,001-30,000 THB group respondents usually spend around 201–500 THB to buy sunscreen per one time (62.5%) with a statistical significant level at 0.05.

Hypothesis 2.1

H0: Marketing mix has no significantly positive direct impact on main reason of using sunscreen products

H1: Marketing mix has a significantly positive direct impact on main reason of using sunscreen products

Table 4.13 The summary of one way ANOVA test between marketing mix and main reason of using sunscreen products (B3)

ANOVA

Marketing Mix

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Choosing high SPF products	56	3.3046	.68465	.07853	3.1482	3.4611	1.50	4.95
Choosing high PA products	12	3.4375	.27801	.13901	2.9951	3.8799	3.25	3.85
Choose less irritating product and soft to skin	8	3.2000	.47697	.18028	2.7589	3.6411	2.45	3.70
Choose non sticky product or not very sticky product	19	2.9688	.80973	.28628	2.2918	3.6457	2.35	4.80
Choose sweat and water proof product	1	3.6000	.	.	.	.	3.60	3.60
Total	96	3.2776	.66814	.06819	3.1422	3.4130	1.50	4.95

According to table 13, One way - ANOVA analysis is applied to examine the relation between marketing mix and main reasons of using sunscreen. Regarding the result, the null hypothesis (H2.1) is accepted since the significant score of B3 not less than 0.05. This means that marketing mix has not a significantly direct impact on purchasing behavior of sunscreen product.

Hypothesis 2.2

H0: Marketing mix has no significantly positive direct impact on an average price of sunscreen per capita

H1: Marketing mix has a significantly positive direct impact on an average price of sunscreen per capita

Table 4.14 The summary of one way ANOVA test between marketing mix and an average price of sunscreen per capita (C1)

Marketing Mix								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
					Less than 200 THB	2			1.7750	.38891	.27500	-1.7192	5.2692	1.50	2.05
201 – 500 THB	51	3.4059	.63369	.08873	3.2277	3.5841	1.75	4.80
501 – 800 THB	19	3.2184	.71009	.16291	2.8762	3.5607	1.55	4.95
More than 800 THB	24	3.1771	.56875	.11610	2.9369	3.4172	2.25	4.55
Total	96	3.2776	.66814	.06819	3.1422	3.4130	1.50	4.95
ANOVA								
Marketing Mix								
	Sum of Squares	df	Mean Square	F	Sig.			
Between Groups	5.664	3	1.888	4.727	.004			
Within Groups	36.745	92	.399					
Total	42.409	95						

According to table 4.14, One way - ANOVA analysis is applied to examine the relation between marketing mix and an average price of sunscreen per spending. Regarding the result, the null hypothesis (H2.2) is rejected since the significant score of C1 less than 0.01 (sig – value = 0.004 < 0.01). This means that marketing mix has a significantly direct impact on purchasing behavior of sunscreen product in terms of on an average price of sunscreen per capita.

Hypothesis 2.3

H0: Marketing mix has no significantly positive direct impact on frequency of buying sunscreen product

H1: Marketing mix has a significantly positive direct impact on frequency of buying sunscreen product

Table 4.15 The summary of one way ANOVA test between marketing mix and frequency of buying sunscreen product (C2)

Marketing Mix								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
More than once a month	2	2.2750	.74246	.52500	-4.3958	8.9458	1.75	2.80
Once a month	14	3.5107	.65550	.17519	3.1322	3.8892	2.40	4.80
Once in 2 -3 months	40	3.3213	.67205	.10626	3.1063	3.5362	2.05	4.95
Once in 4 months or above	40	3.2025	.63215	.09995	3.0003	3.4047	1.50	4.80
Total	96	3.2776	.66814	.06819	3.1422	3.4130	1.50	4.95
ANOVA								
Marketing Mix								
		Sum of Squares	df	Mean Square	F	Sig.		
Between Groups		3.073	3	1.024	2.396	.073		
Within Groups		39.336	92	.428				
Total		42.409	95					

According to table 4.15, One way - ANOVA analysis is applied to examine the relation between marketing mix and frequency of buying sunscreen product. Regarding the result, the null hypothesis (H2.3) is accepted since the significant score of C2 not less than 0.05. This means that marketing mix has not a significant direct impact on the purchasing frequency of sunscreen product.

Hypothesis 2.4

H0: Marketing mix has no significantly positive direct impact on the most influential person or source of information when making a decision to purchase sunscreen

H1: Marketing mix has a significantly positive direct impact on the most influential person or source of information when making a decision to purchase sunscreen

Table 4.16 The summary of one way ANOVA test between marketing mix and the most influential person or source of information when making a decision to purchase sunscreen (C3)

Marketing Mix								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Family members	14	3.3143	.64164	.17149	2.9438	3.6848	1.50	3.95
Friends	48	3.2552	.63825	.09212	3.0699	3.4405	1.55	4.80
Internet	4	3.4250	.25331	.12666	3.0219	3.8281	3.10	3.65
Salesperson	17	3.3088	.85809	.20812	2.8676	3.7500	2.05	4.95
TV advertising	4	3.5250	1.13761	.56881	1.7148	5.3352	2.05	4.80
Print advertising	2	3.0750	.10607	.07500	2.1220	4.0280	3.00	3.15
Others	7	3.1143	.48020	.18150	2.6702	3.5584	2.55	3.70
Total	96	3.2776	.66814	.06819	3.1422	3.4130	1.50	4.95
ANOVA								
Marketing Mix								
	Sum of Squares	df	Mean Square	F	Sig.			
Between Groups	.660	6	.110	.234	.964			
Within Groups	41.749	89	.469					
Total	42.409	95						

According to table 4.16, One way - ANOVA analysis is applied to examine the relation between marketing mix and frequency of buying sunscreen product. Regarding the result, the null hypothesis (H2.4) is accepted since the significant score of C3 not less than 0.05. This means that marketing mix has not a significantly direct impact on purchasing behavior of sunscreen product.

Hypothesis 2.5

H0: Marketing mix has no significantly positive direct impact on the most important factors for you when purchasing sunscreen

H1: Marketing mix has a significantly positive direct impact on the most important factors for you when purchasing sunscreen

Table 4.17 The summary of one way ANOVA test between marketing mix and the most important factors for you when purchasing sunscreen (C4)

Marketing Mix								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Choosing high SPF products	76	3.3046	.68465	.07853	3.1482	3.4611	1.50	4.95
Choosing high PA products	4	3.4375	.27801	.13901	2.9951	3.8799	3.25	3.85
Choose less irritating product and soft to skin	7	3.2000	.47697	.18028	2.7589	3.6411	2.45	3.70
Choose non sticky product or not very sticky product	8	2.9688	.80973	.28628	2.2918	3.6457	2.35	4.80
Choose sweat and water proof product	1	3.6000	.	.	.	.	3.60	3.60
Total	96	3.2776	.66814	.06819	3.1422	3.4130	1.50	4.95
ANOVA								
Marketing Mix								
	Sum of Squares	df	Mean Square	F	Sig.			
Between Groups	1.067	4	.267	.587	.673			
Within Groups	41.342	91	.454					
Total	42.409	95						

According to table 4.17, One way - ANOVA analysis is applied to examine the relation between marketing mix and frequency of buying sunscreen product. Regarding the result, the null hypothesis (H2.5) is accepted since the significant score of C4 not less than 0.05. This means that marketing mix has not a significantly direct impact on purchasing behavior of sunscreen product.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Research Conclusion

This study aims to find out sun protection behaviors of Thai people and what are the factors affecting purchasing behaviors of sun screen products among Thai consumers in Bangkok and suburb areas. According to the conceptual framework, there are two groups of hypotheses (demographic variables and the marketing mix) that have been tested to support goal of the study.

According to the hypothesis 1.1 - 1.4, demographic factors which are sex, age, education, occupation and salary significantly has an impact on the purchasing behavior of sunscreen products among Thai people in Bangkok and suburb areas. The purchasing behavior of sunscreen can be considered from many aspects namely the main reason for using sunscreen products, an average price of sunscreen product per spending, frequency of buying sunscreen product, the most influential person or source of information when making a decision to purchase sunscreen, and the most important factors for you when purchasing sunscreen. In conclusion, the result shows that age is the major factor affecting on most purchasing behavior and sex is the only factor that influences the main reason of using sunscreen. Interestingly, the average price of sunscreen per capita is the only dependent variable which has a significant impact from age, career, education and salary but not sex.

In addition, the cross tabulation has been applied to test a relationship between demographic factors and purchasing behaviors. The results shows that most of female respondents use sunscreen to prevent skin from dark spots such as melasma and freckle and most of male respondents use sunscreen to prevent skin from cancer. Most of age 21-30 group respondents spent around 201 – 500 THB per one time to buy sunscreen products and most of age 31-40 group respondents spent more than 800 THB per one time to buy sunscreen products. Most of age 21-30 years old group respondents buy sunscreen products once in 2-3 months and most of age 31-40 years old group respondents

buy sunscreen products once in 4 months or above. Most of age 21-30 years old group respondents are influenced by friends when making their decision to purchase a sunscreen and most of age 31-40 years old group are influenced by friends as well. Moreover, most of company officer respondents usually spend around 201–500 THB to buy sunscreen per one time and most of government officer respondents usually spend around 201–500 THB to buy a sunscreen per one time as well. Most of the master degree respondents usually spend around 201–500 THB to buy a sunscreen per one time and most of bachelor degree respondents usually spend around 201–500 THB to buy a sunscreen per one time as well. In terms of salary, most of the 50,000 THB group respondents usually spend more than 800 THB to buy sunscreen per one time but most of the 20,001-30,000 THB group respondents usually spend around 201–500 THB to buy a sunscreen per one time.

According to the Hypothesis 2.1 – 2.5, marketing mix factors which are product, price, place, and promotion (4Ps) significantly have an impact on purchasing behavior of sunscreen products among Thai people in Bangkok and suburb areas. The purchasing behavior of sunscreen can be considered from many aspects namely the main reason for using sunscreen products, an average price of sunscreen product per spending, frequency of buying sunscreen product, the most influential person or source of information when making a decision to purchase sunscreen, and the most important factors for you when purchasing sunscreen. In conclusion, the result shows that marketing mix factor that consumer most concerns are product, price, promotion, and place respectively.

5.1.1 Product

From the descriptive statistical results, it can be concluded that *product effectiveness* is the most considered factor among Thai consumer when buying sunscreen products. This means consumer would like to have an effective sunscreen which can really help to protect skin from UV rays. Another essential factor is *product approvals from FDA* like other cosmetics product. Thai consumer currently has various choices in the market but some sunscreen products are sold with no approvals of the standard requirements from Food and Drug Administration or FDA. Therefore, products that already be approved by FDA will provide a guarantee to the consumer and give a trust to the brand as well.

5.1.2 Price

In terms of price factor, the result reveals that sunscreen price per unit should *be reasonable and agree with the quality*. Consumer is willing to pay for a reasonable priced product if the quality is good enough as the manufacturer's claim. However, it has no benchmark to measure the quality of products because it depends on consumer perception. Additionally, *the reasonable price agreeing with the product volume* is the minor concern of consumer. It indicates that Thai consumer are not too price sensitive because they do not prefer the cheaper one but they compare it product quality and volume with the price.

5.1.3 Promotion

From the descriptive statistical results, it can be concluded that *sales event or seasonal sales* is the most considered factor among Thai consumer. Consumer prefers to buy product with discounts rather than other promotions like buy one get one free, lucky draw etc. Consumer is willing to wait for sales event or season sales in order to stock up sunscreen because normally the product life is very long so they can keep it for use continuously. Additionally, *having a free product sample* is an important factor for customer as well. Most consumers are aware of trying a new product by purchasing from store at the first time because they are not sure if it is work for them or not. So, having a free sample would be the optional way that manufacturer gains more new target consumer.

5.1.4 Place

From the descriptive statistical results, it can be concluded that *convenience places* is the most considered factor among Thai consumer. If product is available on the store where consumer can easily access, there are more chance to let consumer has an awareness of the product and make the higher sales as well. In addition, *Eye-level product shelve* is the second factor of place that consumer concerns.

According to hypothesis 2, an average price of sunscreen per capita is the only dependent variable which has a significant impact from marketing mix. This means consumer makes decision about price depends on an overall marketing mix factors. For example, if consumer thinks that the sunscreen quality does not agree with price,

the price level in their mind will lower than the actual one. Other purchasing behavior has no significant impact from marketing mix namely the main reason for using sunscreen products, frequency of buying sunscreen product, the most influential person or source of information when making a decision to purchase sunscreen, and the most important factors for you when purchasing sunscreen.

5.2 Recommendation

According to the finding, sex and age are the most important factors causing the different behaviors among respondents. For example, Female respondents who always use sunscreen concern about the dark spots or melasma problems while male respondents worry much about melanoma (skin cancer) causing from UV radiation. Therefore, I would like to suggest sunscreen manufacturers to consider these two factors (sex and age) as a priority in order to create segmentation for an effective marketing plan. Moreover, consumer gets easily influenced by friends, acquaintances, salesperson and TV commercial. For an Integrated Marketing Communication, I recommend focusing on TV commercial, out of home media and social media channels. Salesperson is also an important influence person to customer. Therefore, training to salesperson would be the best way to improve sales performance of sunscreen companies.

Due to the product factor is the most important factor related to finding, sunscreen companies need to find new ways to create products to satisfy the consumers' needs, for instance, localizing each product to suit the climate and environment of each of country, developing a non –sticky formula sunscreen, and containing a high SPF and PA. Besides, sunscreens that protect the skin from the UV rays aren't sufficient, but characteristics such as enriching the skin with moisturizers and vitamins are also important. Products that are tested by professional dermatologists or trustworthy organization namely FDA could help consumers feel more confident when choosing a sunscreen.

For price factor, sunscreen manufacturers should concern about price setting since consumers are price sensitivity. The appropriate price should not too low or too high but agree with the product volume and effectiveness. Therefore, the reasonable price as consumer's mind will be the best price to sell in the market.

REFERENCES

- Afshar R., Ali N. and Shiva G. R. (2013). Knowledge, Attitude and Behavior (Practice) Toward Sunscreen Use among Hospital Personnel in Comparison with Laypeople in Zanjan, Iran. *World Applied Sciences Journal* 22 (5), 683-689.
- American Skin Association. (n.d.). *Did you know?* Retrieved June 14, 2016, from <http://www.americanskin.org/resource/safety.php>.
- Analyzing Consumer Markets and Buyer Behavior, Kotler, P. (2003). *Marketing Management*. 11th European edition, Prentice Hall., 89-105.
- Anita T., Ana M. G., Mirna S. (2016). Skin Cancer and UV Protection. *AUTEX Research Journal*, 16(1), 19 – 28.
- Bahman S. P., Kamran N., Mostafa E. (2013). The effect of marketing mix in attracting customers: Case study of Saderat Bank in Kermanshah Province. *Academic journal*, 7(34) , 3272-3280
- British Association of Dermatologists. (n.d.). *For the Public*. Retrieved June 20, 2016, from <http://www.bad.org.uk/for-the-public/skin-cancer/sunscreen-fact-sheet#sunscreen-labelling>.
- C. Couteau and L. Coiffard (2013). *About Suncare Products, Highlights in Skin Cancer, Dr. Pierre Vereecken (Ed.)*, InTech, DOI: 10.5772/55411. Available from: <http://www.intechopen.com/books/highlights-in-skin-cancer/about-suncare-products>.
- Catherine B., Ahlam F., Laila H. (2012). Sunscreen Purchase Intention amongst Young Moroccan Adults. *International Journal of Academic Research in Business and Social Sciences*, 2(5), 132-150.
- Fourtanier, A., Moyal, D. and Seité, S. (2008). Sunscreens containing the broad-spectrum UVA absorber, Mexoryl® SX, prevent the cutaneous detrimental effects of UV exposure: a review of clinical study results. *Photodermatology. Photoimmunology & Photomedicine*, 24,164–174.

- Goulart, J. M., & Wang, S. Q. (2010). Knowledge, motivation, and behavior patterns of the general public towards sun protection. *Photochemical & Photobiological Sciences*, 9(4), 432-438.
- J. Vollhardt , R. Schoop , A. Janssen, C. Mendrok-Edinger , J. Klock, M. Baltussen, F. (2015) Oosterlinck, *The Future of Sunscreens – What Lies Beyond SPF 50+?* *Sofwjournal*, 141(10/15), 42-48
- John Dudovskiy. (2012). Marketing Mix: Introduction - Research Methodology. Retrieved June 20, 2016, from <http://research-methodology.net/marketing-mix-introduction/>.
- L. Mbanga, M. Mulenga, P.T. Mpiana, K. Bokolo, M. Mumbwa , K. Mvingu. (2014). Sun Protection Preferences and Behaviors among Young Adult Males during Maximum Ultraviolet Radiation Exposure Activities. *International Journal of Advanced Research in Chemical Science (IJARCS)*, 1(8), 7-13.
- Marilyn W. , Mary K. B., Rik G, Hanz B., June K. R. (2013). Sun Protection Preferences and Behaviors among Young Adult Males during Maximum Ultraviolet Radiation Exposure Activities. *International Journal of Environmental Research and Public Health*, 10, 3203-3216.
- Mead, M. N. (2008). Benefits of Sunlight: A Bright Spot for Human Health. *Environmental Health Perspectives*, 116(4), A160–A167.
- Namnuang V., Mayuree K., Surapol N. (2008). Attitude and Behavior of Consumers on Sunscreen Cosmetics. *IJPS* 4(2), 174-180.
- Paul C. Jou, Ron J. Feldman, Kenneth J. Tomecki. (2012). UV protection and sunscreens: What to tell patients. *Cleveland Clinic Journal of Medicine*, 79(6), 427-436.
- Selim A., Habibur R.(2015).The Effects of Marketing Mix on Consumer Satisfaction : A Literature Review From Islamic Perspectives. *Turkish Journal of Islamic Economics*, 2(1).17-30
- Smriti Chand. (2014). *Consumer Behaviour: Meaning/Definition and Nature of Consumer Behaviour*. Retrieved August 10, 2016, from <http://www.yourarticlelibrary.com/marketing/market-segmentation/consumer-behaviour-meaningdefinition-and-nature-of-consumer-behaviour/32301/>.

Weather Online. (n.d.). *Bangkok UV index*. Retrieved June 2, 2016, from
<http://www.weatheronline.co.uk/Thailand/Bangkok/UVindex.htm>.

World Health Organization. (n.d.). *Health effects of UV radiation*. Retrieved June 2,
2016, from <http://www.who.int/uv/health/en/>.





Appendix A: Questionnaire

A survey of factors affecting on purchasing behavior of sunscreen product in Bangkok and suburb areas

Part A: Background information

1. What is your gender?
 - Male
 - Female

2. How old are you?
 - 20 years old or below
 - 21-30 years old
 - 31-40 years old
 - 41-50 years old
 - More than 50 years old

3. What is the highest level of formal education you have completed?
 - High school
 - Vocational Certificate /High Vocational Certificate
 - Bachelor degree
 - Master degree or higher
 - Other

4. What is your average salary per month?
 - Less than 20,000 THB
 - 20,001 - 30,000 THB
 - 30,001 - 40,000 THB
 - 40,001 - 50,000 THB
 - More than 50,000 THB

5. What is your career?

- Company officer
- Government officer
- Business owner
- Student
- Housewives
- Others

Part B: Sun protection behaviors

6. What is the average time spent outdoor on weekdays?

- 30 minutes or less
- 31 minutes – 1 hour
- 1 – less than 2 hours
- 2 – less than 3 hours
- 3 – less than 4 hours
- 4 hours and above

7. What is the average time spent outdoor on weekends?

- 30 minutes or less
- 31 minutes – 1 hour
- 1 – less than 2 hours
- 2 – less than 3 hours
- 3 – less than 4 hours
- 4 hours and above

8. How often during the week do you apply sunscreen?

- Every day (please skip to Q.10)
- Almost every day (please skip to Q.10)
- Only on days with outdoor activities (please skip to Q.10)
- Never use sunscreen (please answer Q.9)

9. What is your main reason of **not** using sunscreen products?

- It wastes my time when I have to wear it.
- It is expensive to apply sunscreen regularly.
- It is not necessary for me to apply sunscreen.
- I use another way to prevent skin from sun and UV exposure.
- I do not like the product texture, or its smell.
- Other (please specify)_____

10. What is your main reason for using sunscreen products?

- To prevent skin from melasma and freckle
- To prevent skin from sunburn
- To prevent skin from wrinkles
- To prevent skin from cancer
- To lighten the skin
- All of the above
- Other (please specify) _____

Part C: sunscreen purchasing behaviors

11. What is the most influential person or source of information when making your decision to purchase sunscreen? (can choose more than one choice)

- Family members
- Friends
- Internet
- Salesperson
- TV advertising
- Print advertising
- Other (please specify)_____

12. How is your frequency in often do you buying sunscreen product?

- More than once a month
- Once a month
- Once in 2 -3 months
- Once in 4 months or above

13. What is an average price of product that you spent for sunscreen in a time?

- Less than 200 THB
- 201 – 500 THB
- 501 – 800 THB
- More than 800 THB

14. What are the most important factors for you when purchasing sunscreen?

- Choosing high SPF products
- Choosing high PA products
- Choose less irritating product and soft to skin
- Choose non sticky product or not very sticky product
- Choose easy to wash off product
- Choose sweat and water proof product
- Choose the product that doesn't has perfume, color and preservation
- Choose the product that already allergy tested
- Extended the cream very well
- Others (please specify)_____

Part D: Marketing mix factors

Please consider each factor and choose (mark) the level of agreement which to indicate how much each factor affects your decision to buy sunscreen product.

(Strongly disagree = 1 Somewhat disagree = 2 Neither agree nor disagree = 3

Somewhat agree = 4 Strongly agree = 5)

Marketing mix factors	1	2	3	4	5
<u>Product factors</u>					
1. Brand Reputation of a sunscreen product is important for me					
2. Product effectiveness of a sunscreen product is important for me					
3. a product has a clear label and ingredients on its packaging					
4. Approved by FDA is important for me					
5. Nice and modern packaging is important for me					
6. having various sizes is important for me					
<u>Price factors</u>					
7. Reasonable price that agrees with the quality					
8. Reasonable price agrees with the volume					
9. Cheaper price than other products					
<u>Place factors</u>					
10. It's convenience and easy to buy a product					
11. It's available in online shop					
12. Eye-level product shelf					
13. Modern and nice shop					
<u>Promotion factors</u>					
14. Having a promotion on media channels such as TV, magazines etc.					
15. Free product sample					
16. Recommendation from salesperson					
17. Discount coupon					
18. Sales event/ seasonal sales					
19. Giveaways /Gift cards					
20. Lucky draw					

Part E: Awareness towards sunscreen brands

According to the list below, please choose your top three brands when you think about sunscreen products in Thailand?

- Nivia
- Lo'Real
- Ganier
- OLay
- Banana Boat
- La roche-posay
- ZA
- Biore
- Shiseido/Anessa
- Eucerin
- Bioderma
- Vichy
- Keih'l
- Spectraban
- Neutrogena
- Sunplay
- Vasline
- Others (please specify _____)

END

*****Thank you for your cooperation*****